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Dietary Patterns and Growth, Body Composition, and Risk of Obesity: A Systematic Review

Deanna M. Hoelscher, PhD, RDN, LD, CNS, FISBNPA,[a, b] Deirdre Tobias, ScD,[a,e] Andrea Deierlein, PhD, MPH, MS,[a, c] Christopher Gardner, PhD,[a, d] Edward Giovannucci, MD, ScD,[a, e]Cheryl A.M. Anderson, PhD, MPH, MS,[a, f] Sarah Booth, PhD,[a, g] Teresa Fung, ScD, RD,[a, h] Hollie Raynor, PhD, RD, LDN,[a, i] Fatima Cody Stanford, MD, MPH, MPA, MBA, FAAP, FACP, FAHA, FAMWA, FTOS,[a,e] Sameera Talegawkar, PhD,[a, j] Chris Taylor, PhD, RDN, LD, FAND,[a, k] Laural Kelly English, PhD,[l] Ramkripa Raghavan DrPH, MPH, MSc,[l] Nicole Reigh, PhD,[m] Molly Higgins, MLIS,[n] Julie Nevins, PhD,[l] Sara Scinto-Madonich, MS,[l] Emily H. Callahan, MS,[l] Amanda Fultz, PhD,[l] Shue Huang, PhD,[m] Gisela Butera, MEd, MLIS,[o] Nancy Terry, MS, MLIS[o] Julie Obbagy, PhD, RD,[p]

[a] Dietary Patterns and Specific Dietary Pattern Components Across Life Stages Subcommittee, 2025 Dietary Guidelines Advisory Committee

[b] UT Health Houston School of Public Health, Subcommittee Chair

[c] New York University

[d] Stanford University

[e] Harvard University

[f] University of California San Diego

[g] Tufts University, Committee Chair

[h] Simmons University

[i] University of Tennessee Knoxville

[j] The George Washington University

[k] The Ohio State University

[l] Systematic Review Analyst, Nutrition Evidence Systematic Review (NESR) Branch; Nutrition Guidance and Analysis Division (NGAD), Center for Nutrition Policy and Promotion (CNPP), Food and Nutrition Service (FNS), U.S. Department of Agriculture (USDA)

[m] Systematic Review Analyst, NESR Branch; Panum Telecom, LLC (A wholly owned subsidiary of Aretum), under contract with FNS, USDA

[n] Systematic Review Librarian, NESR Branch; NGAD, CNPP, FNS, USDA

[o] Biomedical Librarian/Informationist, National Institutes of Health Library

[p] Branch Chief, NESR Branch; NGAD, CNPP, FNS, USDA

NESR

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Plain-language summary

What is the question?
The question is: What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity? The population of interest included infants and young children up to age 24 months, children and adolescents, adults and older adults, individuals during pregnancy, and individuals during postpartum.

Why was this question asked?
This systematic review was conducted by the 2025 Dietary Guidelines Advisory Committee as part of the process to develop the *Dietary Guidelines for Americans, 2025-2030*.

How was this question answered?
The Committee conducted a systematic review to answer this question with support from the USDA Nutrition Evidence Systematic Review team. This review updated existing reviews that were conducted by the 2020 Dietary Guidelines Advisory Committee, and as part of the Pregnancy and Birth to 24 Months Project and Dietary Patterns Systematic Reviews Project.

What is the answer to the question?
Infants and Young Children up to age 24 months

- A conclusion statement cannot be drawn about the relationship between dietary patterns consumed by infants and young children up to age 24 months and growth, body composition, and risk of obesity because of substantial concerns with consistency. (Grade: Grade Not Assignable)

Children and Adolescents

- Dietary patterns consumed by children and adolescents that are characterized by higher intakes of vegetables, fruit, legumes, nuts, whole grains, fish/seafood, and dairy (low-fat, unsweetened) and lower intakes of red and processed meats, sugar-sweetened beverages, and sugar-sweetened or savory/salty snack foods are associated with favorable growth patterns, lower adiposity, and lower risk of obesity later in childhood up to early adulthood. This conclusion statement is based on evidence graded as limited. (Grade: Limited)
- Dietary patterns consumed by children and adolescents that are characterized by higher intakes of red and processed meats, refined grains, sugar-sweetened beverages, sugar-sweetened or savory/salty snack foods, and fried potatoes and lower intakes of vegetables, fruit, and whole grains are associated with unfavorable growth patterns, higher adiposity, and higher risk of obesity later in childhood and adulthood. This conclusion statement is based on evidence graded as limited. (Grade: Limited)

Adults and Older Adults

- Dietary patterns consumed by adults and older adults that are characterized by higher intakes of vegetables, fruits, legumes, nuts, whole grains, and fish/seafood and lower intakes of meats (including red and processed meats), refined grains and sugar-sweetened foods and beverages are associated with lower adiposity (body fat, body weight, BMI, and/or waist circumference) and lower risk of obesity. These dietary patterns also included higher intakes of unsaturated fats and lower intakes of saturated fats and sodium. This conclusion statement is based on evidence graded as moderate. (Grade: Moderate)

Pregnancy

- Dietary patterns consumed during pregnancy may be associated with a lower risk of excessive gestational weight gain. These patterns tend to emphasize higher intakes of vegetables, fruits, legumes, nuts, whole grains, fish and dairy and lower intakes of added sugars. This conclusion statement is based on evidence graded as limited. (Grade: Limited)
- A conclusion statement cannot be drawn about the relationship between dietary patterns consumed during pregnancy and risk of inadequate gestational weight gain because there are substantial concerns with consistency in the body of evidence. (Grade: Grade Not Assignable)

Postpartum

- A conclusion statement cannot be drawn about the relationship between dietary patterns consumed during postpartum and postpartum weight change because there are substantial concerns with consistency, precision, risk of bias and generalizability in the body of evidence. (Grade Not Assignable)

How up-to-date is this systematic review?
Conclusion statements from this review are based on studies published between January 1980 and May 2023.

Abstract

Background

This systematic review was conducted by the 2025 Dietary Guidelines Advisory Committee as part of the process to develop the Dietary Guidelines for Americans, 2025-2030. The U.S. Departments of Health and Human Services (HHS) and Agriculture (USDA) appointed the 2025 Dietary Guidelines Advisory Committee (Committee) in January 2023 to review evidence on high priority scientific questions related to diet and health. Their review forms the basis of their independent, science-based advice and recommendations to HHS and USDA, which is considered as the Departments develop the next edition of the Dietary Guidelines. As part of that process, the Committee conducted a systematic review with support from the USDA Nutrition Evidence Systematic Review (NESR) team to answer the following question: What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity? This is an update to existing systematic reviews that were conducted by the 2020 Dietary Guidelines Advisory Committee, and as part of the Pregnancy and Birth to 24 Months Project, and Dietary Patterns Systematic Reviews Project.

Methods

The Committee conducted a systematic review using the methodology of the USDA NESR team. The Committee first developed a protocol. The intervention/exposure and comparators for all populations were consumption of a dietary pattern compared to a different dietary pattern and different adherence to/consumption levels of a dietary pattern. The outcomes were measures of growth, body composition, and risk of obesity in all populations. Additional criteria were established to include: a) randomized or non-randomized controlled trial, prospective or retrospective cohort, or nested case-control designs, b) published in English in peer-reviewed journals, c) studies in countries classified as high or very high on the Human Development Index, and d) participants with a range of health statuses. The review excluded studies that exclusively enrolled participants who were being treated for a disease.

NESR librarians performed the literature search in PubMed, Embase, CINAHL, and Cochrane to identify articles published between October 2019 and May 2023. Two NESR analysts independently screened all electronic results and the reference lists of included articles based on the pre-determined criteria. The results of this search were combined with eligible included articles from the existing reviews.

NESR analysts extracted data, from each included article, with a second analyst verifying accuracy of the extraction. Two NESR analysts independently conducted a formal risk of bias assessment, by study design, for each included article, then reconciled any differences in the assessment. The Committee qualitatively synthesized evidence from all included articles in the updated literature search and existing systematic reviews according to the synthesis plan, with attention to the overarching themes or key concepts from the findings, similarities and differences between studies, and factors that may have affected the results. The Committee developed [a] conclusion statement[s] by starting with the conclusion from the existing review and determining whether and what updates were needed based on the newly published evidence. After establishing the need for updating the review, the Committee then developed conclusion statements and graded the strength of evidence based on its consistency, precision, risk of bias, directness and generalizability.

Results

Infants and Young Children up to Age 24 Months

Conclusion statement[*] and grade: A conclusion statement cannot be drawn about the relationship between dietary patterns consumed by infants and young children up to age 24 months and growth, body composition, and risk of obesity because of substantial concerns with consistency. (Grade: Grade Not Assignable)

Summary of evidence:

- The body of evidence includes 18 articles (1 randomized controlled trial; 17 from prospective cohort studies) that met inclusion for this review in infants and young children.
- The 2025 Committee was not able to draw a conclusion due to critical limitations in the body of evidence.

Children and Adolescents

Conclusion statement and grade:

- Dietary patterns consumed by children and adolescents that are characterized by higher intakes of vegetables, fruit, legumes, nuts, whole grains, fish/seafood, dairy (low-fat, unsweetened) and lower intakes of red and processed meats, sugar-sweetened beverages,

[*] A conclusion statement is carefully constructed, based on the evidence reviewed, to answer the systematic review question. A conclusion statement does not draw implications and should not be interpreted as dietary guidance.

and sugar-sweetened or savory/salty snack foods are associated with favorable growth patterns, lower adiposity, and lower risk of obesity later in childhood up to early adulthood. This conclusion statement is based on evidence graded as limited. (Grade: Limited)

- Dietary patterns consumed by children and adolescents that are characterized by higher intakes of red and processed meats, refined grains, sugar-sweetened beverages, sugar-sweetened or savory/salty snack foods, and fried potatoes and lower intakes of vegetables, fruit, and whole grains are associated with unfavorable growth patterns, higher adiposity, and higher risk of obesity later in childhood and adulthood. This conclusion statement is based on evidence graded as limited. (Grade: Limited)

Summary of evidence:

- The body of evidence includes 62 articles (3 from randomized controlled trials; 59 from prospective cohort studies) that met inclusion for this review in children and adolescents.
- The direction of results and effect size differed across studies.
- The size of study groups was small and variance around effect estimates was wide across studies.
- Some studies were designed and conducted well.
- The populations and outcome measures represented those of interest in the review, but some dietary patterns examined did not.
- The evidence applies to the U.S. population, except participants and dietary patterns examined in some studies may not be applicable.

Adults and Older Adults

Conclusion statement and grade: Dietary patterns consumed by adults and older adults that are characterized by higher intakes of vegetables, fruits, legumes, nuts, whole grains, fish/seafood and lower intakes of meats (including red and processed meats), refined grains and sugar-sweetened foods and beverages are associated with lower adiposity (body fat, body weight, BMI, and/or waist circumference) and lower risk of obesity. These dietary patterns also included higher intakes of unsaturated fats and lower intakes of saturated fats and sodium. This conclusion statement is based on evidence graded as moderate. (Grade: Moderate)

Summary of evidence:

- The body of evidence includes 106 articles (26 from randomized controlled trials; 79 from prospective cohort studies; 1 from a retrospective cohort study) that met inclusion for this review in adults and older adults.
- The direction of results and effect size were similar across studies.
- The size of study groups was large across studies. Variance around effect estimates was narrow across studies.
- Some studies were designed and conducted well.
- The populations, dietary patterns, and outcome measures that were examined directly represent those of interest in this review.
- The evidence applies to the U.S. population, except may not be applicable for select participants.

Pregnancy

Conclusion statements and grades:

- Dietary patterns consumed during pregnancy may be associated with a lower risk of excessive gestational weight gain. These patterns tend to emphasize higher intakes of vegetables, fruits, legumes, nuts, whole grains, fish and dairy and lower intakes of added sugar. This conclusion statement is based on evidence graded as limited. (Grade: Limited)
- A conclusion statement cannot be drawn about the relationship between dietary patterns consumed during pregnancy and risk of inadequate gestational weight gain because there are substantial concerns with consistency in the body of evidence. (Grade: Grade Not Assignable)

Summary of evidence:

- The body of evidence includes 22 articles that met inclusion for this review during pregnancy. Three articles came from randomized controlled trials, 18 from prospective cohort studies, and 1 from a retrospective cohort design.
- The direction of results and size of effects were too different across studies.
- The size of study groups was small and variance around effect estimates was wide across studies.

- Few studies were designed and conducted well.
- The populations, dietary patterns, and outcome measures examined do not directly represent those of interest in this review.
- The evidence may not apply to the U.S. population.

Postpartum

Conclusion statements and grades:

- A conclusion statement cannot be drawn about the relationship between dietary patterns consumed during postpartum and postpartum weight change because there are substantial concerns with consistency, precision, risk of bias and generalizability in the body of evidence. (Grade Not Assignable)

Summary of evidence:

- The body of evidence includes 7 articles that met inclusion for this review during postpartum. One article came from a randomized controlled trial and 6 from prospective cohort studies.
- The 2025 Committee was not able to draw a conclusion due to critical limitations in the body of evidence

Introduction

To prepare for the development of the *Dietary Guidelines for Americans, 2025-2030*, the U.S. Departments of Health and Human Services (HHS)(**Appendix 1**) and Agriculture (USDA) identified a proposed list of scientific questions based on relevance, importance, potential federal impact, and avoiding duplication, which were posted for public comment.[*] The Departments appointed the 2025 Dietary Guidelines Advisory Committee (Committee) in January 2023 to review evidence on the scientific questions. The Committee's review of the evidence forms the basis of the Scientific Report of the 2025 Dietary Guidelines Advisory Committee[†] which includes independent, science-based advice and recommendations to HHS and USDA and is considered as the Departments develop the next edition of the *Dietary Guidelines*.

The proposed scientific questions were refined and prioritized by the Committee for consideration in their review of the evidence. As part of that process, the following systematic review question was prioritized: What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity?

The Committee conducted a systematic review to answer this question, with support from USDA's Nutrition Evidence Systematic Review (NESR) team This review is an update to systematic reviews conducted by the 2020 Dietary Guidelines Advisory Committee, the Pregnancy and Birth to 24 Months Project, and the Dietary Patterns Systematic Reviews Project (**Table 1**). The conclusion statements developed as part of that existing work can be found in **Appendix 2.**

[*] Dietary Guidelines for Americans: Learn About the Process. 2022. Available at: https://www.dietaryguidelines.gov/work-under-way/learn-about-process

[†] 2025 Dietary Guidelines Advisory Committee. 2024. Scientific Report of the 2025 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Health and Human Services and Secretary of Agriculture. U.S. Department of Health and Human Services. https://doi.org/10.52570/DGAC2025

Table 1. Review history

Date	Description	Citation
August 2014	Original systematic review conducted by the Dietary Patterns Technical Expert Collaborative published in 2014	Dietary Patterns Technical Expert Collaborative and NESR Staff. A Series of Systematic Reviews on the Relationship Between Dietary Patterns and Health Outcomes. March 2014. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://nesr.usda.gov/sites/default/files/2019-06/DietaryPatternsReport-FullFinal2.pdf
April 2019	Original systematic review conducted by the Complementary Feeding Tec Technical Expert Collaborative published in 2019	English LK, Obbagy JE, Wong YP, Psota TL, Nadaud P, Johns K, Terry N, Butte NF, Dewey KG, Fleischer DM, Fox MK, Greer FR, Krebs NF, Scanlon KS, Casavale KO, Spahn JM, Stoody E. Types and Amounts of Complementary Foods and Beverages and Growth, Size, and Body Composition: A Systematic Review. April 2019. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.PB242018.SR0306.
July 2020	Systematic review protocol applied by the 2020 Dietary Guidelines Advisory Committee published as an updated systematic review for children and adolescents, and as an evidence scan for adults and older adults	Boushey C, Ard J, Bazzano L, Heymsfield S, Mayer-Davis E, Sabaté J, Snetselaar L, Van Horn L, Schneeman B, English LK, Bates M, Callahan E, Butera G, Terry N, Obbagy J. Dietary Patterns and Growth, Size, Body Composition, and/or Risk of Overweight or Obesity: A Systematic Review. July 2020. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.DGAC2020.SR0101
July 2020	Systematic review conducted by the 2020 Dietary Guidelines Advisory Committee on Dietary Patterns during Pregnancy and Gestational Weight Gain	Donovan S, Dewey K, Novotny R, Stang J, Taveras E, Kleinman R, Raghavan R, Nevins J, Scinto-Madonich S, Kim JH, Terry N, Butera G, Obbagy J. Dietary Patterns during Pregnancy and Gestational Weight Gain: A Systematic Review. July 2020. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.DGAC2020.SR0201
July 2020	Systematic review conducted by the 2020 Dietary Guidelines Advisory Committee on Dietary Patterns during Lactation Postpartum weight loss	Donovan S, Dewey K, Novotny R, Stang J, Taveras E, Kleinman R, Raghavan R, Nevins J, Scinto-Madonich S, Kim JH, Terry N, Butera G, Obbagy J. Dietary Patterns during Lactation and Postpartum Weight Loss: A Systematic Review. July 2020. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.DGAC2020. SR0202
May 2023	Systematic review protocol for the 2025 Dietary Guidelines Advisory Committee published online	Hoelscher DM, Anderson CAM, Booth S, Deierlein A, Fung T, Gardner C, Giovannucci E, Raynor H, Stanford FC, Talegawkar S, Taylor C, Tobias D, Obbagy J, Callahan EH, English LK, Fultz A, Nevins J, Raghavan K, Reigh N, Scinto-Madonich S, Higgins M, Butera G, Terry N. Dietary Patterns and Growth, Body Composition, and Risk of Obesity: A Systematic Review Protocol. May 2023. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://nesr.usda.gov/protocols
October 2023	Revisions to the systematic review protocol for the 2025 Dietary Guidelines Advisory Committee published online	Hoelscher DM, Anderson CAM, Booth S, Deierlein A, Fung T, Gardner C, Giovannucci E, Raynor H, Stanford FC, Talegawkar S, Taylor C, Tobias D, Obbagy J, Callahan EH, English LK, Fultz A, Nevins J, Raghavan K, Reigh N, Scinto-Madonich S, Higgins M, Butera G, Terry N. Dietary Patterns and Growth, Body Composition, and Risk of Obesity: A Systematic Review Protocol. May 2023. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://nesr.usda.gov/protocols

Methods

The Committee used NESR's methodology to conduct this systematic review. NESR's methodology is described in detail in its methodology manual,* as well as in the Committee's scientific report†. This section presents an overview of the specific methods used to answer the systematic review question: What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity?

This systematic review updates an existing NESR systematic review that examined dietary patterns consumed from birth to 24 months of age that was completed as part of the Pregnancy and Birth to 24 Months Project.[2] This updated systematic review synthesized the studies from the original, existing review with eligible studies published since January 1980 as one body of evidence, according to the methods described below.

This systematic review updates an existing NESR systematic review that examined dietary patterns consumed by children and adolescents that was conducted as part of the Dietary Patterns Systematic Reviews Project.[4] That systematic review was updated by the 2020 Dietary Guidelines Advisory Committee.[3] This updated systematic review synthesized the studies from the original, existing review with eligible studies published since January 1980 as one body of evidence, according to the methods described below.

This systematic review updates an existing NESR systematic review that examined dietary patterns consumed by adults and older adults that was completed as part of the Dietary Patterns Systematic Reviews Project.[4] Eligible studies conducted in adults and older adults were synthesized, and the new evidence was assessed as it related to the existing evidence, according to the methods described below. Final graded conclusion statements take into consideration evidence published from January 1980 to May 2023.

This systematic review also updates two existing NESR systematic reviews that examined dietary patterns consumed during pregnancy and postpartum that were completed by the 2020 Dietary Guidelines Advisory Committee.[5] This updated systematic review synthesized the studies from the existing review with eligible studies published since January 2000 as one body of evidence, according to the methods described below.

[1] USDA Nutrition Evidence Systematic Review Branch. USDA Nutrition Evidence Systematic Review: Methodology Manual. February 2023. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://nesr.usda.gov/methodology-overview

[2] English LK, Obbagy JE, Wong YP, et al. Types and Amounts of Complementary Foods and Beverages and Growth, Size, and Body Composition: A Systematic Review. April 2019. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.PB242018.SR0306

[3] Boushey C, Ard J, Bazzano L, et al. Dietary Patterns and Growth, Size, Body Composition, and/or Risk of Overweight or Obesity: A Systematic Review. July 2020. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.DGAC2020.SR0101

[4] Dietary Patterns Technical Expert Collaborative and NESR Staff. A Series of Systematic Reviews on the Relationship Between Dietary Patterns and Health Outcomes. March 2014. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://nesr.usda.gov/sites/default/files/2019-06/DietaryPatternsReport-FullFinal2.pdf

[5] Donovan S, Dewey K, Novotny R, et al. Dietary Patterns during Pregnancy and Gestational Weight Gain: A Systematic Review. July 2020. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.DGAC2020.SR0201; and Donovan S, Dewey K, Novotny R, et al. Dietary Patterns during Lactation and Postpartum Weight Loss: A Systematic Review. July 2020. U.S. Department of Agriculture, Food

* USDA Nutrition Evidence Systematic Review Branch. USDA Nutrition Evidence Systematic Review: Methodology Manual. February 2023. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://nesr.usda.gov/methodology-overview

† 2025 Dietary Guidelines Advisory Committee. 2024. Scientific Report of the 2025 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Health and Human Services and Secretary of Agriculture. U.S. Department of Health and Human Services. https://doi.org/10.52570/DGAC2025

and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.DGAC2020. SR0202

Develop a protocol

A systematic review protocol is the plan for how NESR's methodology is used to conduct a specific systematic review and is established by the Committee, *a priori*, before any evidence is reviewed. The protocol is designed to capture the most appropriate and relevant body of evidence to answer the systematic review question. Development of the protocol involves discussion of the strengths and limitations of various methodological approaches relevant to the question, which then inform subsequent steps of the systematic review process. The protocol describes all of the methods used throughout the systematic review process. Additionally, the protocol includes the following components, which are tailored to each systematic review question: the analytic framework, the inclusion and exclusion criteria, and the synthesis plan. The Committee used the analytic framework and the inclusion and exclusion criteria from the existing review and made adjustments to the protocol, as needed. Differences in the inclusion and exclusion criteria between existing and updated reviews are documented in **Appendix 3.**

The protocol was posted online (https://nesr.usda.gov/protocols) for the public to view and comment on. Revisions to the systematic review protocol were made during the review process. These amendments are documented in **Table 2.**

Table 2. Protocol revisions

Date	Protocol revision	Description
July 2023	Inclusion and exclusion criteria were added for confounders, specifying that studies must control for at least one key confounder listed in the analytic framework to be included.	This revision was made to enable focus on a stronger body of evidence. The revision was made before any evidence was synthesized.
July 2023	The inclusion and exclusion criteria for the outcome of gestational weight gain were revised to include only those studies that examine adequacy of total gestational weight gain (i.e., in relation to recommendations based on pre-pregnancy BMI). Studies that examine gestational weight gain during certain time periods or trimesters of pregnancy or total gestational weight gain not in relation to recommendations will be excluded.	This revision was made at the beginning of evidence synthesis to focus on the most clinically meaningful measure of gestational weight gain.
July 2023	The inclusion and exclusion criteria for the intervention/exposure and comparator were revised to clarify that: • a study must provide a description of the foods and beverages in both the intervention/exposure and comparator groups to be included. • studies that examine consumption of and/or adherence to similar dietary patterns of which only a specific component or food source differs between groups are excluded.	These revisions were made to clarify the inclusion and exclusion criteria for the intervention/exposure and comparator, but do not represent a change in how the criteria were applied.
September 2023	The inclusion criteria for study duration for weight loss and weight loss maintenance was reduced from ≥6 months and 12 months, respectively, to ≥12 weeks.	This revision was made so that study duration criteria is consistent across all growth, body composition, and risk of obesity outcomes. Longer-term studies on weight loss and weight loss maintenance will be prioritized in evidence synthesis. The revision was made before any evidence was synthesized.
September 2023	The exclusion criteria for outcome were revised to specify that studies that only report unintentional weight loss (i.e., a component of frailty) will be excluded.	This revision was made to clarify the intent of the outcome criteria but does not represent a change in how the criteria were applied.

Develop an analytic framework

An analytic framework visually represents the overall scope of the systematic review question and depicts the contributing elements that were examined and evaluated. It presents the core elements of each systematic review question, including the **P**opulation (i.e., those who experience the intervention/exposure and/or outcome), **I**ntervention and/or exposure (i.e., the independent variable of interest), **C**omparator (i.e., the alternative being compared to the intervention or exposure), and **O**utcome(s). Definitions for key terms are also included because they provide the basis for how concepts are operationalized throughout the review. The Committee identified key confounders based on their knowledge of nutrition and health research and experience as subject matter experts. Key confounders are participant characteristics, such as demographics, health status, and diet and lifestyle behaviors, and/or other factors related to both the intervention/exposure and the outcome of interest that may impact the relationships of interest. Key confounders were considered during review and evaluation of the evidence, particularly during the risk of bias assessment of non-randomized and observational studies.

Figure 1 is the analytic framework for the systematic review and shows the interventions or exposures as consumption of a dietary pattern with comparators of different dietary patterns and different

adherence/consumption levels to the same dietary pattern, in the populations of infants, young children up to age 24 months, children, adolescents, adults, older adults, individuals during pregnancy, and individuals during postpartum. The outcomes were growth (in infants, young children up to age 24 months, children, adolescents) including: height, length/stature-for-age, weight, weight-for-age, stunting, failure to thrive, wasting, BMI-for-age, weight-for-length/stature, body circumferences (arm, neck, thigh), head circumference; body composition (in infants, young children up to age 24 months, children, adolescents, adults, older adults) including: skinfold thickness, fat mass, ectopic fat, fat-free mass or lean mass, waist circumference, waist-to-hip-ratio; risk of obesity (in children, adolescents, adults, older adults) including: BMI, underweight, normal weight, overweight and/or obesity, weight loss and maintenance (in adults, older adults); and pregnancy and postpartum-related weight change (in individuals during pregnancy or postpartum) including: gestational weight gain and postpartum weight change. The key confounders may impact the relationships of interest and are sex, age, physical activity, anthropometry at baseline, socioeconomic position, race and/or ethnicity in all populations, alcohol intake in adults and older adults, smoking in adults, older adults, and pregnancy, parity (pregnancy, postpartum), diabetes mellitus in the current pregnancy (pregnancy), hypertensive disorders in the current pregnancy (pregnancy), and human milk feeding (postpartum). Dietary patterns are defined as the quantities, proportions, variety, or combination of different foods, drinks, and nutrients (when available) in diets, and the frequency with which they are habitually consumed.

Figure 1. Analytic framework for the systematic review question: What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity?

Population	***Intervention/ exposure***	***Comparator***	***Outcome***	***Key confounders***
Infants and young children up to age 24 months Children and adolescents (2 up to 19 years) Adults and older adults (19 years and older)	Consumption of a dietary pattern	Different dietary pattern(s) Different adherence/ consumption levels to the same dietary pattern	Growth (in infants, young children up to age 24 months, children, adolescents) • Height, length/stature-for-age • Weight, weight-for-age • Stunting, failure to thrive, wasting • BMI-for-age, weight-for-length/stature • Body circumferences (arm, neck, thigh) • Head circumference Body composition (in infants, young children up to age 24 months, children, adolescents, adults, older adults) • Skinfold thickness • Fat mass, ectopic fat • Fat-free mass or lean mass • Waist circumference, waist-to-hip-ratio Risk of obesity (in children, adolescents, adults, older adults) • BMI • Underweight • Normal weight • Overweight and/or obesity • Weight gain • Weight loss and maintenance (adults, older adults)	• Sex • Age • Physical activity • Race and/or ethnicity • Socioeconomic position • Anthropometry at baseline • Smoking (adults, older adults) • Alcohol intake (adults, older adults)
Individuals during pregnancy and postpartum	Consumption of a dietary pattern	Different dietary pattern(s) Different adherence/ consumption levels to the same dietary pattern	Pregnancy and postpartum-related weight change (in individuals during pregnancy or postpartum) • Gestational weight gain • Postpartum weight change	• Age • Physical activity • Race and/or ethnicity • Socioeconomic position • Anthropometry at baseline • Smoking • Parity • Diabetes mellitus in the current pregnancy (pregnancy) • Hypertensive disorders in the current pregnancy (pregnancy) • Human milk feeding status (postpartum)

Synthesis organization:

I. ***Population***: Infants and young children up to age 24 months; Children and adolescents; Adults; Older adults; Individuals during pregnancy; Individuals during postpartum
   i. ***Outcome:*** Growth; Body composition; Risk of obesity; Weight loss and maintenance; Pregnancy and postpartum-related weight change

Key definitions:

Dietary patterns: the quantities, proportions, variety, or combination of different foods, drinks, and nutrients (when available) in diets, and the frequency with which they are habitually consumed.

Develop inclusion and exclusion criteria

The inclusion and exclusion criteria provide an objective, consistent, and transparent framework for determining which articles to include in the systematic review (**Table 3**). These criteria ensure that the most relevant and appropriate body of evidence is identified for the systematic review question, and that the evidence reviewed is[*]:

- Applicable to the U.S. population of interest
- Relevant to Federal public health nutrition policies and programs
- Rigorous from a scientific perspective

Table 3. Inclusion and exclusion criteria

Category	Inclusion Criteria	Exclusion Criteria
Study design	• Randomized controlled trials • Non-randomized controlled trials[†] • Prospective cohort studies • Retrospective cohort studies • Nested case-control studies	• Uncontrolled trials[‡] • Case-control studies • Cross-sectional studies • Ecological studies • Narrative reviews • Systematic reviews • Meta-analyses • Modeling and simulation studies
Publication date	• January 1980 – January 2024	• Before January 1980, after January 2024
Population: Study participants	• Human	• Non-human
Population: Life stage	At intervention or exposure and outcome: • Infants and young children up to age 24 months • Children and adolescents (2 up to 19 years) • Adults and older adults (19 years and older) • Individuals during pregnancy • Individuals during postpartum	At intervention or exposure and outcome: • Individuals before pregnancy

[*]USDA Nutrition Evidence Systematic Review Branch. USDA Nutrition Evidence Systematic Review: Methodology Manual. February 2023. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://nesr.usda.gov/methodology-overview

[†] Including quasi-experimental and controlled before-and-after studies

[‡] Including uncontrolled before-and-after studies

Category	Inclusion Criteria	Exclusion Criteria
Population: Health status	• Studies that <u>exclusively</u> enroll participants not diagnosed with a disease[*] • Studies that enroll <u>some</u> participants: ○ diagnosed with a disease; ○ with severe undernutrition, failure to thrive/underweight, stunting, or wasting; ○ born preterm,[†] with low birth weight,[‡] and/or small for gestational age; ○ and/or with the outcome of interest ○ who became pregnant using Assisted Reproductive Technologies; ○ with multiple gestation pregnancies; ○ pre- or post-bariatric surgery; ○ and/or receiving pharmacotherapy to treat obesity	• Studies that <u>exclusively</u> enroll participants: ○ diagnosed with a disease;[§] ○ hospitalized for an illness, injury, or surgery;[**] ○ with severe undernutrition, failure to thrive/underweight, stunting, or wasting; ○ born preterm,[†] with low birth weight,[‡] and/or small for gestational age ○ who became pregnant using Assisted Reproductive Technologies; ○ with multiple gestation pregnancies; ○ pre- or post-bariatric surgery; ○ and/or receiving pharmacotherapy to treat obesity
Intervention/ exposure	• Studies that examine consumption of and/or adherence to a dietary pattern [i.e., the quantities, proportions, variety, or combination of different foods, drinks, and nutrients (when available) in diets, and the frequency with which they are habitually consumed] including, at a minimum, a description of the foods and beverages in the pattern of each intervention/exposure and comparator group ○ Dietary patterns may be measured or derived using a variety of approaches, such as adherence to a priori patterns (indices/scores), data driven patterns (factor or cluster analysis), reduced rank regression, or other methods, including clinical trials • Multi-component intervention in which the isolated effect of the dietary pattern with varying amounts of ultra-processed foods on the outcome(s) of interest is provided or can be determined	• Studies that do not provide a description of the dietary pattern, which at minimum, must include the foods and beverages in the pattern (i.e., studies that examine a labeled dietary pattern, but do not describe the foods and beverages consumed in each intervention/exposure and comparator group) • Multi-component intervention in which the isolated effect of the intervention of interest on the outcome(s) of interest is not provided or cannot be determined (e.g., due to multiple intervention components within groups)

[*] Studies that enroll participants who are at risk for chronic disease were included

[†] Gestational age <37 weeks and 0/7 days

[‡] Birth weight <2500g

[§] Studies that exclusively enroll participants with obesity were included

[**] Studies that exclusively enroll participants post-cesarean section were included

Category	Inclusion Criteria	Exclusion Criteria
Comparator	• Consumption of and/or adherence to a different dietary pattern • Different levels of consumption of and/or adherence to a dietary pattern	• Consumption of and/or adherence to a similar dietary pattern of which only a specific component or food source s differs between groups

Outcome(s)	• Growth (in infants, young children up to age 24 months children, adolescents)
	  ○ Height, length/stature-for-age
	  ○ Weight, weight-for-age
	  ○ Stunting, failure to thrive, wasting
	  ○ BMI-for-age, weight-for-length/stature
	  ○ Body circumferences (arm, neck, thigh)
	  ○ Head circumference
	• Body composition (in infants, young children up to age 24 months, children, adolescents, adults, older adults)
	  ○ Skinfold thickness
	  ○ Fat mass, ectopic fat
	  ○ Fat-free mass or lean mass
	  ○ Waist circumference, waist-to-hip-ratio
	• Risk of obesity (in children, adolescents, adults, older adults)
	  ○ BMI
	  ○ Underweight
	  ○ Normal weight
	  ○ Overweight and/or obesity
	  ○ Weight gain
	  ○ Weight loss and maintenance (in adults, older adults)
	• Pregnancy and postpartum-related weight change (in individuals during pregnancy or postpartum)
	  ○ Adequacy of total gestational weight gain (i.e., in relation to recommendations based on pre-pregnancy BMI)
	  ○ Postpartum weight change
		• Gestational weight gain only during certain time periods or trimesters of pregnancy
		• Absolute total gestational weight gain (i.e., not in relation to recommendations based on pre-pregnancy BMI)
		• Weight loss that is specifically classified as unintentional weight loss (e.g., a component of Frailty)

Confounders	• Studies that control for at least one of the key confounders listed in the analytic framework	• Studies that do not control for any of the key confounders listed in the analytic framework

Category	Inclusion Criteria	Exclusion Criteria
Study duration (not applied to pregnancy and postpartum studies)	• Intervention length ≥12 weeks	• Intervention length <12 weeks
Size of study groups (not applied to pregnancy and postpartum studies)	• For intervention studies: ○ ≥30 participants per study group for between-subject analyses, ○ or a power calculation indicating that the study is appropriately powered for the outcome(s) of interest • For observational studies: ○ Analytic sample size of ≥1000 participants (only for adults and older adults)	• For intervention studies: ○ <30 participants per study group for between-subject analyses, ○ and no power calculation indicating that the study is appropriately powered for the outcome(s) of interest • For observational studies: ○ Analytic sample size n<1000 (only for adults and older adults)
Publication status	• Peer-reviewed articles published in research journals	• Non-peer reviewed articles, unpublished data or manuscripts, pre-prints, reports, and conference abstracts or proceedings
Language	• Published in English	• Not published in English
Country*	• Studies conducted in countries classified as high or very high on the Human Development Index the year(s) the intervention/exposure data were collected	• Studies conducted in countries classified as medium or low on the Human Development Index the year(s) the intervention/exposure data were collected

* The classification of countries on the Human Development Index (HDI) is based on the UN Development Program Human Development Report Office (http://hdr.undp.org/en/data) for the year the study intervention occurred or data were collected. Studies conducted prior to 1990 are classified based on 1990 HDI classifications. If the year is more recent than the available HDI values, then the most recent HDI classifications are used. If a country is not listed in the HDI, then the current country classification from the World Bank is used (The World Bank. World Bank country and lending groups. Available from: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world- country-and-lending-groups)

Search for and screen studies

NESR librarians, in collaboration with NESR analysts and the Committee, used the analytic framework and inclusion and exclusion criteria to develop a comprehensive literature search strategy. The literature search strategy included selecting and searching the appropriate bibliographic databases, translating search using syntax appropriate for the databases being searched, and employing search refinements, such as search filters. For existing reviews, search strategies were updated, as appropriate, for each database. The full literature search is documented in **Appendix 4**: Literature search strategy

The results of all electronic database searches, after removal of duplicates, were screened independently by two NESR analysts using a step-wise process by reviewing titles, abstracts, and full-texts to determine which articles meet the inclusion criteria. Manual searching was conducted to find peer-reviewed published articles not identified through the electronic database search. These articles were also screened independently by two NESR analysts at the abstract and full-text levels.

Extract data and assess the risk of bias

NESR analysts extracted all essential data from each included article to describe key characteristics of the available evidence, such as the author, publication year, cohort/trial name, study design, population life stage at intervention/exposure and outcome, intervention/exposure and outcome assessment methods, and outcomes. One NESR analyst extracted the data and a second NESR analyst reviewed the extracted data for accuracy. Each article included in the systematic review underwent a formal risk of bias assessment, with two NESR analysts independently completing the risk of bias assessment using the tool that is appropriate for the study design.[*†‡§]

Synthesize the evidence

The Committee described, compared, and combined the evidence from all included studies to answer the systematic review question. Synthesis of the body of evidence involved identifying overarching themes or key concepts from the findings, identifying and explaining similarities and differences between studies, and determining whether certain factors impact the relationships being examined, which includes potential causes of heterogeneity across all included evidence.

Extracted data and risk of bias assessments for all included studies were tabulated to visually display results and facilitate synthesis. During synthesis, the Committee considered effect direction, magnitude, and statistical significance of the results reported across the articles included in the body of evidence. The evidence was synthesized qualitatively without meta-analysis of effect estimates, statistical pooling or conversion of data, or

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[*] Sterne JAC, Savović J, Page MJ, et al. RoB 2: a revised tool for assessing risk of bias in randomised trials. *BMJ*. 2019; **366**: l4898.doi:10.1136/bmj.l4898

[†] Sterne JAC, Hernán MA, Reeves BC et al. ROBINS-I: a tool for assessing risk of bias in non-randomized studies of interventions. *BMJ*. 2016; 355; i4919; doi: 10.1136/bmj.i4919

[‡] Higgins JPT, Morgan RL, Rooney AA, et al. A tool to assess risk of bias in non-randomized follow-up studies of exposure effects (ROBINS-E). Environment International 2024 (published online Mar 24); doi: 10.1016/j.envint.2024.108602.

[§] Observational studies in adults and older adults from the existing systematic review were assessed using the "Risk of Bias for Nutrition Observational Studies" tool (RoB-NObs) (Dietary Guidelines Advisory Committee. 2020. Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC. Randomized controlled trials in adults and older adults from the existing systematic were assessed using the "Cochrane Risk-of-bias 2.0" tool (RoB 2.0) (August 2016 version)" (Higgins JPT, Sterne JAC, Savović J, Page MJ, Hróbjartsson A, Boutron I, Reeves B, Eldridge S. A revised tool for assessing risk of bias in randomized trials In: Chandler J, McKenzie J, Boutron I, Welch V (editors). Cochrane Methods. Cochrane Database of Systematic Reviews 2016, Issue 10 (Suppl 1). dx.doi.org/10.1002/14651858.CD201601.

quantitative tests of heterogeneity. Eligible studies published since January 2014 in adults and older adults were synthesized, and the new evidence was assessed as it related to the existing evidence.

The synthesis plan for this review was designed with the end-use in mind, to inform the Committee's advice to HHS and USDA regarding dietary guidance across life stages. The first level of synthesis organization was by population at intervention or exposure. When synthesizing dietary patterns evidence, focus was placed on the food and beverage components of the dietary patterns examined in the included studies (i.e., fruits, vegetables, whole grains, seafood), and not on the "label" or "name" of the pattern assigned by researchers (e.g., Mediterranean, DASH). To accomplish this, data visualizations were created to illustrate the components reflected in each dietary pattern studied. These visualizations allowed the Committee to compare and contrast the results across patterns while also identifying common foods and beverages reflected in patterns associated with beneficial, null, or adverse health outcomes.[*]

Develop a conclusion statement and grade the evidence

After the Committee synthesized the body of evidence, they drafted a conclusion statement. A conclusion statement is one or more summary statements carefully constructed to answer the systematic review question. Each conclusion statement reflects the evidence reviewed, as outlined in the analytic framework (e.g., PICO elements) and synthesis plan, and does not take evidence from other sources into consideration. Conclusion statements do not draw implications and should not be interpreted as dietary guidance. The Committee reviewed, discussed, and revised the conclusion statement until they reached agreement on wording that accurately reflected the body of evidence.

The Committee then graded the strength of the evidence underlying each conclusion statement. They did this using NESR's predefined criteria, based on five grading elements: consistency, precision, risk of bias, directness and generalizability of the evidence. Study design and publication bias were also considered.[†]

- Consistency: Consistency considers the degree of similarity in the direction and magnitude of effect across the body of evidence. This element also considers whether differences across the results can be explained by variations in study designs and methods.
- Precision: Precision considers the degree of certainty around an effect estimate for a given outcome. This element considers measures of variability, such as the width and range of confidence intervals, the number of studies, and sample sizes, within and across studies.
- Risk of bias: Risk of bias considers the likelihood that systematic errors resulting from the design and conduct of the studies could have impacted the accuracy of the reported results across the body of evidence.
- Directness: Directness considers the extent to which studies are designed to directly examine the relationship among the interventions/exposures, comparators, and outcome(s) of primary interest in the systematic review question.
- Generalizability: Generalizability considers whether the study participants, interventions and/or exposures, comparators, and outcomes examined in the body of evidence are applicable to the U.S. population of interest for the review.

The Committee assigned an overall grade to each conclusion statement (i.e., strong, moderate, limited, or grade not assignable). The grade communicates the strength of the evidence supporting a specific conclusion statement to decision makers and stakeholders. A conclusion statement can receive a grade of Strong,

[*] English LK, Raghavan R, Obbagy JE, et al. Dietary Patterns and Health: Insights From NESR Systematic Reviews to Inform the Dietary Guidelines for Americans. JNEB. 2024 Jan; 56(4):75-87. doi: 10.1016/j.jneb.2023.10.001

[†] Spill MK, English LK, Raghavan R, et al. Perspective: USDA Nutrition Evidence Systematic Review Methodology: Grading the Strength of Evidence in Nutrition- and Public Health-Related Systematic Reviews. Adv Nutr. 2022 Aug 1;13(4):982-991. doi: 10.1093/advances/nmab147

Moderate, or Limited, and if insufficient or no evidence is available to answer a systematic review question, then no grade is assigned (i.e., Grade Not Assignable) (**Table 4**). The overall grade is not based on a predefined formula for scoring or tallying ratings of each element. Rather, each overall grade reflects the expert group's thorough consideration of all of the grading elements, as they each relate to the specific nuances of the body of evidence under review.

Table 4. Definitions of NESR grades

Grade	Definition
Strong	The conclusion statement is based on a strong body of evidence as assessed by consistency, precision, risk of bias, directness, and generalizability. The level of certainty in the conclusion is strong, such that if new evidence emerges, modifications to the conclusion are unlikely to be required.
Moderate	The conclusion statement is based on a moderate body of evidence as assessed by consistency, precision, risk of bias, directness, and generalizability. The level of certainty in the conclusion is moderate, such that if new evidence emerges, modifications to the conclusion may be required.
Limited	The conclusion statement is based on a limited body of evidence as assessed by consistency, precision, risk of bias, directness, and generalizability. The level of certainty in the conclusion is limited, such that if new evidence emerges, modifications to the conclusion are likely to be required.
Grade Not Assignable	A conclusion statement cannot be drawn due to either a lack of evidence, or evidence that has severe limitations related to consistency, precision, risk of bias, directness, and generalizability.

Recommend future research

The Committee identified and documented research gaps and methodological limitations throughout the systematic review process. These gaps and limitations are used to develop research recommendations that describe the research, data, and methodological advances that are needed to strengthen the body of evidence on a particular topic. Rationales for the necessity of additional or stronger research are provided with the research recommendations.

Peer review

This systematic review underwent external peer review in a process coordinated by staff from the NIH. NIH staff identified potential peer reviewers through outreach to a variety of professional organizations to select academic reviewers from U.S. colleges and universities across the country with a doctorate degree, including MDs, and expertise specific to the questions being reviewed. All peer reviewers were external to the *Dietary Guidelines* process, and therefore, current Committee members or Federal staff who supported the Committee or the development of the *Dietary Guidelines* were not eligible to serve as peer reviewers.

The peer review process was anonymous and confidential in that the peer reviewers were not identified to the Committee members or NESR staff, and in turn, the reviewers were asked not to share or discuss the review with anyone. Peer reviewers were made aware that per USDA, FNS agency policy, all peer reviewer comments would be summarized and made public, but comments would not be attributed to a specific reviewer.

Peer review occurred after draft conclusion statements were discussed by the full Committee at its third, fourth, fifth, and sixth public meetings. NIH staff assigned and distributed the reviews to at least 2 peer reviewers based on area of expertise. Following peer review, the Committee reviewed and discussed comments and made revisions to the systematic review, as needed, based on the discussion.

Health equity considerations

The Committee was charged by HHS and USDA to review all scientific questions with a health equity lens to ensure that the next edition of the Dietary Guidelines is relevant to people with diverse racial, ethnic, socioeconomic, and cultural backgrounds. The Committee made a number of health equity considerations throughout the NESR systematic review process. The Committee's Scientific Report* includes a more detailed discussion of their approach to applying a health equity lens to their review of evidence, but examples include consideration of key confounders relevant to health equity and assessment of generalizability of the evidence.

Results

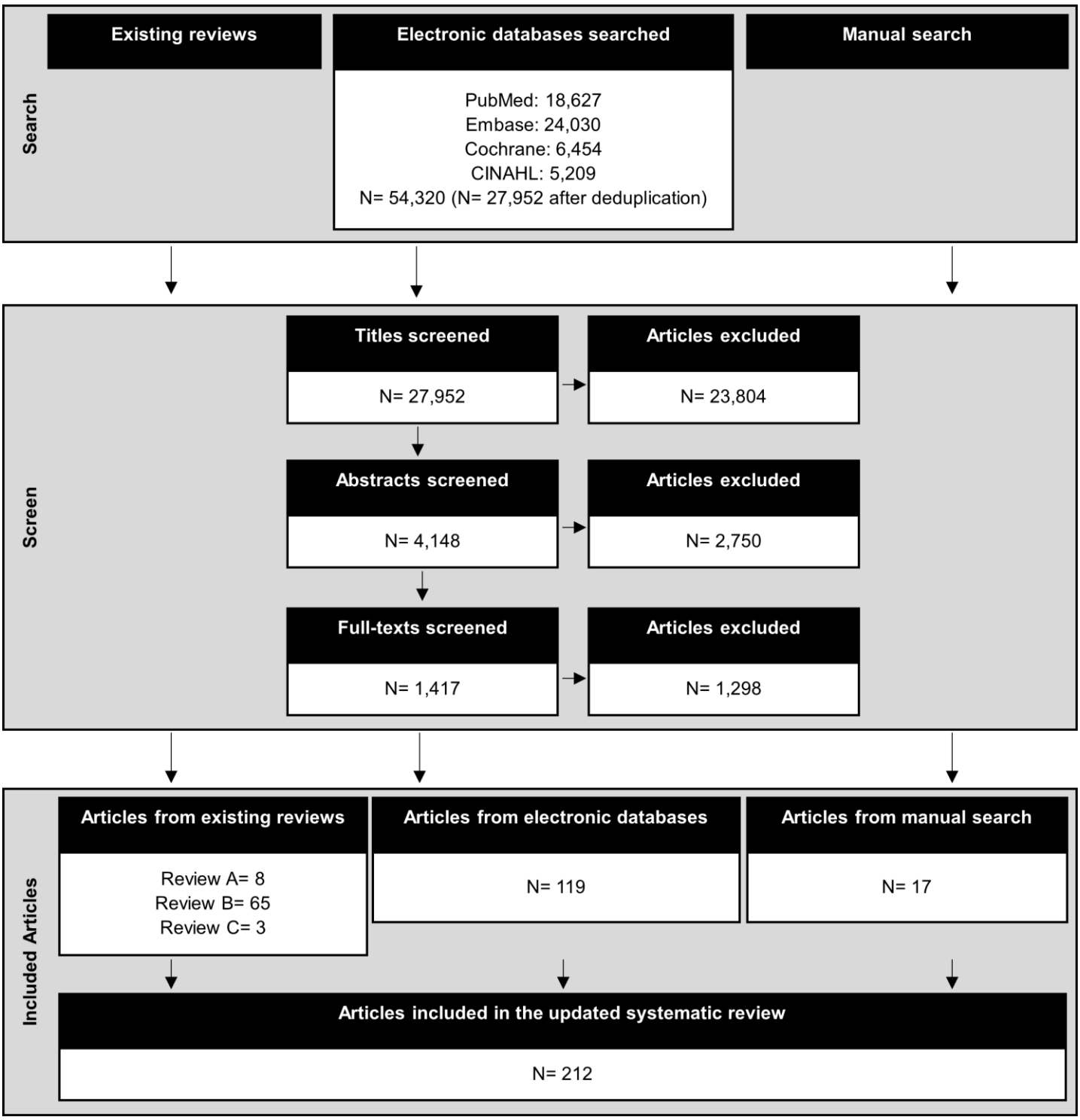
Literature search and screening results

The literature search (Appendix 4) yielded 27,952 search results after the removal of duplicates (see Figure 2). Dual-screening resulted in the exclusion of 23,804 titles, 2750 abstracts, and 1298 full-texts articles. Reasons for full-text exclusion are in **Appendix 5**: Excluded articles. The body of evidence includes 212 articles published since January 1980 in infants and young children up to age 24 months (n=18[1-18]) and children and adolescents (n=62 [2,10,11,15,19-76]), since January 2014 in adults and older adults (n=106[77-182]), and since January 2000 in individuals during pregnancy (n=25[183-206]), and individuals during postpartum (n=7) articles.[198,203,207-212] In addition, this review updates graded conclusion statements from existing reviews that were based in 38 articles in adults and older adults.†

*2025 Dietary Guidelines Advisory Committee. 2024. Scientific Report of the 2025 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Health and Human Services and Secretary of Agriculture. U.S. Department of Health and Human Services.https://doi.org/10.52570/DGAC2025

† Dietary Patterns Technical Expert Collaborative and NESR Staff. A Series of Systematic Reviews on the Relationship Between Dietary Patterns and Health Outcomes. March 2014. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://nesr.usda.gov/sites/default/files/2019-06/DietaryPatternsReport-FullFinal2.pdf

Figure 2. Literature search and screen flow chart.



Infants and young children up to age 24 months

Eighteen articles met inclusion criteria and were published between January 1980 and May 2023 examining the relationship between dietary patterns consumed from birth up to 24 months of age and growth, body composition, and risk of obesity.[1-18] Study designs include 1 randomized controlled trial (RCT) and 17 prospective cohort studies (**Table 6**).

Description of the evidence

Population

Sample size of study groups ranged from N=68 up to N=14989. Studies were conducted in 9 different countries: Australia; Brazil; China; Columbia; Norway; Scotland; The Netherlands; the United Kingdom and the United States or Puerto Rico. Multiple articles from the following cohorts were included: Infant Feeding Practices Study II (IFPS II), Generation R Study, and Southampton Women's Survey, but the articles examined different dietary patterns or dietary patterns at different ages.

Studies examined dietary patterns consumed at ages ranging from birth up to 2 years, but most (14 of 18) examined dietary patterns at age 6 months or between 6 and 12 months. Seven articles reported some information on the racial or ethnic background of participants as follows: 1) 4% non-white; 2) 91% White, 1% African American, 3% Hispanic, 3% Asian/Pacific Islander; 3) 71% "white skin color"; 4) 94% White; 5) 67% Dutch; 6) 90% White non-Hispanic; 7) ~41% Hispanic, 29% Non-Hispanic White, 25% Non-Hispanic Black, and 6% Non-Hispanic Other. Three studies exclusively enrolled those with low socioeconomic position (SEP), e.g., based on Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) participation.[3,4,12]

Intervention/exposure and comparator

Studies used a variety of diet assessment methods, with studies using a food-frequency questionnaire most frequently, 24-hour recalls, and/or caregiver surveys/questionnaires. Most of the studies (13 of 18) collected diet at more than one time point, except for five articles that used a single baseline assessment. Analytic approaches used to investigate dietary patterns included:

- Investigator-assigned dietary intervention[12]
- *A priori* Index/Score derivation [2,3,7,10,16,17,43]
- Factor/cluster or latent-class analysis[1,5-9,11,13-15,17,18]
- Reduced rank regression analysis[17]

Outcomes

Most (16 of 18) articles reported using standardized protocols, instruments, and trained staff to measure weight, height, and/or waist circumference of participants. However, precise cutoffs and/or methods used to categorize or classify participants based on BMI percentile, BMI z-score, or other weight-relative-to-height ratios varied across studies (e.g., CDC vs. WHO vs. Cole's method). The following outcomes were reported across the body of evidence:

- BMI and/or WLZ [1,3-18,43]
- Body composition (e.g., fat mass) [5,7,9-13,15,17]
- Weight and/or height/length[5,9,10,12,14,18]
- Risk of overweight and/or obesity [1,14 2]
- Head circumference[12]

Synthesis of the evidence

Eight articles reported no statistically significant association between the dietary patterns consumed between 6 months up to age 24 months and outcomes of growth, body composition, and risk of obesity outcomes (at 12 months up to 11 years) were reported in 8 articles.[1-3,6,10,12,15,16] Most of these dietary patterns included vegetables and fruit but varied considerably in other components, such as human milk/infant formula, cereals/grains (rice, pasta) and sources of protein and/or iron (e.g., meat, fish, beans). The studies also varied considerably in which outcome measure(s) were evaluated and the ages at follow-up . Across the body of evidence, some components were not further defined, such as 'baby snacks', 'textured foods', or 'home-prepared foods'. Because the types and proportions of components in a dietary pattern during the complementary feeding period are likely to change over that developmental window, it was difficult to collate findings across this age group (e.g., birth to 5 months, at age 6 months, 8 to 11 months, at age 14 months, from 19 to 24 months). Several studies examined dietary patterns relative to alignment with the standard complementary feeding guidelines at the time of the study. However, these recommendations varied over time and between countries.

There was substantial heterogeneity in direction and magnitude among the studies that reported any statistically significant dietary pattern/outcome associations.[4,5,8-11,13-16,18], the direction and magnitude of results varied. A few studies found that dietary patterns consumed at ages 6 months and up to 12 months that emphasized human milk and/or infant formula, vegetables, and fruit were significantly associated with lower BMI z-scores or greater lean mass at age 4 years, lower fat mass at age 6 years, and smaller waist circumference age 7 years.[4,7,11,13] Notably, these dietary patterns varied in other components and the magnitude of findings were relatively small. In addition, these studies also reported no significant associations when examining dietary patterns consumed at other ages or in relation to other outcomes.

Conclusion statement and grade

The 2025 Dietary Guidelines Advisory Committee did not develop conclusion statements to answer the question, "What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity?", because studies were highly variable and could not be aligned based on the dietary patterns consumed between birth and age 24 months and outcomes examined (see **Table 5)**.

Table 5. Conclusion statement and grade for dietary patterns consumed by infants and young children up to age 24 months and growth, body composition, and risk of obesity

Conclusion Statement	A conclusion statement cannot be drawn about the relationship between dietary patterns consumed by infants and young children up to age 24 months and growth, body composition, and risk of obesity because of substantial concerns with consistency.
Grade	Grade not assignable
Body of Evidence	18 articles: 1 randomized controlled trial, 17 prospective cohort studies
Rationale	Critical limitations across the body of evidence prevented the ability to draw a conclusion. These issues included highly variable studies in terms of exposure and outcome assessment methods and timing, methods used, and outcome reporting. These may in part explain the substantial heterogeneity in the direction and magnitude of effect estimates between dietary patterns and outcomes. Some concerns were identified with risk of bias in the individual studies, including important confounders that were not accounted for. Most studies directly examined the relationship of interest. Relative to the U.S. population, the dietary patterns examined, other infant and toddler feeding practices, and some participant characteristics may be less generalizable.

A conclusion could not be drawn because of substantial variation across studies in terms of the measures and timing dietary pattern exposure assessment in relation to growth, body composition, and obesity outcomes. This lack of alignment across studies on these factors undermined the ability to summarize the evidence. Although a grade could not be assigned, critical limitations were identified in the consistency of effects across the body of evidence. Risk of bias concerns were identified across the individual studies that included insufficient adjustment for important confounding factors and missing data that were not accounted for (see **Table 7** and **Table 8**). In particular, the race and/or ethnicity of participants was not reported or adjusted for and many (11 of 19) studies had moderate-high attrition rates over follow-up period of interest. Many studies directly examined the relationship between dietary pattern consumption from birth up to 2 years of age and growth, body composition, and risk of obesity outcomes. The body of evidence included studies from a total of 9 countries, with 5 of the articles from studies that were conducted in the United States. Relative to the U.S. population (at birth to 24 months), the specific dietary patterns examined at specific ages may be less generalizable. This body of evidence includes both large and small studies (with significant as well as null findings) so publication bias may be less likely.

Table 6 Evidence in infants and young children up to age 24 months examining the relationship between dietary patterns consumed and growth, body composition and risk of obesity[a]

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Abraham, 2012 [1] Scotland; Growing Up in Scotland (GUS) study (2005-2008) Analytic N=4493 **Participant characteristics:** NR; 4% non-white ethnic group (Bradshaw, 2007) **Selection:** Variables with >5% missing responses excluded from cluster analysis. Excluded infants with missing data points for models in Tables 2 and 3.	**Age at Dietary Pattern**:19 to 24 mo Cluster 1 (Negative): low fruit, vegetable; high sweets, crisps, soft drinks, snacking Cluster 2 (Positive): high fruit, vegetable; low snacking **Method(s)**:Factor/Cluster	**Age at Follow-up: 4y** OW/Ob frequency at 45-48mo: 12.5% vs. 11.9%, P=0.598, NS Cluster 1 v. Cluster 2, ref & BMI z-score: 0.96, 95% CI: 0.76, 1.21	• Did not account for: Sex, Age, Race and/or Ethnicity, Maternal age, or Birth size/gestational age • Cannot determine whether groups were similar at baseline on key characteristics • Cannot determine if outcome assessors were blinded, primary interviewers were unblinded; • Bradshaw, 2007 summarizes Sweep 1 baseline characteristics **Funding**: Growing Up in Scotland (GUS) data set received no specific grant from any funding agency in the public, commercial or not-for profit sector.

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Agnihotri, 2021 [2] Norway; Norwegian Mother, Father and Child Cohort Study (MoBa) Analytic N=14989 **Participant characteristics:** 49.7% female; 30% ≤ 12y maternal education **Selection:** Enrolled mothers during pregnancy; Excluded if missing data from Medical Birth Registry of Norway; missing questionnaire data during mother's pregnancy; multiple pregnancies; additional pregnancies by same mother; extreme intake during pregnancy; child age <7 or >9.5 at outcome; missing outcome data; anthropometric data outside +/- 4SD	**Age at Dietary Pattern:** 6 mo, 18 mo New Nordic Diet (NND) score, 6mo: Positive: homemade Fruit puree (v. commercial); homemade Dinners (v. commercial); homemade Porridge (v. commercial); Exclusive breast-fed ≥4 months; Any breast-fed at 6 mo; Water (v. sweetened beverages) NND, 18 mo: Positive: Vegetables >5.5 times/wk; Fruit >10.5 times/wk; Peas and beans >5 times/wk; Potatoes (more than rice/pasta); Porridge (more homemade than commercial); Fish >2.13 times/wk; Milk (more milk than juice); Water (more than sweetened beverages); Homemade food (more than commercial baby food) **Method(s)**:Index or Score Analysis	**Age at Follow-up: 8y** NND at 6 mo & Risk of OW • Low, OR: 1.00, ref • Medium, OR: 1.05, 95% CI: 0.93, 1.16; p-trend=0.402 • High, OR: 0.97, 95% CI: 0.83, 1.13; p-trend=0.724 • Per 1-pt, OR: 0.99, 95% CI: 0.96, 1.03; p-trend=0.773 NND at 18 mo & Risk of OW • Low, OR: 1.00, ref • Medium, OR: 0.96, 95% CI: 0.86, 1.08; p-trend=0.506 • High, OR: 0.99, 95% CI: 0.86, 1.14; p-trend=0.883 Per 1-pt, OR: 1.00, 95% CI: 0.97, 1.03; p-trend=0.916	• Did not account for: Race/Ethnicity, Physical activity, Anthropometry (at 3 y and 7 y); or Energy intake in analyses • BMI computed from parent-reported child Ht & Wt at 8 y **Funding**: Norwegian Ministry of Health and Care Services, Ministry of Education and Research

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Amaro-Rivera, 2019 [3] Puerto Rico Analytic N=68 **Participant characteristics:** 46.8% female; 32.5% ≤ high school education in parents; SEP: Caregivers were WIC participants **Selection:** Excluded non-singleton infants & toddlers; caregivers <21 years of age; those not participating in WIC program; infants & toddlers with major anomalies/ disabilities that could impede regular feeding practices; infants age 6-7 mo	**Age at Dietary Pattern:** 0 to 24mo Dietary pattern (not named) at ages 0 to 5 months: Positive for Milk (Exclusive Human Milk; Partial Human Milk; or Formula); Negative (if before age 6 mo): Grains or cereals; Proteins (meat or beans); Vegetables; Fruits; 100% fruit juices; Sugar-sweetened beverages; Sweets; Salty snacks **Method(s)**:Index or Score Analysis	**Age at Follow-up: ~12 to 36 mo** WFL z-score, RR: 1.02, 95% CI: 0.98, 1.07	• Did not account for: Race/Ethnicity, Physical activity • Drop-out rates are very high. Unclear if the study had power to detect the difference **Funding**: National Institute on Minority Health and Health Disparities, University of Puerto Rico Central Administration
Au, 2023 [4] United States; WIC Infant and Toddler Feeding Practices Study-2 (WIC ITFPS-2) Analytic N=2858 **Participant characteristics:** SEP: 90% were below poverty guideline; Race and/or Ethnicity: ~41% Hispanic; 29% Non-Hispanic White; 25% Non-Hispanic Black; 6% Non-Hispanic Other **Selection:** Enrolled only WIC-participants (mothers >16y old)	**Age at Dietary Pattern: 7 to 12mo** Infant Diet Quality Index (IDQI): Positive: Duration HM-fed; Exclusivity of HM; Solids Age; iron-rich Cereals; Fruit (frequency); Vegetables (frequency); Fruit (different/variety); Vegetables (different/variety); Number of meals and snacks. Negative: Non-recommended bottle-feeding practices; Commercial baby food; Number of meals and snacks; Later introduction (at age 12 or 9mo): Cow milk; Sugar-sweetened beverages; Salty or sweet snacks; Other drinks or liquids (e.g., teas or broths); Textured foods **Method(s)**: Index or Score Analysis	**Age at Follow-up: 2y and 4y** IDQI & BMIz at 2 y, ß: -1.24; 95% CI: -2.01, -0.47; P=0.002 IDQI & BMIz at 4 y, ß: -0.92; 95% CI: -1.53, -0.30; P=0.003	• Did not account for: Physical activity • Diet collected from repeat assessments of caregivers with one 24-hr recall and survey; • Weight/Height measured at birth, 6mo, 1y, 2y, 3y, and 4y; • Author-noted large effect sizes for BMIz • **Funding**: NHLBI; USDA/NIFA

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Baird, 2008 [5] United Kingdom; Southampton Women's Survey (SWS) Analytic N=1740 **Participant characteristics:** 46.9% female; 94% white **Selection:** Excluded multiples and preterm births	**Age at Dietary Pattern:** 6 mo 'Infant Guidelines': high frequency of consumption of vegetables, fruit, meat, fish, home-prepared foods, breast milk; low frequency of consumption of commercial baby foods in jars and formula 'Adult Foods': high frequency of consumption of bread, savory snacks, biscuits, squash, breakfast cereals, and crisps; low frequency of breast milk, baby rice, and cooked and canned fruit **Method(s)**: Factor/Cluster	**Age at Follow-up: 12 mo** 'Infant guidelines' • Skinfold thickness (SFT) ○ 6-12mo: β: 0.11, 95% CI: 0.04, 0.18; P-value: 0.002; Q1 ref v. Q4: 0.26, 95% CI: 0.07, 0.45 ○ at 12mo: β: 0.13, 95%CI: 0.01, 0.25; p=0.03 • Length ○ 6-12mo, SDS: β: 0.03, 95%CI: -0.04, 0.10; p=0.225 ○ at 12 mo, SDS: β: 0.04, 95% CI: -0.13, 0.21; p=0.612 • Weight ○ 6-12 mo, SDS: β: 0.10, 95%CI: 0.04, 0.17; p=0.002; ○ Q1 ref v. Q4: 0.24, 95% CI: 0.06, 0.43 (ie 0.12 kg, 95% CI: 0.02, 0.23) ○ at 12 mo, SDS: β: 0.07, 95% CI: -0.01, 0.14; p=0.09 'Adult foods' • SFT ○ 6-12mo: β: 0.00, 95% CI: -0.07, 0.07; p= 0.92 ○ at 12mo: β: 0.01, 95% CI: -0.12, 0.13; p=0.89 • Weight, ○ 6-12 mo, SDS: β:-0.08, 95%CI: -0.15, -0.02; p=0.0015 ○ at 12 mo, SDS: β: 0.02, 95% CI: -0.06, 0.10; P=0.60 • Length, ○ 6-12mo, SDS: β:-0.04, 95%CI: -0.11, 0.03; p=0.225 ○ at 12 mo; β: 0.00, 95% CI: -0.17, 0.17; p=0.984	• Did not account for: Age, Race/ethnicity (94% White; 'ethnic minorities under-represented'); Physical activity; SEP; or Maternal age • Cannot determine whether groups were similar at baseline; • Unclear whether outcome assessors were blinded to the infants' feeding histories; • BF duration and infant diet was retrospectively self-reported by mothers at 6 and 12mo, thus may have been biased; ethnic minorities were underrepresented in this sample. • **Funding**: UK Medical Research Council; University of Southampton British Heart Foundation Food Standards Agency Dunhill Medical Trust

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Bell, 2013 [6] Australia; NOURISH study and South Australian Infant Dietary Intake study (SAIDI) Analytic N=493 **Participant characteristics:** 54% female; Race/ethnicity NR **Selection:** N/A	**Age at Dietary Pattern:** 14 mo ''Core': fruit, grains, nonwhite bread, vegetables, cheese, eggs, nuts and seeds 'Basic combination': basic core + non-core w/o fruit or vegetables **Method(s)**:Factor/Cluster	**Age at Follow-up: 24mo** ‘Core’ & BMIz: 0.006, 95%CI: -0.128, 0.113; p=0.906 ‘Basic combination’ & BMIz: 0.029, 95% CI: -0.104, 0.180; p=0.603	• Did not account for: Race/ethnicity; Birth size; Gestational age • ‘Basic core’ and ‘Non-core’ patterns at age 24mo not shown were also reported for cross-sectional analyses • Cannot determine whether groups differed at baseline on key characteristics; • Cannot detrmined whether outcome assessors were blinded; • Cannot determine reliability of outcome assessment, 17% of outcomes measured by general practitioners or child health nurses, not study staff; • Mothers may have reported more favorable dietary intakes (highly educated sample who may have greater knowledge of dietary recommendations) • **Funding**: Meat and Livestock Australia, National Health and Medical Research Council of Australia, SA Health

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Golley, 2013 [7] United Kingdom; Avon Longitudinal Study of Parents and Children Analytic N=7834 at 7y **Participant characteristics:** 48.3% female; Race/ethnicity NR **Selection:** Excluded triplets and quadruplets	**Age at Dietary Pattern:** 6 mo CFUI score: BF duration, feeding on demand, age of introduction to solids, exposure to iron-rich cereals, fruits, vegetables, protein foods variety, exposure to types of sugary drinks, exposure to confectionary, cakes, biscuits, savory snacks, timing of cow's milk introduction, exposure to tea, timing of lumpy food introduction, number of daily meals and snacks. Higher CFUI scores reflected higher adherence to CF guidelines. **Method(s)**:Index or Score Analysis	**Age at Follow-up: 7y** • BMI: β:-0.05, 95% CI: -0.12, 0.01; P-value: 0.13 • WC: β: -0.15, 95% CI: -0.31, -0.002), P=0.046	• Did not account for: N/A • Cannot determine validity/reliability of assessment for exposure; • Cannot determine whether outcome assessors were blinded; • Did not account for high attrition rate/lost to follow-up (44%) • **Funding**: UK and European Community's Seventh Framework Programme; The UK Medical Research Council; Wellcome Trust; University of Bristol

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Hohman, 2017 [8] United States; INSIGHT Analytic N=291 **Participant characteristics:** ~47-51% girls; ~90% White, non-Hispanic, well-educated (~90% >=some college), higher income (~50% >75,000); **Selection:** Babies born to primiparous mothers, who are healthy, term, singletons	**Age at Dietary Pattern:** 9 mo 'BFV': Positive: Predominantly breastfed at 9 month, Fruits and vegetables; Negative: Fruit juice and high-energy-density (ED) foods like sweet drinks,sweet foods, and French fries 'BLV': Positive: Predominantly breastfed at 9 months; Negative: Fruits and vegetables, and lower consumption of other age-appropriate complementary foods than BFV 'FFV': Positive: Predominantly formula-fed at 9 months and consuming fruits and vegetables; Negative: low probability of consuming fruit juice and sweet drinks 'FLV': Positive: Predominantly formula-fed at 9 months; Negative: Lower probability of consuming age-appropriate complementary foods and a higher probability of consuming fruit juice than the FFV class 'FHED': Positive: high probability of being formula-fed at 9 months and consuming fruits and vegetables, fruit juice, sweet drinks, sweet foods, and French fries **Method(s)**:Factor/Cluster	**Age at Follow-up: 2y** Mean BMI %-tile (SD) • BFV: 45.5 (30.7) • BLV: 68.5 (26.5) • FFV: 35.8 (25.3) • FLV: 51.3 (28.5) • FHED: 60.0 (26.7) • p-value: 0.0001 • BFV vs. BLV: p<0.05; • BLV vs. FFV: p<0.05; • FFV vs. FLV: p<0.05; • FFV vs FHED: p<0.05 Mean BMI z-score %-tile (SD) • BFV: -0.15 (1.10) • BLV: 0.56 (0.90) • FFV: -0.42 (0.84) • FLV: 0.04 (0.94) • FHED: 0.34 (0.87) • p-value: 0.0006 • BFV v. BLV: p<0.05; • BFV v. FHED: p<0.05; • BLV v. FFV: p<0.05; • FFV v. FHED: p<0.05	• Did not account for: any key confounders (from RCT) except sex, which was shown to be NS **Funding**: NIDDK/NIH; USDA; The Penn State Clinical & Transitional Research Institute

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Jin, 2022 [9] China; Longitudinal Twin Study (LoTiS) Analytic N=173 pairs of twins @ 1y; N=151 pairs of twins @ 2y **Participant characteristics:** 45.4% Female; Race/ethnicity: NR; SEP: NR; Preterm delivery: 53.2 **Selection:** Twins study; Excluded those LFU; Cotwins with congenital malformation were excluded	**Age at Dietary Pattern:** 6 to 12mo 'Tuber-and meat': high intakes of tubers, meats, cereals, and biscuits 'Vegetable and fruit': high intakes of vegetables, fruits, and drinks **Method(s)**:Factor/Cluster	**Age at Follow-up: 12mo and 24mo** 'Tuber-and meat', Q1 v. Q4 β (SD) • FM @12mo, 1.22 (0.48) v. 1.21 (0.49); p=0.937 • % FM @ 12mo, 14.48 (0.66) v. 13.44 (0.67); p=0.603 • FM @ 24mo, 1.65 (0.60) v. 1.59 (0.53); p=0.597 • %FM @ 24mo, 14.09 (0.62) v. 13.61 (0.62); p=0.833 • WAZ @12 mo, 0.01 (0.92) v. -0.01 (0.91); p =0.949 • HAZ @12 mo, -0.12 (0.94) v. 0.07 (1.09); p =0.233 • BAZ @12 mo, 0.11 (0.84) v. β:- 0.04 (0.84); p =0.250 • WAZ @ 24mo, -0.23 (0.71) v. -0.21 (0.87); p =0.908 • HAZ @ 24mo, -0.49 (0.72) v. -0.38 (1.07); p =0.482 • BAZ @ 24mo, 0.09 (0.71) v. 0.02 (0.81); p =0.575 • Weight (6-12mo), 1.26 (0.42) v. 1.42 (0.56); p=0.026 • Weight (12-24mo), 2.34 (0.52) v. 2.43 (0.76); p=0.432 'Vegetable and fruit', Q1 v. Q4 β (SD) • FM @ 12mo, 1.34 (0.48) v. 1.27 (0.50); p=0.512 • % FM @ 12mo 13.35 (0.70) v. 13.30 (0.61); p=0.963 • FM @ 24mo 1.68 (0.65) v. 1.57 (0.58); p=0.476 • %FM @ 24mo, 14.19 (0.65) v. 13.58 (0.78); p=0.946 • WAZ @12mo, 0.05 (0.89) v. -0.01 (0.93); p=0.652 • HAZ @12mo, -0.11 (1.08) v. -0.14 (1.15); p =0.857 • BAZ @12mo, 0.16 (0.79) v. 0.10 (0.81); p =0.587 • WAZ @ 24mo, -0.26 (0.86) v. -0.20 (0.93); p =0.714 • HAZ @ 24mo, -0.49 (1.03) v. -0.57 (0.97); p =0.602 • BAZ @ 24mo, 0.05 (0.67) v. 0.20 (0.84); p =0.231 • Weight (6-12mo), 1.34 (0.52) v. 1.32 (0.49); p=0.847 • Weight (12-24mo): 2.38 (0.53) v. 2.46 (0.55); p=0.385	• Did not account for: Race/Ethnicity, Physical activity • More than half of the participants were born preterm; • Data on twins is very likely to be correlated (unclear if this was acounted for) **Funding**: National Key Research and Development Program of China, National Natural Science Foundation of China, Chongqing Joint Program of Science and Health, Key Disciplines of Medical and Health Research of Yuhang District of Hangzhou City

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Nguyen, 2020 [10] Netherlands; Generation R Study Analytic N=3991 **Participant characteristics:** 50.7% Female; 67.4% Dutch; Higher maternal education: 63.1%; household income ≥2800 Euros/month: 69.5% **Selection:** Enrolled participants at birth; Excluded those with missing FFQ or outcome data	**Age at Dietary Pattern:** 1 y; 8 y Diet Quality score (DQS) [van der Velde, 2018]: Positive: Vegetables; Fruit; Nuts; Legumes; Whole grains; Dairy; Fish; Oils and fats; Negative: High-fat and processed meats; Sugar-containing beverages **Method(s)**:Index or Score Analysis	**Age at Follow-up: 10y** DQS at 1 y • FMI β: 0.02, 95% CI:-0.01, 0.05 • FFMI β: 0.03, 95% CI: -0.01, 0.06 • %BF β: 0.01, 95% CI: -0.02, 0.04 • BMI β: 0.05, 95% CI: 0.02, 0.07 • Wt β: 0.06, 95% CI: 0.03, 0.09 DQS at 8 y • FMI β: -0.001, 95% CI: -0.03, 0.02 • FFMI β: 0.06, 95% CI: 0.04, 0.09 • %BF β: -0.02, 95% CI: -0.04, 0.01 • BMI β: 0.02, 95% CI: -0.003, 0.04 • Wt β: 0.04, 95% CI: 0.01, 0.06	• Did not account for: Anthropometry at baseline (Excluding those with baseline Ob/OW yielded similar results) • Previously reported results with outcomes at age 6 y; Excluding children with baseline Ob/OWt yielded similar results; Excluding individual DQ components yielded similar results; Analyses of only Dutch children yielded similar results; Effect estimates • DQ at 8 y & BMI or Wt results were generally significant in girls only when stratified **Funding**: Erasmus Medical Center Erasmus University Rotterdam; the Netherlands Organization for Health Research and Development

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Okubo, 2015 [11] United Kingdom; Southampton Women's Survey Analytic N=1018 **Participant characteristics:** 48% Female; 23.5% degree qualification or above; Race/ethnicity: NR **Selection:** Excluded those with missing data. No body composition data at 6 y or dietary data for at least 2 ages	**Age at Dietary Pattern:** 6mo, 12mo 'Infant guidelines': Positive: Vegetables; Potatoes and sweet potatoes; Cooked, dried and tinned fruit; Meat and fish; Fresh fruit; Beans and pulses; Pasta; Baby rice; Negative: Formula milk **Method(s)**:Factor/Cluster	**Follow-up duration or age: 6y** Infant guidelines 6mo, T3 ref • FM ○ T1, β: 0.28, 95% CI: 0.05, 0.51 ○ T2, β: −0.02, 95% CI: −0.23, −0.19 ○ p=0.007 ○ per-unit, β: -0.13, 95% CI: −0.23, −0.04 • BMIz ○ T1, β: 0.12, 95% CI: −0.10, 0.35 ○ T2, β: −0.05, 95% CI: −0.26, 0.16 ○ p=0.36 ○ per-unit, B: -0.04, 95% CI: -0.14, 0.05 Infant guidelines 12mo, T3 ref • FM ○ T1, β: 0.08, 95% CI: -0.16, 0.32 ○ T2, β: 0.2, 95% CI: −0.01, 0.42 ○ p=0.48 ○ per-unit, β: 0.04, 95% CI: −0.14, 0.07 • BMIz ○ T1, β: -0.09, 95% CI: −0.31, 0.13 ○ T2, β: 0.2, 95% CI: −0.01, 0.40 ○ p=0.43 ○ per-unit, β: 0.04, 95% CI: -0.06, 0.14	• Did not account for: Race and/or ethnicity; SEP (subgroup analyzed had higher education than primary cohort); Anthropometry (but no differences in GA, BW, maternal pre-BMI, maternal 25-OH-D) • Diet measured at 4 time points; Did not account for missing data • **Funding**: Medical Research Council, the British Heart Foundation, Arthritis Research United Kingdom, the National Osteoporosis Society, the International Osteoporosis Foundation, the Cohen Trust, the National Institute for Health Research Southampton Biomedical Research

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Olaya, 2013 [12] Columbia Analytic N=76 **Participant characteristics:** 50% Female; Race and/or ethnicity NR; low-SEP; 53% of mothers completed HS **Selection:** Enrolled infants who were participating in a growth-monitoring program from hospitals serving low-SEP families and exclusively breast-fed at age 4mo	**Age at Dietary Pattern: 6 to 12mo** Intervention (NGG): New guidelines group received individual, face-to-face nutrition counseling with 3 key messages: the importance of continuing BF alongside CF, red meat as a source of Fe to prevent anemia (>5 portions/wk, red meat, chicken liver and heart), and daily fruit and vegetables as part of a healthy diet (at 12mo, this group consumed more meat, red meat, fruit, vegetables, and legumes than Control) Control (CG): Received standard complementary feeding advice from health care professionals (including meat consumption, but no advice on frequency or amount of foods was given) (at 12mo, this group was more likely to consume follow-on formula, milk, cow milk, and sweetened foods such as sugar, jelly, chocolate, sweets) **Method(s)**: RCT	**Age at Follow-up: 12mo** NGG vs. CG: • MUACZ, at 12mo: -0.42, 95% CI: -0.84, 0.00 • ∆MUACZ, 6-12mo: 0.059, 95% CI: -0.26, 0.38 • WLZ at 12mo: -0.54, 95% CI: -0.96, -0.12 • ∆WLZ, 6-12mo: 0.09, 95% CI: -0.23, 0.42 • WAZ at 12mo: -0.46, 95% CI: -0.93, 0.00 • ∆WAZ 6-12mo: 0.18, 95% CI: -0.02, 0.39 • LAZ at 12mo: -0.98, 95% CI: -0.59, 0.39 • ∆LAZ 6-12mo: 0.13, 95% CI: -0.16, 0.43 • HCZ at 12mo: -0.15, 95% CI: -0.57, 0.28 • HCZ, 6-12mo: 0.11, 95% CI: -0.09, 0.31 • at 12mo, ~24% vs. 21% had LAZ < 2SD; • at 6mo, 23.8% vs. 4.7% had LAZ < 2SD; p=0.02 No differences between groups at 12mo (mean or ∆ 6-12mo) in MUACz, WAZ, LAZ, WLZ, or HCz	• Did not account for: N/A RCT (Education; Maternal age; Race/ethnicity; Feeding practices; Birth size; Gestational age) • Groups differed at baseline on key characteristics that were not adjusted for in analyses (father's age, baseline weight, baseline MUAC); • Control and intervention groups consumed similar CFB; • Participants were not blinded; Cannot determine if outcome assessors or investigators were blinded; • Larger-than-expected proportions of infants in both groups were consuming cow milk at age 6mo; • Imbalances between groups in receipt of iron and vitamin A supplementation. • **Funding**: Childhood Nutrition Research Centre; University College London Institute of Child Health; Pontificia Universidad Javeriana; Tommee Tippee

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Robinson, 2009 [13] United Kingdom; Southampton Women's Survey Analytic N=536 **Participant characteristics:** 47% Female; Race/ethnicity NR **Selection:** Singletons, who were followed-up from birth until age 4.	**Age at Dietary Pattern:**12 mo <u>Infant guidelines pattern:</u> High consumption of fruit, vegetables, cooked meat and fish, and other home-prepared foods (rice, pasta), and low consumption of commercial baby foods **Method(s)**: Factor/Cluster	**Age at Follow-up: 4y** mean LM (kg) • < -0.68: 12.0, 95% CI: 11.7, 12.4 • -0.68 to 0: 12.3, 95% CI: 12.1, 12.6 • 0 to 0.68: 12.7, 95% CI: 12.4, 12.9 • ≥0.68: 12.6, 95% CI: 12.3, 12.9 • P-trend: 0.003 mean LMI (kg/m2) • <-0.68: 11.7, 95% CI: 11.5, 11.9 • -0.68 to 0: 11.8, 95% CI: 11.6, 11.9 • 0 to 0.68: 11.9, 95% CI: 11.8, 12.0 • ≥0.68: 11.9, 95% CI: 11.8, 12.1 • P-trend: 0.004 mean FM (kg) • <-0.68: 4.5, 95% CI: 4.3, 4.7 • -0.68 to 0: 4.7, 95% CI: 4.5, 4.9 • 0 to 0.68: 4.7, 95% CI: 4.5, 4.9 • ≥0.68: 4.5, 95% CI: 4.3, 4.6 P-trend: 0.781 mean FMI (kg) • <-0.68: 4.3, 95% CI: 4.1, 4.4 • -0.68 to 0: 4.3, 95% CI: 4.2, 4.5 • 0 to 0.68: 4.3, 95% CI: 4.2, 4.5 • ≥0.68: 4.1, 95% CI: 4.0, 4.3 • P-trend: 0.488 mean BMI (kg/m2) • <-0.68: 15.9, 95% CI: 15.6, 16.1 • -0.68 to 0: 16.1, 95% CI: 15.8, 16.3 • 0 to 0.68: 16.2, 95% CI: 16.0, 16.5 • ≥0.68: 16.1, 95% CI: 15.8, 16.3 P-trend: 0.102	• Did not account for: Race/ethnicity ("Wide range of backgrounds"); Physical activity • Cannot determine whether groups were similar at baseline on key characteristics; • Cannot determine whether outcome assessors were blinded; • Cannot determine the validity/reliability of some outcome measures (i.e., single vs multiple height, weight measures); • Did not define age of introduction of CFB variable; • Did not account for high loss to follow-up (55%) • **Funding**: Medical Research Council, University of Southampton, British Heart Foundation, Food Standards Agency

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Rose, 2016 [14] United States; Infant Feeding Practices Study II (IFPS II) Analytic N=783 **Participant characteristics:** 51% Female; ~90% White; Middle income and most had at least some college education (>75%). **Selection:** Participants with at least one response on FFQ at 9 mo were included. Participants with incomplete anthropometric data were excluded. Infants with birth weight >=5.331 kg were excluded.	**Age at Dietary Pattern:** 9mo • BFFV, Breastfed Fruits and Vegetables: Breastmilk, fruits, and vegetables, and low intake of energy-dense foods • BFLV, Breastfed Low Variety: Breastmilk, and low intake of fruits and vegetables, low diet variety • FFFV, Formula-Fed Fruits and Vegetables: Formula, fruits, and vegetables, and low intake of energy-dense foods • FFLV, Formula-Fed Low Variety: Formula, and low intake of fruits and vegetables, low diet variety • MXHED, Mixed High Energy Density: Breastmilk and formula, low intake of fruits and vegetables, diet variety, and higher intake of energy-density foods (e.g. French fries, sweet foods) **Method(s)**: Latent class analysis	**Age at Follow-up: 1y** • MXHED had the highest prevalence of OW at 1y compared to all other classes. Both FFFV and FFLV had higher prevalence of OW at 1y relative to both BF classes (BFFV, BFLV). (Values NR). WLZ, LS means • BFFV: 0.09 • BFLV: -0.02 • FFFV: 0.47 • FFLV: 0.70 • MXHED: 0.74 • P-value: <0.01 • FFLV, MXHED had highest WLZ. WAZ, LS means • BFFV: -0.30 • BFLV: -0.60 • FFFV: -0.06 • FFLV: -0.11 • MXHED: -0.10 • P-value: <0.0001 • FFFV had highest WAZ.	• Did not account for: Physical activity • Outcome assessors were not blinded (maternal report); • Did not use valid/reliable methods to measure outcomes (weight was self-reported by mothers); • Did not account for high loss to follow-up (43%)'; • Did not describe p-values for all analyses reported • **Funding**: USDA

Santos, 2019 [15]
Brazil; Pelotas Birth Cohort Study

Analytic N=3374

Participant characteristics: 48% Female; 15.1% =<4 y of formal education; Children's skin color (white): 71.4%

Selection: Excluded those missing BMI at 6 y or LFU

Age at Dietary Pattern: 1y, 2y

'Milks': positive for breast milk, negative for cow's milk
'Staple': positive for rice and beans, negative for pasta
'Beverages': positive for juice, negative for water and tea
'Snacks': positive for coffee, bread, cookies, negative for fruits (1y) or yogurt (2y)
'Meat and vegetables': positive for meats, vegetables, legumes, potato and cassava, and fruits

Method(s):Factor/Cluster

Age at Follow-up: 6y

T1, β=1, ref
Milks, 1 y &
- Trunk FM % z, p-trend = 0.084
  - T2, β= - 0.06, 95% CI: -0.15, 0.03
  - T3, β= - 0.08, 95% CI: -0.18, 0.02
- Gynoid FM % z, p-trend = 0.001
  - T2, β= 0.06, 95% CI: -0.03, 0.14
  - T3, β= 0.16, 95% CI: 0.06, 0.27
- BMIz at 6y, p-trend = 0.205
  - T2, β= 0.00, 95% CI: -0.13, 0.12
  - T3, β= -0.10, 95% CI: -0.23, 0.04

Staple, 1y
- Trunk FM % z
  - T2, β= - 0.09, 95% CI: -0.18, 0.00
  - T3, β= - 0.06, 95% CI: -0.15, 0.03
  - p-trend = 0.168
- Gynoid FM % z
  - T2, β= 0.07, 95% CI: -0.01, 0.16
  - T3, β= 0.04, 95% CI: -0.05, 0.13
  - p-trend = 0.340
- BMIz
  - T2, β= -0.10, 95% CI: -0.22, 0.03
  - T3, β= -0.02, 95% CI: -0.15, 0.10
  - p-trend = 0.733

Meat and vegetables, 1y
- Trunk FM % z
  - T2, β= 0.01, 95% CI: -0.08, 0.09
  - T3, β= - 0.00, 95% CI: -0.09, 0.09
  - p-trend = 0.962
- Gynoid FM % z
  - T2, β= 0.01, 95% CI: -0.08, 0.09
  - T3, β= - 0.03, 95% CI: -0.12, 0.06
  - p-trend = 0.559
- BMIz
  - T2, β= 0.04, 95% CI: -0.09, 0.16
  - T3, β= 0.07, 95% CI: -0.06, 0.20
  - p-trend = 0.292

Beverages, 1y
- Trunk FM % z
  - T2, β= 0.06, 95% CI: -0.03, 0.15
  - T3, β= - 0.01, 95% CI: -0.01, 0.16
  - p-trend = 0.088
- Gynoid FM % z
  - T2, β= - 0.03, 95% CI: -0.11, 0.06

- Did not account for: Race/Ethnicity (*skin color), Physical activity
- Corpulence data also reported (a composite of body circumference (waist, hip, seat, chest, abdomen, knee, calf, and biceps circumferences), diameters (sagittal diameter, waist, abdomen width), and volumes (body volume and torso)
- **Funding**: Wellcome Trust, WHO, Brazilian National Research Council, Brazilian Ministry of Health, 'Science without Borders' Brazilian scheme

- T3, β= - 0.06, 95% CI: -0.15, 0.03
- p-trend = 0.179

- BMIz
  - T2, β= 0.01, 95% CI: -0.11, 0.13
  - T3, β= 0.06, 95% CI: -0.06, 0.19
  - p-trend = 0.332

Snacks, 1y

- Gynoid FM % z
  - T2, β= - 0.01, 95% CI: -0.10, 0.08
  - T3, β= 0.07, 95% CI: -0.02, 0.15
  - p-trend = 0.138
- Trunk FM % z
  - T2, β= - 0.04, 95% CI: -0.12, 0.05
  - T3, β= - 0.06, 95% CI: -0.15, 0.02
  - p-trend = 0.158
- BMIz
  - T2, β= -0.01, 95% CI: -0.14, 0.11
  - T3, β= -0.10, 95% CI: -0.23, 0.02
  - p-trend = 0.112

Milks, 2y

- Trunk FM % z
  - T2, β= - 0.02, 95% CI: -0.11, 0.07
  - T3, β= - 0.01, 95% CI: -0.11, 0.10
  - p-trend = 0.883
- Gynoid FM % z
  - T2, β= 0.00, 95% CI: -0.09, 0.09
  - T3, β= -0.04, 95% CI: -0.14, 0.06
  - p-trend = 0.512
- BMIz
  - T2, β= -0.03, 95% CI: -0.16, 0.09
  - T3, β= 0.06, 95% CI: -0.08, 0.21
  - p-trend = 0.451

Staple, 2y

- Trunk FM % z
  - T1, β=1, ref
  - T2, β= 0.07, 95% CI: -0.02, 0.16
  - T3, β= 0.10, 95% CI: 0.01, 0.19
  - p-trend = 0.027
- Gynoid FM % z
  - T2, β= - 0.08, 95% CI: -0.17, 0.01
  - T3, β= - 0.11, 95% CI: -0.20, -0.02
  - p-trend = 0.020
- BMIz
  - T2, β= 0.09, 95% CI: -0.04, 0.22
  - T3, β= 0.11, 95% CI: -0.02, 0.24
  - p-trend = 0.085

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		Meat and vegetables, 2y • Trunk FM % z ○ T2, β= 0.03, 95% CI: -0.06, 0.12 ○ T3, β= 0.01, 95% CI: -0.08, 0.10 ○ p-trend = 0.868 • Gynoid FM % z ○ T2, β= - 0.05, 95% CI: -0.14, 0.04 ○ T3, β= - 0.02, 95% CI: -0.11, 0.07 ○ p-trend = 0.708 • BMIz ○ T2, β= 0.03, 95% CI: -0.10, 0.15 ○ T3, β= 0.07, 95% CI: -0.06, 0.20 ○ p-trend = 0.271 Beverages, 2y • Trunk FM % z ○ T2, β= - 0.02, 95% CI: -0.11, 0.07 ○ T3, β= 0.04, 95% CI: -0.05, 0.13 ○ p-trend = 0.372 • Gynoid FM % z ○ T2, β= 0.02, 95% CI: -0.07, 0.11 ○ T3, β= - 0.01, 95% CI: -0.10, 0.08 ○ p-trend = 0.890 • BMIz ○ T2, β= -0.03, 95% CI: -0.16, 0.09 ○ T3, β= -0.07, 95% CI: -0.19, 0.06 ○ p-trend = 0.306 Snacks, 2y • Trunk FM % z ○ T2, β= - 0.06, 95% CI: -0.15, 0.04 ○ T3, β= - 0.05, 95% CI: -0.14, 0.05 ○ p-trend = 0.310 • Gynoid FM % z ○ T2, β= 0.05, 95% CI: -0.04, 0.14 ○ T3, β= 0.09, 95% CI: 0.00, 0.18 ○ p-trend = 0.053 • BMIz ○ T2, β= -0.11, 95% CI: -0.24, 0.02 ○ T3, β= -0.08, 95% CI: -0.22, 0.05 ○ p-trend = 0.223	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Vadiveloo, 2019 [16] United States; Nurture Cohort Analytic N=449 **Participant characteristics:** SEP: 65.2% NHB; 59.3% low income (<20,000/y); 18.9% mothers <high school education **Selection:** Recruited mothers between 20 and 36 weeks' gestation; Excluded mothers <18 y; mothers without singleton pregnancy; without intention to remain in study area for at least 12 months; with missing dietary or outcome data	**Age at Dietary Pattern:** 4 to 12 mo HFS: Positive: Vegetables (no fried potatoes); Fruit (no 100% fruit juice) UnFS: Positive: French Fries; Ice cream; Baby Snacks; Sweets Healthiest (10 points) = ≥ 2 servings/d of foods in HFS AND ≤ 1 serving/d of foods in UnFS Moderately healthy(0 points) = ≥ 2 servings/d of foods in HFS AND ≤ 1 serving/d of foods in UnFS Moderately unhealthy (−10 points)= > 2 servings/d of foods in HFS AND > 1 serving/d of foods in UnFS Unhealthy (ref) (−20 points)= < 2 servings/d of foods included in HFS AND > 1 serving/d of foods included in UnFS **Method(s)**: Index or Score Analysis	**Age at Follow-up: 12mo** WFL z-score, mean [SE] • HFS: Q1, 0.56 [0.09]; Q2, 0.64 [0.10]; Q3, 0.66 [0.09]; Q4, 0.73 [0.10]; p-trend=0.65 • UnHFS: Q1, 0.42 [0.09]; Q2, 0.63 [0.09]; Q3, 0.79 [0.09]; Q4, 0.75 [0.09]; p-trend=0.02 • Moderately unhealthy v. Unhealthy: 0.06, 95% CI: -0.17, -0.29 • Moderately healthy v. Unhealthy: -0.33, 95% CI: -0.63, -0.03, p<0.05 • Healthiest v. Unhealthy: 0.02, 95% CI: -0.30, 0.33	• Did not account for: Physical Activity, SEP, Race and/or ethnicity (~66% Non-Hispanic, Black) • Diet assessed at 3 time points (ages 6, 9, and 12mo) with HFS and UnHFS scores based on mean value from between age 4 and 12 mo. • Did not report how missing data were handled or how analytic sample size was determined • **Funding**: NIH/NIDDK

Voortman, 2016 [17]
Netherlands; Generation R Study

Analytic N=2026

Participant characteristics:
50.5% Girls; Higher education: 71.0%; Net household income ≥2200 Euro: 79.7%
Selection: NR

Age at Dietary Pattern:1 y

Diet Quality Score (DQS), Positive: Vegetables; Fruit; Nuts; Legumes; Whole grains; Dairy; Fish; Oils and fats; Negative: High-fat and processed meats; Sugar-containing beverages

Health conscious: Vegetables; Pasta and rice; Potatoes; Vegetable oils; Legumes; Fruit; Fish; Meat

Western-like: Confections; Savory snacks; Sugar-containing beverages; Other fats; Refined cereals; Meat; Soups and sauces

RRR Pattern 1: Soups and sauces; Fish; Vegetables; Potatoes; Meat; Sugar-containing beverages

RRR Pattern 2: Pasta and Rice; Whole cereals; Vegetables; Vegetable oils; Fruit; Non-sugar containing beverages; Dairy; Other fats

Method(s): Index, Factor/Cluster, RRR

Age at Follow-up: 6y

FMI (Q1 ref)
- DQS, per SD, β: 0.01, 95% CI: -0.02, 0.04
  - Q2: 0.03, 95% CI: -0.06, 0.11
  - Q3: -0.01, 95% CI: -0.09, 0.08
  - Q4: 0.07, 95% CI: -0.01, 0.16
- 'Health-conscious', per SD, β: 0.00, 95% CI: -0.03, 0.03
  - Q2: 0.02, 95% CI: -0.07, 0.10
  - Q3: 0.03, 95% CI: -0.05, 0.12
  - Q4: 0.04, 95% CI: -0.05, 0.13
- Western-like, per SD, β: -0.01, 95% CI: -0.04, 0.03
  - Q2: 0.02, 95% CI: -0.06, 0.11
  - Q3: 0.06, 95% CI: -0.03, 0.15
  - Q4: -0.01, 95% CI: -0.11, 0.09
- RRR pattern 1, per SD, β: 0.09, 95% CI: 0.06, 0.13
  - Q2: 0.10, 95% CI: 0.01, 0.18
  - Q3: 0.09, 95% CI: 0.01, 0.18
  - Q4: 0.18, 95% CI: 0.10, 0.27
- RRR pattern 2, per SD, β: -0.04, 95% CI: -0.07, 0.01
  - Q2: -0.06, 95% CI: -0.15, 0.02
  - Q3: -0.01, 95% CI: -0.10, 0.08
  - Q4: -0.07, 95% CI: -0.17, 0.03

FFMI (Q1 ref)
- DQS per SD β: 0.05, 95% CI: 0.01, 0.08
  - Q2: 0.09, 95% CI: -0.02, 0.20
  - Q3: 0.14, 95% CI: 0.02, 0.25
  - Q4: 0.19, 95% CI: 0.08, 0.30
- Health-conscious, per SD β: 0.04, 95% CI: 0.00, 0.08
  - Q2: 0.02, 95% CI: -0.09, 0.13
  - Q3: 0.13, 95% CI: 0.02, 0.24
  - Q4: 0.17, 95% CI: 0.06, 0.29
- Western-like, per SD β: 0.02, 95% CI: -0.03, 0.07
  - Q2: -0.01, 95% CI: -0.12, 0.10
  - Q3: 0.15, 95% CI: 0.04, 0.27
  - Q4: 0.09, 95% CI: -0.04, 0.22
- RRR pattern 1 per SD β: 0.08, 95% CI: 0.03, 0.12
  - Q2: 0.08, 95% CI: -0.03, 0.19
  - Q3: 0.07, 95% CI: -0.04, 0.18
  - Q4: 0.23, 95% CI: 0.11, 0.35
- RRR pattern 2, per SD β: 0.06, 95% CI: 0.01, 0.10
  - Q2: -0.02, 95% CI: -0.13, 0.10

- Did not account for: Baseline BMI (at 1 y) was adjusted in some, but not all models
- The paper does not present a model with adjusted BMI at 1 y, especially for categorical measurement (quartiles).
- Multiple analysis (index, factor/cluster and RRR) were conducted without adjusting for p-value. P-trend not provided.
- Single time point measurement of the exposure
- **Funding**: Erasmus Medical Center Erasmus University Rotterdam; the Netherlands Organization for Health Research and Development

    - Q3: 0.18, 95% CI: 0.06, 0.29
    - Q4: 0.19, 95% CI: 0.06, 0.32

BF% (Q1 ref)

- Diet quality score, per SD β: 0.00, 95% CI: -0.03, 0.03
    - Q2: 0.01, 95% CI: -0.08, 0.10
    - Q3: -0.05, 95% CI: -0.14, 0.04
    - Q4: 0.02, 95% CI: -0.08, 0.11
- Health-conscious, per SD β: -0.01, 95% CI: -0.04, 0.03
    - Q2: 0.01, 95% CI: -0.09, 0.10
    - Q3: -0.01, 95% CI: -0.11, 0.08
    - Q4: -0.01, 95% CI: -0.11, 0.08
- Western-like, per SD β: -0.01, 95% CI: -0.05, 0.04
    - Q2: 0.05, 95% CI: -0.05, 0.14
    - Q3: 0.03, 95% CI: -0.07, 0.13
    - Q4: -0.02, 95% CI: -0.13, 0.09
- RRR pattern 1 per SD β: 0.08, 95% CI: 0.04, 0.12
    - Q2: 0.10, 95% CI: 0.01, 0.19
    - Q3: 0.08, 95% CI: -0.01, 0.18
    - Q4: 0.14, 95% CI: 0.04, 0.24
- RRR pattern 2 per SD β: -0.05, 95% CI: -0.09, -0.01
    - Q2: -0.07, 95% CI: -0.16, 0.03
    - Q3: -0.06, 95% CI: -0.16, 0.04
    - Q4: -0.12, 95% CI: -0.23, -0.02

BMI (Q1 ref)

- DQS, per SD: 0.04, 95% CI: 0.01, 0.07
    - Q2: 0.07, 95% CI: -0.02, 0.16
    - Q3: 0.07, 95% CI: -0.02, 0.16
    - Q4: 0.18, 95% CI: 0.08, 0.27
- Health-conscious, per SD: 0.03, 95% CI: -0.00, 0.07
    - Q2: 0.03, 95% CI: -0.07, 0.12
    - Q3: 0.10, 95% CI: 0.01, 0.19
    - Q4: 0.14, 95% CI: 0.05, 0.24
- Western-like, per SD: 0.01, 95% CI: -0.03, 0.05
    - Q2: 0.02, 95% CI: -0.07, 0.11
    - Q3: 0.12, 95% CI: 0.02, 0.21
    - Q4: 0.04, 95% CI: -0.07, 0.14
- RRR pattern 1, per SD: 0.10, 95% CI: 0.06, 0.14
    - Q2: 0.12, 95% CI: 0.03, 0.21
    - Q3: 0.12, 95% CI: 0.03, 0.21
    - Q4: 0.25, 95% CI: 0.16, 0.35
- RRR pattern 2, per SD: 0.01, 95% CI: -0.03, 0.04
    - Q2: -0.06, 95% CI: -0.15, 0.03
    - Q3: 0.07, 95% CI: -0.03, 0.16
    - Q4: 0.06, 95% CI: -0.04, 0.17

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations

Weight (Q1 ref)

- DQS per SD β: 0.06, 95% CI: 0.03, 0.10
  - Q2: 0.04, 95%CI: -0.05, 0.13
  - Q3: 0.04, 95% CI: -0.05, 0.14
  - Q4: 0.19, 95% CI: 0.10, 0.29
- Health conscious, per SD β: 0.03, 95% CI: -0.01, 0.07
  - Q2: 0.04, 95% CI: -0.06, 0.13
  - Q3: 0.12, 95% CI: 0.02, 0.21
  - Q4: 0.13, 95% CI: 0.03, 0.23
- Western-like per SD β: 0.00, 95% CI: -0.04, 0.04
  - Q2: -0.01, 95% CI: -0.11, 0.08
  - Q3: 0.11, 95% CI: 0.01, 0.20
  - Q4: 0.03, 95% CI: -0.08, 0.14
- RRR Pattern 1, per SD β: 0.10, 95% CI: 0.06, 0.14
  - Q2: 0.09, 95% CI: 0.00, 0.19
  - Q3: 0.14, 95% CI: 0.05, 0.24
  - Q4: 0.23, 95% CI: 0.13, 0.33
- RRR Pattern 2, per SD β: 0.02, 95% CI: -0.02, 0.06
  - Q2: -0.06, 95% CI: -0.15, 0.04
  - Q3: 0.11, 95% CI: 0.01, 0.21
  - Q4: 0.04, 95% CI: -0.07, 0.15

Height (Q1 ref)

- DQS, per SD β: 0.05, 95% CI: 0.01, 0.09
  - Q2: -0.01, 95% CI: -0.13, 0.10
  - Q3: -0.02, 95% CI: -0.14, 0.09
  - Q4: 0.15, 95% CI: 0.03, 0.27
- Health conscious, per SD β: 0.01, 95% CI: -0.04, 0.05
  - Q2: 0.05, 95% CI: -0.07, 0.16
  - Q3: 0.11, 95% CI: -0.01, 0.22
  - Q4: 0.08, 95% CI: -0.04, 0.20
- Western-like, per SD β: 0.00, 95% CI: -0.05, 0.05
  - Q2: -0.05, 95% CI: -0.16, 0.07
  - Q3: 0.04, 95% CI: -0.07, 0.16
  - Q4: 0.02, 95% CI: -0.11, 0.15
- RRR pattern 1, per SD β: 0.05, 95% CI: 0.00, 0.10
  - Q2: 0.04, 95% CI: -0.08, 0.15
  - Q3: 0.12, 95% CI: 0.00, 0.24
  - Q4: 0.13, 95% CI: 0.01, 0.25
- RRR pattern 2 per SD β: 0.02, 95% CI: -0.03, 0.07
  - Q2: -0.03, 95% CI: -0.15, 0.09
  - Q3: 0.13, 95% CI: 0.01, 0.25
  - Q4: 0.01, 95% CI: -0.12, 0.15

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Wen, 2014a [18] United States; Infant Feeding Practices Study II (IFPS II) Analytic N=530 **Participant characteristics:** 50% female; 91% White, 1% African American, 3% Hispanic, 3% Asian/Pacific Islander; 40.6% income >$60K **Selection:** Full-term newborns (gestational age ≥37 wks) with complete data on gender. Participants with complete data on infant growth outcomes at both 6 and 12 mo.	**Age at Dietary Pattern:** 6 mo Four dietary patterns were identified using principal component analysis, and infants were assigned an adherence score to each pattern at 6mo: • Infant guideline solids: Baby cereal, fruit, vegetables, meat/chicken • High sugar/fat/protein: Sweet drinks, French fries, fish/shellfish, nut foods, eggs, sweet foods • High dairy/regular cereal: Cow's milk, other dairy, 100% juice, non-baby cereals/starches • Formula: Formula and low intakes of breast milk **Method(s)**:Factor/Cluster	**Age at Follow-up:** Δ 6 -12mo BMIz, β, 95% CI • High sugar/fat/protein: 1.00, 95% CI: 0.11, 1.89, p<0.05 • Formula: 0.25, 95% CI: 0.09, 0.40, p<0.05 • High dairy/regular cereal: 0.32, 95% CI: 0.10, 0.53, p<0.05 • Infant guideline solids: 0.06, 95% CI: -0.09, 0.22, NS Δ LAZ, β, 95% CI • High sugar/fat/protein: -1.36, 95% CI: -2.35, -0.37, p <0.05 • Formula: 0.01, 95% CI: 0.01, 95% CI: -0.16, 0.18, NS • High dairy/regular cereal: , 95% CI: 0.10, 0.53, p<0.05 Infant guideline solids: 0.12, 95% CI: -0.05, 0.29, NS	• Did not account for: Physical activity; Birth size (although accounted for growth at 6mo) • Dietary pattern adherence was associated with birth weight, which was not adjusted for in analyses; • Outcome assessors were not blinded (maternal report); • Did not use valid/reliable measures to assess outcomes (maternal report of infant weight, length); • Did not account for high loss to follow-up (85%) • **Funding**: Food and Drug Administration, Centers for Disease Control and Prevention

[a] Abbreviations: BF, Body fat (total unless specified as trunk, gynoid, android, etc.); BF%, Body fat percentage; DM, Diabetes (T1 a/o T2); FFM, Fat-free mass; FFMI, Fat-free mass index; FM, Fat mass (total, unless specified as trunk, gynoid, android, etc.); FMI, Fat mass index; F/U, Follow-up; GDM, gestational diabetes mellitus; HC, head circumference; Hip-C, hip circumference; HS, high school; HTN, hypertension; Hx, History; ITT, intent-to-treat; N/A, Not applicable; NHLBI, National Heart, Lung, and Blood Institute; NIDDK, National Institute of Digestive Kidney; NIFA, National Institute of Food and Agriculture; NIH, National Institutes of Health; NR, not reported; NS, not statistically significant Ob, Obesity; OW, Overweight; PA, Physical activity; PP, per-protocol SEP/SES, Socioeconomic position/status; T2D, Type 2 Diabetes; TC, total cholesterol; TG, triglyceride; Tx, Treatment; USDA, United States Department of Agriculture; WC, waist circumference; WHO, World Health Organization; WHR, waist-hip ratio; Wt, Body weight

Table 7 Risk of bias for randomized controlled trials examining dietary patterns consumed from birth up to 24 months of age and growth, body composition and risk of obesity[a]

Article	Randomization	Deviations from intended interventions (effect of assignment)	Deviations from intended interventions (per-protocol)	Missing outcome data	Outcome measurement	Selection of the reported result	Overall
Olaya, 2013[12]	**Low**	**Low**	**Some concerns**	**Low**	**Low**	**Some concerns**	**Some concerns**

[a] Possible ratings of low, some concerns, or high determined using the "Cochrane Risk-of-bias 2.0" (RoB 2.0) (August 2019 version)" (Sterne JAC, Savović J, Page MJ, Elbers RG, Blencowe NS, Boutron I, Cates CJ, Cheng H-Y, Corbett MS, Eldridge SM, Hernán MA, Hopewell S, Hróbjartsson A, Junqueira DR, Jüni P, Kirkham JJ, Lasserson T, Li T, McAleenan A, Reeves BC, Shepperd S, Shrier I, Stewart LA, Tilling K, White IR, Whiting PF, Higgins JPT. RoB 2: a revised tool for assessing risk of bias in randomised trials. BMJ 2019; 366: l4898.

Table 8 Risk of bias for observational studies examining dietary patterns consumed from birth to age 24 months and growth, body composition and risk of obesity*

Article	Confounding	Exposure classification	Participant Selection	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Abraham, 2012 [1]	High	Some concerns	Some concerns	Low	Some concerns	Some concerns	Some concerns	High
Agnihotri, 2021[2]	High	Low	Low	Low	High	Low	Low	High
Amaro-Rivera, 2019[3]	High	Low	Low	Low	High	Some concerns	Some concerns	High
Au, 2023[4]	Some concerns	Low	Low	Low	Low	Low	Low	Some concerns
Baird, 2008 [5]	High	Low	Low	Low	Some concerns	Some concerns	Some concerns	High
Bell, 2013 [6]	High	Low	Low	Low	Some concerns	Some concerns	Low	High
Golley, 2013[7]	Some concerns	Some concerns	Low	Low	High	Some concerns	Some concerns	High
Hohman, 2017[8]	High	Low	Low	Some concerns	Low	Some concerns	Low	High
Jin, 2022[9]	Some concerns	Low	Low	Low	Some concerns	Some concerns	Some concerns	High
Nguyen, 2020[10]	Some concerns	Low	Low	Low	Low	Low	High	High
Okubo, 2015[11]	High	Low	Low	Low	Some concerns	Low	Some concerns	High
Robinson, 2009 [13]	High	Low	Low	Low	High	Low	Some concerns	High
Rose, 2016[14]	Some concerns	Some concerns	Low	Low	High	High	Some concerns	High
Santos, 2019[15]	High	Some concerns	Low	Low	Some concerns	Low	Some concerns	High

* Possible ratings of low, moderate, serious, critical, or no information determined using the "Risk of Bias in Non-randomized Studies of Exposures (ROBINS-E)" tool (ROBINS-E Development Group (Higgins J, Morgan R, Rooney A, Taylor K, Thayer K, Silva R, Lemeris C, Akl A, Arroyave W, Bateson T, Berkman N, Demers P, Forastiere F, Glenn B, Hróbjartsson A, Kirrane E, LaKind J, Luben T, Lunn R, McAleenan A, McGuinness L, Meerpohl J, Mehta S, Nachman R, Obbagy J, O'Connor A, Radke E, Savović J, Schubauer-Berigan M, Schwingl P, Schunemann H, Shea B, Steenland K, Stewart T, Straif K, Tilling K, Verbeek V, Vermeulen R, Viswanathan M, Zahm S, Sterne J). Risk Of Bias In Non-randomized Studies - of Exposure (ROBINS-E). Launch version, 1 June 2022. Available from: https://www.riskofbias.info/welcome/robins-e-tool.) *Low risk of bias except for concerns about uncontrolled confounding.

Article	Confounding	Exposure classification	Participant Selection	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Vadiveloo, 2019[16]	High	Low	Low	Low	High	Some concerns	Some concerns	High
Voortman, 2016[17]	Some concerns	Low	Low	Low	Some concerns	Low	Some concerns	High
Wen, 2014[18]	High	Some concerns	Low	Low	High	High	Some concerns	High

Children and adolescents

Sixty-two articles met inclusion criteria that examined the relationship between dietary patterns consumed by children and adolescents and growth, body composition, and risk of obesity.[2,10,11,15,19-76] The included articles were published between January 2000 and May 2023 and came from 3 randomized controlled trials[24, 49, 59] and 59 prospective cohort studies (Table 10).

Description of the evidence

Population

Sample sizes ranged from N=64 to N=104 in the intervention studies and from N=39 to N=27,406 in the observational studies. Studies included participants who were at risk of chronic disease or exclusively those with overweight/obesity or metabolic syndrome. [21,22,24,27,36,41,43,45,47,49,50,53,58,59] Studies enrolled participants regardless of sex (i.e., both boys and girls in relatively equal amounts), except one intervention exclusively enrolled female adolescents.[24]

Many of the articles reported some information on the socioeconomic position (SEP) of participants, but the type of characteristics varied widely across studies. Across 38 articles, the most common characteristics were parental education [2,15,19,21,22,26,48,51,60,63,66-68,70,72,73]socioeconomic status (SES)[15,22,28,31,42,43,46,56,61,75], household income or assets.[10,19,26,32,46,49,66,70] One article reported food security/WIC/SNAP status of participants.[45] Most studies included participants from a wide range of SEP or with SES representative of the regional population, and two studies exclusively enrolled children and adolescents in households with lower-income and/or from SE-disadvantaged schools.[19,53]

Only 8 studies reported information on the race and/or ethnicity of participants and there was considerable variation, including “African American/Black”, “Mexican-heritage”, “Non-white”, “Other/mixed race”, “Spanish-heritage”, and “White skin colour”. Ethnicity of participants was reported as Hispanic or Non-Hispanic in 3 articles[26,45,70] and primarily Samoan ethnicity in 1 article.[32] Many articles included information on the heritage of participants and/or country of birth e.g., “indigenous Australian”, “Brazilian”, “Iranian”, “Norwegian”, “Portuguese”. Studies were conducted in the following countries: Australia [30,43]; Brazil [15,22]France [63]; Germany [72]; Greece [59]; Iran [24]; Japan [65]; Mexico [19]; Norway [2,69]; Portugal [36,39,40,52,60,73,74]; Samoa [32]; South Korea [49]; Spain [21,56]; The Netherlands[10,48,61,66,67,75]; United Kingdom [11,20,28,29,31,68]; United States [26,45,46,54,70]; and multiple countries: Germany, Belgium, Italy, Poland, and Spain [51]; and Italy, Estonia, Cyprus, Belgium, Sweden, Hungary, Germany, and Spain.[42,58,71]

A single cohort contributed multiple included articles, but represented unique data on dietary patterns, outcomes, and/or participants as follows: 2 articles from the Amsterdam Born Children and their Development (ABCD) study; 5 articles from the Avon Longitudinal Study of Parents and Children (ALSPAC) cohort; 2 articles from the GECKO Drenthe birth cohort; 2 articles from Generation R Study; 5 articles from Generation XXI study; 3 articles from the Identification and prevention of Dietary- and lifestyle-induced health EFfects In Children and infantS (IDEFICS) study; and 2 articles from the Norwegian Mother, Father and Child (MoBa) cohort study.

Intervention/exposure and comparator

Dietary patterns were assessed in participants ranging in age from 2 up to 18 years. Dietary intake was assessed using a variety of measures across studies, including validated food frequency questionnaire, 24-hour recalls, and food diaries. Diet assessments were conducted at more than one time point with repeated measures in 40 articles or only once/at baseline in 15 articles. Analytic approaches to examine/derive dietary patterns included:

- Investigator-assigned dietary intervention [21,24,59]
- A priori index or score derivation[2,10,19,26,28,30,43,46,48,49,54,56,65-67,69,71-73,75]
- A posteriori factor, cluster, or latent class analysis[11,15,22,29,32,51,60,61 39,40,42,43,52,58,63,67,68]
- Reduced rank regression[20]

Labels (names) of dietary patterns widely varied across the body of evidence and examples include "Traditional", "Core", "Healthier", "Healthy", "Snacking", "Mediterranean", "Western", "Unhealthy", "Treats", "Sweet", "Full-fat", "Energy-dense foods", "Processed", and "Ultra-processed food (UPF)". A visualization of all dietary pattern components in each dietary pattern examined in relation to outcomes of interest is available in **Appendix 6:** Dietary pattern visualization

Outcomes

Most studies measured weight, height, and body composition using standard methods (i.e., duplicate/triplicate and calibrated scales) and few studies obtained by self- or parent-reported weight and height. Across the body of evidence, the following outcomes were reported:

- Growth
  - Weight change or gain[10,24,31,32,46,49,61,72]
  - Height change[10,32,49,65]
- Body Composition
  - Total fat-mass (FM), FM index (FMI), or % FM [10,11,15,20,21,28,31,39,40,42,49,66,68,71,72],
  - Lean mass (LM) or LM index (LMI), or fat-free mass (FFM) or FFM index (FFMI)[10,31,42,68,72]
  - Hepatic fat [21]
  - Excess adiposity[20]
  - Adiposity rebound[63]
  - Waist circumference (WC)/abdominal obesity[15,19,21,24,28,30,31,39,40,42,48,52,56,71,72]
  - BMI[10,11,15,22-28,30-43,45-51,54,55,58-60,62,64,65,70,72-76]
- Risk of obesity/overweight, obesity, overweight, and/or high BMI [2,29,39,40,48,56,58,67,69,75]

Synthesis of the evidence

Table 10 describes all included studies. The evidence synthesis focused on the studies with fewer limitations, which included studies that a) conducted repeated dietary assessments during follow-up compared to those that only assessed diet once/at baseline, b) controlled for baseline anthropometry compared to those that did not, c) objectively measured outcomes of interest (e.g., weight, height) compared to using self- or parent-report, and d) were designed to directly compare the exposures and outcomes of interest compared to those designed for other purposes. However, similar themes across the entire body of evidence were found among the studies with fewer limitations.[11,15,22,27,31,32,36,38,42,43,46-48,50,51,55,57,60,64,69,73,76]

Lower risk of obesity/overweight [69], fat mass [11,46,64], BMI or reduced-gain in BMI [46,48,64], smaller waist circumference/central fat-mass [48,64], and lower odds of excess weight/weight gain[46] were associated with dietary patterns consumed at ages ranging from 3 up to 15 years. All of these dietary patterns were examined using index/score analysis and scored components similarly as follows: positive (representing **higher** intakes from) vegetables, fruit, nuts, whole grains, fish/seafood, dairy; and negative (representing **lower** intakes from) red and processed meats, sugar-sweetened foods and drinks, and salty snacks (sodium).

- These specific dietary patterns tended to reflect higher diet quality with overall more nutrient-dense components and fewer energy-dense components.
- Additional components varied between dietary patterns, such as fish and seafood either scored separately or combined with other components such as meat or protein foods. The level of specificity in

components also varied, such as positively scoring “dairy/dairy products” collectively or only low-fat and unsweetened dairy specifically.

- Some articles reported consistently significant results across multiple time points and/or outcomes at follow-up. For example, Hu et al.[46] reported that baseline and increased a Priori Diet Quality Scores (APDQS) were associated with significantly lower BMI and reduced excess weight gain over the first five years of follow-up, the last five years of follow-up, as well as across the overall 10-year follow-up range, ~ ages 15 to 25 years.
- Not all of the reported results in these studies reached statistical significance. For example, Okubo et al.[11] reported that dietary pattern scores at age 3 years reflecting higher intakes of fish and shellfish, vegetables (salad, green, root, other), and fruits were significantly associated with lower fat-mass but were not significantly associated with lower BMI or risk of obesity/overweight at age 6 years. While Krijger et al [48] reported both DASH scores and children’s Diet Quality scores were significantly associated with lower BMI, only DASH scores were additionally associated with significantly lower waist circumference, and neither score was associated with overweight/obesity at age 11-12 years.

Higher risk of obesity/overweight[47,76], and/or higher BMI[22,31,32,38,51,60,73], fat mass[31,38,47,], body weight, and/or larger waist circumference or waist-hip ratio[31,42,76] between ages ranging from 4 to 6 years up to 24 years old were associated with dietary pattern consumption at ages 2 up to 14 years. Many of these dietary patterns were derived from data-driven methods except for five articles that examined dietary patterns with scores based on consumption of foods classified as “ultra-processed” by the Nova food classification system. The characteristics in common across these dietary patterns included **higher** intakes of potatoes and fried potatoes, refined grains, meats (red and processed and/or others), dairy (particularly whole fat/sweetened), sugar-sweetened drinks, saturated fats (i.e., butter, margarines, and/or spreads), sugar-sweetened and/or salty/savory snack foods and **lower** intakes of vegetables, fruit, whole or “high-fiber” grains. However, there were additional components that varied between dietary patterns, such as chocolate, biscuits, and fried/scrambled eggs.

- These specific dietary patterns tended to reflect poorer diet quality with overall fewer nutrient-dense components and more energy-dense components.
- Among these studies, many additional results were reported that did not reach statistical significance. For example, Luque et al.[51] reported significantly higher BMI at age 8 years among those consuming a ‘Core Foods’ dietary pattern at age 2 years that reflected higher intakes of fruit, vegetables, potatoes, fish, white and red meat, and olive oil, but no significant associations were found between either consumption of the ”Poor-Quality Fats and Sugars’ (characterized by potatoes, soft cheese, saturated spreads, fruit juices, and teas and lower intakes of fish and olive oil) or ‘Protein Sources’ dietary patterns (higher in vegetables, potatoes, white meat, red meat, processed fish, eggs, chips and snacks, flavored milk) and BMI.
- In another example, Choy, et al.[32] reported significantly higher BMI among those consistently consuming a ‘Modern’ dietary pattern at ages 2 to 4 years, no statistically significant associations were found between that dietary pattern and changes in weight or height, nor for a ‘Neotraditional’ dietary pattern and BMI, weight or height at follow-up 2 years later.
- Fernandez-Alvira et al.[42] reported that consistent “Processed” dietary pattern consumption (from baseline age ~2 to 9 years through follow-up 2 years later) or changing from “Processed” to a “Sweet” dietary pattern at follow-up was significantly associated with higher FMI-z, BMIz, and waist-circumference z-score (WC-z) gain. Consumption of either a “Processed” or “Sweet” compared to “Healthy” dietary pattern at baseline was significantly associated with higher FMI-z, BMIz, and WC-z at

follow-up. However, results not reaching statistical significance included comparisons between “Processed” or “Sweet” compared to “Healthy” dietary patterns at baseline with change in FMIz.

No statistically significant or unclear associations between dietary patterns and growth, body composition, or risk of obesity outcomes were reported in six articles. Among those studies, dietary patterns were derived from factor/cluster analysis in 4 articles and index-based scores in 3 articles (1 article used both methods). Components between dietary patterns widely varied and were less generalizable compared to the dietary patterns in the evidence described above. For example, the “Milks” dietary pattern at age 2y reported by Santos et al.[15] was characterized by intake of only cow's milk and chocolate powder, and the “Treats” pattern by only crisps, sweets, and chocolate. Specificity of foods and beverages consumed in certain dietary patterns within studies also widely varied. For example, Oellingrath et al. [57] examined four different dietary patterns in 7th graders (mean age 12.7y) with risk of overweight in 10th grade. One of the dietary patterns was described as ‘dieting’ and characterized by foods and drinks associated with “weight control, like artificial sweetened drinks and other ‘light’ products”, whereas another was ‘varied Norwegian’, characterized by food items typical of a traditional Norwegian diet, including fruits and vegetables, brown bread, fish, water and regular breakfast and lunch, close to official nutritional guidelines.

Conclusion statement and grade

The 2025 Dietary Guidelines Advisory Committee developed two separate conclusion statements to answer the question, ““What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity?” based on their review of evidence for different dietary patterns consumed during childhood that related to growth, body composition, and risk of obesity outcomes. **(Table 9)**

Table 9. Conclusion statements and grades for dietary patterns consumed by children and adolescents and growth, body composition, and risk of obesity

Conclusion Statement	Dietary patterns consumed by children and adolescents that are characterized by higher intakes of vegetables, fruit, legumes, nuts, whole grains, fish/seafood, and dairy (low-fat, unsweetened) and lower intakes of red and processed meats, sugar-sweetened beverages, and sugar-sweetened or savory/salty snack foods are associated with favorable growth patterns, and lower adiposity and risk of obesity later in childhood up to early adulthood. This conclusion statement is based on evidence graded as limited. (Grade: Limited)	Dietary patterns consumed by children and adolescents that are characterized by higher intakes of red and processed meats, refined grains, sugar-sweetened beverages, sugar-sweetened or savory/salty snack foods, and fried potatoes and lower intakes of vegetables, fruit, and whole grains are associated with unfavorable growth patterns, and higher adiposity, and risk of obesity later in childhood and adulthood. This conclusion statement is based on evidence graded as limited. (Grade: Limited)
Grade	**Limited**	**Limited**
Body of Evidence	62 articles: 3 randomized controlled trials, 59 prospective cohort studies	62 articles: 3 randomized controlled trials, 59 prospective cohort studies
Consistency	Serious concerns due to considerable variation in the magnitude and significance of effect estimates	Substantial concerns due to considerable variation in the magnitude and significance of effect estimates
Precision	Serious concerns due to small sample sizes and wide confidence intervals	Serious concerns due to small sample sizes and wide confidence intervals
Risk of bias	Some concerns with risk of bias, including: • Important confounding domains were not accounted for, particularly baseline anthropometry and race and/or ethnicity • Potential for exposure misclassification • Missing data not accounted for in several articles	Some concerns with risk of bias, including: • Important confounding domains were not accounted for, particularly baseline anthropometry and race and/or ethnicity • Potential for exposure misclassification • Missing data not accounted for in several articles
Directness	Substantial concerns with directness of intervention studies; Some concerns with directness of observational studies	Some concerns with directness of observational studies
Generalizability	Relative to the U.S. population, outcomes were generalizable but there are some concerns with participants and dietary interventions or patterns being less generalizable.	Relative to the U.S. population, outcomes were generalizable but there are some concerns with participants and dietary patterns being less generalizable.

Assessment of evidence

This systematic review update includes 62 articles that met inclusion criteria and examined dietary patterns consumed by children and adolescents and growth, body composition, and/or risk of obesity. Dietary patterns were assessed using a variety of methods including investigator-assigned dietary intervention, indices or scores, factor/cluster analysis, latent class analysis, and reduced rank regression. Outcome measures varied across studies and included incidence of overweight/obesity, fat mass, lean or fat-free mass, BMI or BMI z-score, central adiposity/waist circumference or waist-hip-ratio, and weight/height. This body of evidence includes both large and small studies, including small studies with null findings, which makes publication bias less likely. As outlined and described below, the body of evidence was assessed for the following elements used when grading the strength of evidence.

Consistency:

The direction of findings was split across the body of evidence: about one-third of the articles found that dietary patterns were associated with modestly favorable outcomes, another one-third reported dietary patterns were

associated with modestly unfavorable outcomes, and the remaining one-third reported null or inconsistent findings. Some of the null findings could be explained by methodological inconsistencies such as methods used to examine dietary patterns, characteristics of dietary patterns, population studied and/or age of participants (e.g., 'Milk" pattern at age 2 years), and unique outcomes (e.g., "corpulence"). Many reported effect sizes were relatively small, though magnitude varied across the body of evidence.

Precision:

The interventions demonstrated adequate power/sample sizes and many of the observational studies had large sample sizes. However, many studies reported results that did not reach statistical significance (e.g., due to greater variance (e.g., wide confidence intervals including the null) and/or small sample sizes (e.g., n=81, n=158, n=216).

Risk of bias:

Studies had numerous risks of bias across domains, which have the potential to influence the results reported. Many of the studies accounted for most of the key confounders, but residual confounding may still be expected. Of particular concern, 24% of included articles (13 of 55) did not control for anthropometry at study baseline. However, most of those studies accounted for a related variable such as height at another time point, or birthweight. Among the included articles, 27% (15 of 55) conducted diet assessments only once at baseline whereas 63% used repeated measures to assess diet during follow-up. However, only a few studies examined the relationship between change in dietary patterns and outcomes over follow-up. Few studies used dietary assessment methods that were not clearly validated in the population of interest, therefore, are also at higher risk of bias due to exposure classification. Some studies (9%, or 5 of 55) are particularly at higher risk of bias due to outcome measurement from relying upon self- or parent- reported weight and height to calculate BMI or other outcomes. Many of the articles did not account for missing data. (Table 11 and Table 12)

Directness:

The interventions were not designed to directly compare the relationship between dietary patterns and growth, body composition and risk of obesity. One trial was designed to treat asthma, and not specifically examine the relationship between different dietary patterns and the outcomes of interest in this review. In another trial, the comparisons between intervention arms more accurately reflected differences in fat and fiber consumption than dietary patterns overall. Lastly, the comparator in the third trial was different levels of adherence to the mDQI scores. Several observational studies had issues with directness from either the populations, intervention, comparators, and/or outcomes of interest relative to this systematic review question.

Generalizability:

The body of evidence included studies from a total of 24 countries with similar HDI classification as the U.S. Although many of the studies were conducted in European countries, several (6 of 55) studies were conducted in the United States and/or examined dietary patterns that are applicable to those consumed by Americans.

Table 10 Evidence in children and adolescents examining the relationship between dietary patterns consumed and growth, body composition, and risk of obesity[a]

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Asodeh, 2023 [24] Iran, RCT Analytic N=70 **Selection data:** Enrolled only female adolescents with metabolic syndrome who were not on a diet in the past 3 months	**Age at Dietary Pattern:** 14y, mean (13 to 18y) Mediterranean diet: Consumed similar vegetables, fruits, grains, meat and meat products, sugar, but significantly higher total fat, MUFA, and fiber than Control group, which was assigned to usual dietary recommendations (consumed significantly less total fat, MUFA, and fiber than Mediterranean group) **Method**: RCT	**Results at age(s)** F/U: 12 wks**:** • BMI, mean ± SE: −0.08 ±0.09 v. −1.1 ±0.09; p<0.001 • WC, mean ± SE: −0.2 ±0.2 v. −2.9 ±0.2; p<0.001 • Weight, mean ± SE: −0.2 ±0.2 v. −2.7 ±0.2; p<0.001	• Intensity was relatively high: control group was only given verbal instruction **Funding**: Tehran Endocrine and Metabolism Research Center and the Tehran University of Medical Science
Lee 2020 [49] South Korea, RCT Analytic N=104 **Selection data:** Enrolled only those with moderate to severe obesity (BMI ≥ 97th %tile); Excluded those with mental illness, learning disabilities or did not complete the intervention	**Age at Dietary Pattern:** 10y, mean modified Diet Quality Index-International (DQI-I) [Kim, 2003]: Positive (Adequacy): Vegetable group; Fruit group; Grain group; Fiber; Protein; Iron; Calcium; Vitamin C; Negative: Total Fat, SFA, Cholesterol; Sodium; Empty-Energy Foods. Neutral: Carbohydrate: Protein: Fat Ratio; PUFA: MUFA: SFA ratio; Variety **Method**: Index/Score Analysis, RCT	**Results at age(s)** F/U: 24wk**:** • mDQI & Δ zBMI: -0.02 v. -0.07; p-trend=0.123 • mDQI & ΔFM (kg): 0.64 v. -0.04; p-trend= 0.232 • mDQI & Δ%FM: -0.91 v. -1.47; p-trend= 0.288 • mDQI & ΔWeight (kg): 3.43 v. 2.51; p-trend=0.187 • mDQI &ΔHt (cm): 3.03 v. 2.88; p-trend=0.565	• 38% dropout rate; • Possible selection bias; • Relative intense delivery of intervention **Funding**: Korea Centers for Disease Control and Prevention
Papamichael, 2019 [59] Greece, RCT Analytic N=64 **Selection data:** Included only those with asthma; excluded LFU/discontinued	**Age at Dietary Pattern:** 5 to 12 y Mediterranean diet + fatty fish vs. Control group: Higher in Legumes, Lean fish, and Fatty fish; Similar consumption of Vegetables; Fruit; Starch; Seafood; Meat; Nuts; Olive oil; Dairy products; Fats; Fast food; Sweets; Savour snacks; Soft drinks **Method**: RCT	**Results at age(s)** F/U: 6 mo**:** • Intervention v. Control & BMI, 18.70 [3.90] v. 18.73 [3.84]; p-trend=0.98	• Primary outcome was asthma and BMI was to confirm differences between groups; KIDMED adherence differed by intervention group at follow-up; Controlled other aspects of the intervention **Funding**: None

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Agnihotri, 2021 [2] Norway; Norwegian Mother, Father and Child Cohort Study (MoBa) Analytic N=14989 **Selection data:** Enrolled mothers during pregnancy; Excluded if missing data from Medical Birth Registry of Norway; missing questionnaire data during mother's pregnancy; multiple pregnancies; additional pregnancies by same mother; extreme intake during pregnancy; child age <7 or >9.5 at outcome; missing outcome data; anthropometric data outside of +/- 4 SD	**Age at Dietary Pattern:** 3 y, 7 y New Nordic Diet (NND) score [Agnihotri, 2020] at age 3 y: Positive: Vegetables >5 times/wk; Fruit >7 times/wk; Potatoes (more than rice/pasta); Fish >2.12 times/wk; Milk (more milk than juice); Negative: Sweetened beverages (<2.5 times/wk) NND, at age 7 y: Positive: Cabbages; Root Vegetables; Fruits (Local apples, pears, grapes); Potatoes (more than rice/pasta); Whole grain bread; Oatmeal; Fish; Milk (more than fruit juice); Water (more than sweetened beverages) **Method**: Index/Score Analysis	**Results at age(s)** 8y**:** NND at 3 y & OW, low, OR: 1.00, ref • Medium, OR: 1.10, 95% CI: 0.96, 1.26; p-trend=0.177 • High, OR: 1.01, 95% CI: 0.87, 1.18; p-trend=0.887 • Per 1-pt, OR: 0.99, 95% CI: 0.96, 1.03; p-trend=0.775 NND at 7 y & OW, low, OR: 1.00, ref • Medium, OR: 1.05, 95% CI: 0.93, 1.20; p-trend=0.421 • High, OR: 1.12, 95% CI: 0.97, 1.29; p-trend=0.117 • Per 1-pt, OR: 1.02, 95% CI: 0.99, 1.05; p-trend=0.236	• Did not account for: Anthropometry (adjusted for BW), Race/Ethnicity, Physical activity • Did not account for energy intake in analyses • Parent-reported Ht & Weight of child at 8 y used to calculate BMI for OW **Funding**: Norwegian Ministry of Health and Care Services, Ministry of Education and Research

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Aljahdali, 2022 [19] Mexico; Early Life Exposure in Mexico to Environmental Toxicants (ELEMENT) Analytic N=574 **Selection data:** Enrolled pregnant mothers from low-middle income prenatal clinics; Included those who attended at least one of three follow-up visits; had data for at least one of eight cardiometabolic risk factors (WC, SBP, DBP, fasting glucose, fasting TG, fasting HDL-C, fasting insulin, and HOMA-IR); had dietary information	**Age at Dietary Pattern:** 8 to 14 y, mean 10.3; 10 to 18 y, mean 14.5y; 12 to 21 y, mean 16.4 Alternate Med Diet Score (aMED) [Fung 2005] Positive: Vegetables (not potatoes); Legumes; Fruit; Nuts; Whole Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. Neutral: Alcohol DASH Score [Fung 2008]: Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages; Sodium **Method**: Index/Score Analysis	**Results at age(s)** 12 to 21 y, mean 16.4y**:** DASH Score & WC • Q1, β: 1, ref • Q2, β: 0.5597 (0.2438); p-trend=0.0219 • Q3, β: -0.03468 (0.2509); p-trend= 0.8901 • Q4, β: -0.01519 (0.2811); p-trend=0.9569 • Continuous, β: -0.01519 (0.02697); p-trend= 0.5735 aMED & WC • Q1, β: 1, ref • Q2, β: -0.1404 (0.2602); p-trend= 0.5896 • Q3, β: -0.3892 (0.2458); p-trend= 0.1136 • Q4, β: 0.1856 (0.3214); p-trend=0.5638 • Continuous, β: -0.03578 (0.06906); p-trend= 0.6045	• Did not account for: Race and/or Ethnicity (100% Mexican-heritage, birth cohort); Anthropometry at baseline was not accounted for in T2D or CVD results • FFQ was not formally validated; • Unclear methods used to derive single estimate from multiple times; Time points used in analyses are unclear • Post-exposure intervention of maternal Ca+ supplementation trial in subset; Results not be generalizable to those not from Mexico City **Funding**: U.S. Environmental Protection Agency; National Institute for Environmental Health Sciences; National Institute of Public Health/Ministry of Health of Mexico
Ambrosini, 2016 [20] United Kingdom; Avon Longitudinal Study of Parents and Children (ALSPAC) Analytic N=4729 **Selection data:** Excluded those with missing data; other reasons NR	**Age at Dietary Pattern:** 7 y "DP1": Higher in confectionery and chocolate, cakes and biscuits, SSBs, low-fiber bread, and lower in fruit, vegetables, high-fiber bread, cereals "DP2": Higher in sugar-sweetened beverages, fruit juices, ready-to-eat breakfast cereals, and lower in whole milk, margarines and oils, cheese, crisps **Method**: Reduced rank regression (RRR)	**Results at age(s)** 15y**:** FMIz • DP1, β: 0.04, 95% CI: 0.01, 0.08, p=0.028 • DP2, β: -0.03, 95% CI: -0.07, 0.02, p=0.22 Excess adiposity • DP1, β: 1.11, 95% CI: 0.97, 1.28, p=0.14 • DP2, β: 0.92, 95% CI: 0.78, 1.09, p=0.34	• Did not account for: Race/ethnicity • Diet assessed once at baseline; • Did not describe or fully account for selection into analyses or missing data **Funding**: The United Kingdom Medical Research Council; Wellcome Trust; University of Bristol

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Arenaza, 2020 [21] Spain; EFIGRO study Analytic N=81 **Selection data:** Enrolled only children with Ob/OW; Excluded non-completers; missed > 50% of lifestyle education sessions; < 2, 24 h-recalls at baseline and post-intervention	**Age at Dietary Pattern:** 9 to 11 y Mediterranean Diet Quality Index for children and adolescents (KIDMED) [Serra-Majem, 2004]: Positive: Vegetables; Pulses; Fruit/Fruit Juice; Nuts; Pasta or Rice; Fish; Yogurt/Cheese; Olive Oil; Negative: Sweets and Candy **Method**: Index/Score Analysis	**Results at age(s)** F/U: 22 wks**:** • ∆KIDMED & ∆FMI, r: 0.004; p-trend=0.976 • ∆KIDMED & ∆ Hepatic fat (%), r: 0.191; p-trend=0.134 • ∆KIDMED & ∆ Abdominal fat (kg), r: -0.080; p-trend=0.535	• Did not account for: Anthropometry (adjusted for Ht),Race/Ethnicity, Physical activity, SEP • Reported differences with exercise in intervention group vs. control; Foods/beverages not described in Healthy Diet Indicator data **Funding**: Spanish Ministry of Industry and Competitiveness, European Regional Development Funds, University of the Basque Country
Arruda, 2021 [22] Brazil; Longitudinal Study on Sedentary Behavior, Physical Activity, Eating Habits and Health of Adolescents - LONCAAFS Analytic N=773 **Selection data:** Enrolled 6th graders in municipality of Joao Pessoa; Excluded those <10 and >14 y, with disability limiting PA or response to questionnaires, who were pregnant, with lack of anthropometric measurements, lack of 24-h recall data, LFU	**Age at Dietary Pattern:** 10 to 14 y ‘Traditional': positively correlated with intakes of basic food groups, beans and meat 'Snacks': positively correlated with intake of processed meats, butters and margarines, breads and breakfast cereals, cheeses, and coffee and teas 'Western': positively correlated with intake of sweets, pastries, sweetened drinks, cheese; negatively with coffee and teas **Method**: Factor/Cluster Analysis	**Results at age(s)** 13 to 17y**:** zBMI • 'Traditional': β=-0.013, 95% CI: -0.034, 0.007 • 'Snacks': β=-0.014, 95% CI: -0.033, 0.005 • 'Western': β=0.024, 95% CI: 0.001, 0.047	• Did not account for: Race/ethnicity (Brazilian 6th graders) **Funding**: São Paulo Research Foundation (FAPESP)

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Asghari, 2016 [23] Iran; Tehran Lipid and Glucose Study Analytic N=424 **Selection data:** Excluded those with incomplete/missing diet or outcome data; with MetS, HTN, High TG/BP/FPG, Low HDL, or Abdominal Ob at baseline	**Age at Dietary Pattern:** 13.6y, mean; 6 to 18y DASH score [Fung, 2008]: Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages Q4 v. Q1 ref had higher vegetables (2.1x), fruits (2.4x), nuts, legumes, and seeds (1.5x), whole grains (1.5x), low fat dairy (0.6x), lower red and processed meat (0.5x), sweetened beverages (1.6x), and sodium (0.3x) **Method**: Index/Score Analysis	**Results at age(s)** F/U: 3.6y (~age 17 y)**:** DASH & BMI, no association (data NR) DASH & High-WC, Q1, ref • Q2, OR: 0.63, 95% CI: 0.29, 1.35 • Q3, OR: 0.52, 95% CI: 0.24, 1.14 • Q4, OR: 0.35, 95% CI: 0.14, 0.89 • p-trend=0.047 DASH & mean [SD] WC: • Q1: 79.8 [0.6]; • Q2: 80.0 [0.6]; • Q3: 79.1 [0.6]; • Q4: 78.9 [0.7], p=.503	• Did not account for: Race/ethnicity (Iranian), SEP • Diet assessed using a validated 168-item FFQ at baseline only **Funding**: National Research Council of the Islamic Republic of Iran and the Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences
Bawaked, 2020 [25] Spain; INMA (Infancia y Medio Ambiente [Environment and Childhood]) birth cohort Analytic N=1480; 1256 BMI, 1248 WC **Selection data:** Included mothers at least 16y old, delivering at referene hospital, Spanish/regional language, singelton pregnancy without assisted conception, children with relevant data (PA, sedentary activity, dietary, BMI/WC)	**Age at Dietary Pattern:** 4y UPF (Nova food classification system, group 4 [Monteiro, 2019]) e.g. Carbonated drinks, processed meat, biscuits [cookies], candy [confectionery], 'instant' packaged soups and noodles, sweet or savory packaged snacks, and sugared milk and fruit drinks. **Method**: Index/score analysis	**Results at age(s)** 7y**:** **Growth/Body composition:** UPF (High, ref) & BMIz • Med UPF, B: -0.04, 95% CI: -0.15, 0.06 • Low UPF, B: -0.10, 95% CI: -0.20, 0.01 • p=0.07 UPF (High, ref) & WC • Med. UPF, B: -0.05, 95% CI:-0.18, 0.07 • Low UPF, B: -0.08, 95% CI: -0.21, 0.04 • p=0.18	• Did not account for: Race and/or ethnicity; Physical activity (but modelled as IV of interest); TEI • Diet assessed only once via FFQ at age 4y for past 12mo; Misclassification possible **Funding**: Instituto de Salud Carlos III; EU Commission; Generalitat Valenciana; Generalitat de Catalunya-CIRIT; Department of Health of the Basque Government; Provincial Government of Gipuzkoa; Fundació La marató de TV3

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Bekelman, 2021 [26] United States; Exploring Perinatal Outcomes in Children (EPOCH) study Analytic N=581 **Selection data:** Excluded those with missing data on BMI, dietary intake, GDM exposure, sex, household income and race/ethnicity at Visit 1; some children exposed to GDM during utero	**Age at Dietary Pattern:** 10.4y, mean Healthy Eating Index (HEI-2010) [Guenther 2013] : Positive: Total Vegetables; Greens and Beans; Total Fruit; Whole Fruit; Whole Grains; Seafood and Plant Proteins; Total Protein Foods; Dairy; Fatty Acids. Negative: Refined Grains; Added Sugars in "Empty Calories"; Solid Fats in "Empty Calories"; Sodium Alternate Med Diet Score (aMED) [Fung 2005]: Positive: Vegetables (not potatoes); Legumes; Fruit; Nuts; Whole Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. alternate DASH Score [Appel, 1997]: Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy; Negative: Red and Processed Meat; Sweetened beverages; MUFA+PUFA; Sodium **Method**: Index/Score Analysis	**Results at age(s)** 16.7y, mean**:** HEI-2010 ♀ & BMI-trajectory • per-10pt, β: -0.64, 95% CI: -1.11, -0.18; p-trend=0.007 HEI-2010 ♂ & BMI-trajectory • per-10pt, β: 0.04, 95% CI: -0.48, 0.56; p-trend=0.87 aMED ♀ & BMI-trajectory • β: -0.19, 95% CI: -0.51, 0.13; p-trend=0.24 aMED ♂ & BMI-trajectory • β: 0.07, 95% CI: -0.29, 0.43; p-trend=0.69 DASH ♀ & BMI-trajectory • β: 0.28, 95% CI: -0.34, 0.89; p-trend=0.38 DASH ♂ & BMI-trajectory • β: 0.55, 95% CI: -0.10, 1.20; p-trend=0.10	• Did not account for: Anthropometry at baseline (within outcome), Physical activity **Funding**: NIH
Biazzi, 2017 [27] Brazil; n/a Analytic N=458 (n=1158 baseline) **Selection data:** Excluded those with extreme dietary intake (outlier)	**Age at Dietary Pattern:** 7 to 10 y 'DP I': Rice; Leafy vegetables; Cooked beans; Beef/poultry 'DP II': Salty snacks, French fries, fast-food, Sugary beverages 'DP III': Cooked and leafy vegetables; Fruits; Fruit juices; Pasta; Milk; Cheese 'DP IV': Milk; Coffee with milk, Cheese; Breads/biscuits **Method**: Factor/Cluster Analysis	**Results at age(s)** 12 to 15y**:** ΔzBMI • DP I: Coeff.: 0.01; Effect size: 0.00, p=0.92 • DP II: Coeff.: 0.02; Effect size: 0.00, p=0.45 • DP III: Coeff.: -0.04; Effect size: 0.00, p=0.19 • DP IV: Coeff.: 0.05; Effect size: 0.01, p=0.07	• Did not account for: Race/Ethnicity • Diet assessed using 1-d recall questionnaire at baseline and F/U; Accounted for missing data via testing those with F/U v. LFU **Funding**: Brazilian National Council for Scientific and Technological Development

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Buckland, 2022 [28] United Kingdom; Avon Longitudinal Study of Parents and Children (ALSPAC) Analytic N=1940 17y; 1961 24y **Selection data:** Excluded those diagnosed with DM, on insulin tx, or fasting glucose ≥ 7 mmol/L; those with extreme outliers on CMR score components; incomplete dietary data	**Age at Dietary Pattern:** 7 y Children's relative Mediterranean-style diet score (C-rMED) [Buckland, 2022]: Positive: Fruit (including nuts and seeds), vegetables (excluding potatoes), pulses, cereals and cereal products, dairy products, legumes, fish and seafood, MUFA+PUFA/SFA. Negative: meat and meat products **Method**: Index/Score Analysis	**Results at age(s)** 17y, 24y**:** BMI at age 17y • 7y: OR: 0.95, 95% CI: 0.85, 1.05 • 10y: OR: 1.00, 95% CI: 0.90, 1.16 • 13y: OR: 0.95, 95% CI: 0.85, 1.05 BMI at age 24y • 7y: OR: 0.92, 95% CI: 0.83, 1.02 • 10y: OR: 0.94, 95% CI: 0.84, 1.04 • 13y: OR: 0.83, 95% CI: 0.75, 0.92 FMI at age 17y • 7y: OR: 0.92, 95% CI: 0.82, 1.02 • 10y: OR: 0.95, 95% CI: 0.85, 1.07 • 13y: OR: 0.88, 95% CI: 0.79, 0.98 FMI at age 24y • 7y: OR: 0.95, 95% CI: 0.85, 1.05 • 10y: OR: 0.91, 95% CI: 0.81, 1.01 • 13y: OR: 0.81, 95% CI: 0.73, 0.90 WC at age 24y • 7y: OR: 0.90, 95% CI: 0.81, 1.00 • 10y: OR: 0.89, 95% CI: 0.81, 0.99 • 13y: OR: 0.87, 95% CI: 0.79, 0.97	• Did not account for: Anthropometry at baseline, Race/Ethnicity **Funding**: UK Medical Research Council and Wellcome, University of Bristol, Wellcome Trust and MRC, The British Heart Foundation, British Heart Foundation Research Fellowship, MRC Career Development Award

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Bull and Northstone, 2016 [29] United Kingdom; Avon Longitudinal Study of Parents and Children (ALSPAC) Analytic N=2311 **Selection data:** Excluded those with missing data on CV measures, dietary patterns info at all time points, and covariable data	**Age at Dietary Pattern:** 7, 10, and 13y "Healthy", ref: Non-white bread, reduced-fat milk, cheese, yoghurt and fromage frais, butter, breakfast cereal, rice, pasta, eggs, fish, vegetable and vegetarian dishes, soup, salad, legumes, fruit, crackers and crispbreads, high-energy-density sauces (e.g. mayonnaise), fruit juice, water "Processed": Processed meat, pies and pasties, coated and fried chicken and white fish, pizza, chips, baked beans and tinned pasta, chocolate, sweets, sugar, diet and regular fizzy drinks "Traditional": Red meat, poultry, potatoes, vegetables, starch-based products, low-energy-density sauces, puddings, tea, coffee "Packed Lunch": White bread, margarine, ham and bacon, sweet spreads, salty flavourings, crisps, biscuits, diet squash, tea, coffee **Method**: Factor/Cluster Analysis	**Results at age(s)** 17y**:** High BMI • 7y 'Processed', OR: 1.6, 95 % CI: 1.01,2.55; p=0.05 • 10y 'Processed', OR: 0.8, 95 % CI: 0.52,1.23; p=0.31 • 13y 'Processed', OR: 1, 95 % CI: 0.63,1.59; p=1 • 7y 'Traditional', OR: 1.22, 95 % CI: 0.75,1.98; p=0.42 • 10y 'Traditional', OR: 0.82, 95 % CI: 0.52,1.27; p=0.37 • 13y 'Traditional', OR: 1.41, 95 % CI: 0.87,2.28; p=0.16 • 7y 'Packed-lunch', OR: 1.96, 95 % CI: 1.22,3.13; p=0.005 • 10y 'Packed-lunch', OR: 0.97, 95 % CI: 0.62,1.52; p=0.89 • 13y 'Healthy', OR: 1.15, 95 % CI: 0.77,1.72; p=0.51	• Did not account for: Anthropometry (adjusted for BW, GA), Race/ethnicity, Physical activity; • Diet assessed once each age time point; Unclear if diet assessment methods were valid/reliable; Serious concerns with accuracy of data tables **Funding**: The United Kingdom Medical Research Council; Wellcome Trust; University of Bristol
Chan She Ping-Delfos, 2015 [30] Australia; Western Australian Pregnancy Cohort Analytic N=1419 **Selection data:** Excluded those with missing data, implausible energy intake	**Age at Dietary Pattern:** 14 y Dietary Guideline Index for Children and Adolescents (DGI-CA): Fruit/100% fruit juice, vegetables and legumes, breads and cereals, wholegrain bread relative to total, meat and alternatives (excluding processed meat); dairy products: reduced- or low-fat dairy, water as a beverage, healthy fats: total fats, <3/d 'extra foods' **Method**: Index/Score Analysis	**Results at age(s)** 17y**:** • BMI, β: 0.0007, 95% CI: 0.00 007, 0.0012; p=0.029 • WC, β: -0.0003, 95% CI: -0.0006, -0.00 004; p=0.026 • WHR, β: 0.009, 95% CI: -0.033, 0.051; p=0.680	• Did not account for: Race/ethnicity • Diet assessed once at baseline with record validated in adults only **Funding**: University of Western Australia; the Faculty of Medicine, Dentistry and Health Sciences at the University of Western Australia; the Telethon Kids Institute; the Women and Infants Research Foundation; Curtin University; and the Raine Medical Research Found

Chang, 2021 [31]
United Kingdom; Avon Longitudinal Study of Parents and Children (ALSPAC)

Analytic N=9025

Selection data:
Pregnant women with an expected delivery date between April 1991 and Dec. 1992; Excluded those with missing dietary data and/or outcome data

Age at Dietary Pattern: 7 y

UPF (Nova food classification system, group 4 [Monteiro, 2019]) e.g. Soft drinks; sweet or savoury packaged snacks; ice cream, chocolate, candies; massproduced packaged breads and buns; margarines and spreads; cookies, pastries and cake mixes; breakfast cereals and cereal/energy bars; milk, cocoa and fruit drinks; meat and chicken extracts and instant sauces; infant formulas, follow-on milks and other baby products; ready-to-heat/eat products and dishes (pies, pasta, pizza, desserts); processed meats and sausages; packaged soups and noodles; flavoured and/or artificial sweetened yoghurt

Method: Index/Score Analysis

Results at age(s 24y
BMI: Q5 vs. Q1 (ref), HR: 1.18, 95% CI: 0.78, 1.57
- Q2, HR: 0.06, 95% CI: −0.10, 0.23
- Q3, HR: 0.006, 95% CI: −0.16, 0.17
- Q4, HR: 0.02, 95% CI: −0.15, 0.19
- Q5, HR: 0.08, 95% CI: −0.09, 0.24

zBMI, Q1, HR: 0, ref
- Q2, HR: 0.06, 95% CI: −0.01, 0.13
- Q3, HR: 0.03, 95% CI: −0.04, 0.10
- Q4, HR: 0.05, 95% CI: −0.02, 0.12
- Q5, HR: 0.05, 95% CI: −0.02, 0.12

BF%: Q5 vs. Q1, HR: 1.53, 95% CI: 0.81, 2.25
- Q2, HR: 0.65, 95% CI: −0.01, 1.30
- Q3, HR: 0.67, 95% CI: 0.02, 1.32
- Q4, HR: 1.02, 95% CI: 0.35, 1.67
- Q5, HR: 1.47, 95% CI: 0.81, 2.13

FMI: Q5 vs. Q1, HR: 0.78, 95% CI: 0.46, 1.08
- Q2, HR: 0.08, 95% CI: −0.09, 0.26
- Q3, HR: 0.11, 95% CI: −0.06, 0.28
- Q4, HR: 0.17, 95% CI: −0.01, 0.34
- Q5, HR: 0.27, 95% CI: 0.09, 0.45

Fat mass, kg, Q1 HR: 0, ref
- Q2, HR: 0.11, 95% CI: −0.31, 0.52
- Q3, HR: 0.10, 95% CI: −0.32, 0.51
- Q4, HR: 0.20, 95% CI: −0.22, 0.62
- Q5, HR: 0.51, 95% CI: 0.08, 0.93

LMI, Q1, HR: 0, ref
Q2, HR: 0.005, 95% CI: −0.06, 0.07
Q3, HR: 0.009, 95% CI: −0.06, 0.07
Q4, HR: −0.01, 95% CI: −0.08, 0.05
Q5, HR: −0.01, 95% CI: −0.08, 0.05

Lean mass, kg, Q1, HR: 0, ref
Q2, HR: 0.13, 95% CI: −0.16, 0.42
Q3, HR: −0.01, 95% CI: −0.30, 0.28
Q4, HR: −0.07, 95% CI: −0.36, 0.23
Q5, HR: 0.07, 95% CI: −0.23, 0.37

- Did not account for: n/a (all accounted for)
- Diet assessed with 3d food diary at multiple points (age 7 y; age 10y, age 13y)

Funding: UK Medical Research Council (MRC); Wellcome Trust; University of Bristol

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		WC in cm: Q5 vs. Q1, HR: 3.08, 95% CI: 2.08, 4.06 • Q2, HR: 0.26, 95% CI: −0.14, 0.66 • Q3, HR: 0.03, 95% CI: −0.36, 0.42 • Q4, HR: 0.22, 95% CI: −0.18, 0.62 • Q5, HR: 0.16, 95% CI: −0.25, 0.56 Weight, kg: Q5 vs. Q1 (ref), HR: 3.66, 95% CI: 2.18, 5.12 • Q2, HR: 0.35, 95% CI: 0.007, 0.69 • Q3, HR: 0.30, 95% CI: −0.03, 0.63 • Q4, HR: 0.34, 95% CI: −0.007, 0.68 • Q5, HR: 0.30, 95% CI: −0.04, 0.65	

Choy, 2020 [32]
Samoa; Ola Tuputupua'e "Growing Up" cohort study

Analytic N=214

Selection data:
Excluded those with severe physical or cognitive impairments, not of Samoan ethnicity, lost to f/up, missing data

Age at Dietary Pattern: 2 to 4 y

'Modern': High intakes of french fries, unprocessed red meat, potatoes/sweet potatoes, cereals, noodles, and fruit juices, and low intakes of breadfruit and taro

'Neotraditional': high intakes of fruits, vegetables, tomatoes, banana-based dishes, and soups

Method: Factor/Cluster Analysis

Results at age(s) 4 to 6y**:**
'Modern' & zBMI 2017
- Consistently low: β=1, ref
- Low to high: β=0.12, 95% CI: -0.19, 0.42
- High to low: β=0.10, 95% CI: -0.21, 0.41
- Consistently high: β=0.34, 95% CI: 0.03, 0.65; p-value = 0.03

'Neotraditional' & zBMI 2017
- Consistently low: β=1, ref
- Low to high: β=0.02, 95% CI: -0.28, 0.31
- High to low: β=-0.08, 95% CI: -0.39, 0.23
- Consistently high: β=-0.11, 95% CI: -0.43, 0.20

'Modern' & zBMI Δ 2015-2017
- β=ES, 95% CI: LL, UL
- Consistently low: β=1, ref
- Low to high: β=0.20, 95% CI: -0.12, 0.52
- High to low: β=0.13, 95% CI: -0.19, 0.46
- Consistently high: β=0.36, 95% CI: 0.04, 0.69; p-value = 0.03

'Neotraditional' & zBMI Δ 2015-2017
- Consistently low: β=1, ref
- Low to high: β= -0.028, 95% CI: -0.34, 0.29
- High to low: β= -0.10, 95% CI: -0.43, 0.22
- Consistently high: β= -0.12, 95% CI: -0.45, 0.21

'Modern' & Weight-z Δ 2015-2017
- Consistently low: β=1, ref
- Low to high: β=0.05, 95% CI: -0.18, 0.28
- High to low: β=0.00, 95% CI: -0.23, 0.24
- Consistently high: β=0.13, 95% CI: -0.10, 0.37

'Neotraditional' & Weight-z Δ 2015-2017
- Consistently low: β=1, ref

Did not account for: Anthropometry at baseline for Δ 2015-2017

Sample size <300; Underpowered according to post-hoc power calculation for 'Modern' or 'Traditional' patterns & zBMI

Funding: Yale School of Public Health, NIMHD, U.S. Fulbright Graduate Student Research Fellowship, Brown University School of Public Health, Brown University Population Studies and Training Center, NHLBI, Fogarty Global Health Equity Scholars Program

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		• Low to high: β=0.02, 95% CI: -0.21, 0.24 • High to low: β= -0.04, 95% CI: -0.27, 0.19 • Consistently high: β= -0.08, 95% CI: -0.32, 0.16 'Modern' & Ht z-score z Δ 2015-2017 • Consistently low: β=1, ref • Low to high: β= -0.10, 95% CI: -0.37, 0.18 • High to low: β= -0.12, 95% CI: -0.40, 0.16 • Consistently high: β= -0.15 95% CI: -0.43, 0.13 'Neotraditional' & Ht z-score Δ 2015-2017 • Consistently low: β=1, ref • Low to high: β=0.09, 95% CI: -0.18, 0.35 • High to low: β= 0.06, 95% CI: -0.21, 0.34 • Consistently high: β= 0.01, 95% CI: -0.27, 0.29	
Costa, 2019[35] Brazil; n/a (F/U cohort from RCT) Analytic N=315 **Selection data:** Excluded HIV+ mothers, those with congenital/NICU stay, and not from maternity ward of low-income hospital/population in urban Brazil	**Age at Dietary Pattern:** 4y UPF (Nova food classification system, group 4 [Monteiro, 2019]) by % TEI contribution: Highest in Sweets (candy, chocolate, ice cream); Breads; Biscuits (crackers and cookies); Soft drinks (soda, sweetened juice and sports drinks); Powdered chocolate; Savory chips and Salty snacks; Processed meat; Sugary Milk beverages; Instant noodles, dehydrated soup, mayonnaise, dressing/sauces; Breakfast cereals (lowest mean intake at age 4y) **Method**: Index/Score Analysis: UP, Nova	**Results at age(s)** 8y**:** **Growth/Body composition:** UPF per 10% & • Δ SFT, β: 0.04, 95%CI: -0.05, 0.14; p=0.377 • Δ BMI, β: 0.00, 95% CI: -0.02, 0.01; p=0.736 • Δ WC, β: 0.06, 95% CI: 0.01, 0.13; p=0.046 • Δ Waist-to-Height Ratio, β: 0.00, 95%CI: 0.00, 0.00; p=0.089 • Δ WC, β: 0.06, 95% CI: 0.01, 0.13; p=0.046 • Δ Waist-to-Height Ratio, β: 0.00, 95%CI: 0.00, 0.00; p=0.089	• Did not account for: Age, Race/Ethnicity, Physical activity (but screen time) • Diet assessed with 24h recall at 4 and 8y from self-report with help of parent; **Funding**: Brazil National Council for Scientific and Technological Development

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Costa, 2021 [161] Brazil; 2004-Pelotas-Brazil Birth Cohort Analytic N=3128 **Selection data:** Newborns to mothers in urban Pelotas/Jardim within Gapao do Leao	**Age at Dietary Pattern:** 6y UPF (Nova food classification system, group 4 [Monteiro, 2019]): Sweet cookies; salty cracker; yogurt or milk drink; ham; mortadella; sausage; butter or margarine; mayonnaise; candies, lollipop or chewing gum; chocolate bar or bonbon; ice cream or popsicle; chocolate powder; sugar sweetened beverages; artificially sweetened beverages (light, diet or zero); artificial juice (powder or box); salty snacks; sandwich cookies; gelatin. **Method**: Index/Score Analysis: UP, Nova	**Results at age(s)** 11y**:** **Growth/Body composition:** UPF, g & ΔFMI 6-11y: • β: 0.14, 95% CI: 0.13, 0.15; p<0.001 (adjusted for non-UPF food sources) • β: 0.05, 95% CI: 0.04, 0.06; p<0.001 (adjusted for TEI)	• Did not account for: Age, Anthropometry at baseline (assessed change from 6-11y as main result) • Diet assessed via FFQ at 6y (parent-report) and 11y (parent-report w/ child help); Misclassification possible • Moderate effect size per 100g increase in UPF was associated with 0.14 kg/m2 of FMI increase from 6 to 11y; 58% of effect of UPF on FMI due to mediation from TEI (42% direct effect of UPF on FMI) **Funding**: Wellcome Trust; Departamento de Cieˆncia e Tecnologia (DECI); Conselho Nacional de Desenvolvimento Cientı´fico e Tecnolo´ gico-Brazil

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Costa, 2022 [34] Brazil; 2015-Pelotas-Brazil Birth Cohort Analytic N=3498 **Selection data:** Newborns to mothers in urban Pelotas/Jardim within Gapao do Leao	**Age at Dietary Pattern:** 2y UPF (Nova food classification system, group 4 [Monteiro, 2019]) 9 sub-groups: i) Instant noodles 30%; (ii) Soft drinks 37%; (iii) Chocolate powder (in milk) 43%; (iv) Nuggets, hamburger or sausages 43%; (v) Salty snacks, packaged 46%; (vi) Candies, lollipops, chewing gum, chocolate or jelly 65%; (vii) Cookie (sandwich-type) or Sweet Biscuit 65%; (viii) Juice from can, box, or powder 67%; (ix) Yogurt 88% **Method**: Index/Score Analysis: UP, Nova	**Results at age(s)** 4y**:** **Growth/Body composition:** UPF & BMI-age-z (BAZ), • cont. β: 0.02, 95% CI: 0.01, 0.03; p<0.001 • T1, ref; T2, β: 0.05, 95% CI: -0.01, 0.11 • T1, ref; T3, β: 0.01, 95% CI: -0.06, 0.07; p=0.207 • 6+ vs. ≤ 5 of 9 sub-groups, β: 0.09, 95% CI: 0.04, 0.14; p<0.001 UPF & L/HAZ • cont. β: -0.03, 95% CI: -0.04, -0.02; p<0.001 • T1, ref; T2, β: -0.04, 95% CI: -0.08, 0.01 • T1, ref; T3, β: -0.06, 95% CI: -0.11, -0.01; p=0.023 • 6+ vs. ≤ 5 of 9 sub-groups, β: -0.10, 95% CI: -0.14, -0.06; p<0.001	• Did not account for: Age, TEI • Diet assessed via FFQ at 2y and 4y; Misclassification possible due to UPF intake based on FFQ (Y/N of usually consuming 9 sub-groups); Outcomes objectively measured; Precise effects (narrow CI) when UPF analyzed continuously **Funding**: Wellcome Trust; Conselho Nacional de Desenvolvimento Cientı´fico e Tecnolo´ gico- Brazil; Fundação de Amparo a Pesquisa do Estado do Rio Grande do Sul; Children's Pastorate; Bernard van Leer Foundation

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Costa, 2023 [36] Portugal; Epidemiological Health Investigation of Teenagers in Porto (EPITeen) Analytic N=862 **Selection data:** Excluded those with missing or outliers of dietary/outcome data	**Age at Dietary Pattern:** 13y 'Lower intake': lower consumption of majority food groups 'Healthier': highest consumption of seafood, soup, vegetables/legumes, fruit, and added fats 'Dairy products': highest consumption of dairies 'Fast food and sweets': fast food, sweets and pastry, soft drinks and coffee or tea **Method**: Factor/Cluster Analysis	**Results at age(s)** 21y**:** BMI, est. mean • 'Lower intake', 23.7, 95% CI: 233, 24.2 • Healthier', 23.1, 95% CI: 22.4, 23.8 • Dairy products', 23.1, 95% CI: 22.6, 23.6 • Fast food and sweets', 22.6, 95% CI: 21.9, 23.4 • p=0.029 FM, %, est. mean • 'Lower intake', 20.8, 95% CI: 19.9, 21.7 • 'Healthier', 20.1, 95% CI: 18.8, 21.4 • Dairy products', 19.8, 95% CI: 18.8, 20.8 • Fast food and sweets', 18.8, 95% CI: 17.4, 20.2 • p=0.054 WC, cm, est. mean • 'Lower intake', 79.3, 95% CI: 78.1, 80.4 • 'Healthier', 78.2, 95% CI: 76.5, 79.9 • 'Dairy products', 78.3, 95% CI: 77.0, 79.6 • 'Fast food and sweets', 76.9, 95% CI: 75.0, 78.7 • p=0.108	• Did not account for: Race and/or Ethnicity, Physical activity • Diet assessed at multiple time points (age 13y, 21y) using a FFQ validated in adults; No differences between those included or excluded due to LFU; Data on dietary patterns foods/food groups reported in separate article [Araujo, 2015: https://doi.org/10.1016/j.nut.2014.06.007] **Funding**: Portuguese Foundation for Science and Technology; University of Porto

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Cunha, 2018 [37] Brazil; n/a Analytic N=1035 **Selection data:** Excluded those with pregnancy or physical disability, w/ obesity at baseline; Included 1st year high-school students from 4 private and 2 public urban schools	**Age at Dietary Pattern:** 15.7y, mean (13.5-19.5y) UPF (Nova food classification system, group 4 [Monteiro, 2019]) e.g. Sodas; Fruit drinks; Candies; Cookies; Chocolate milk beverages; Guarana (soda); Packed fruit juices; Ham; french fries; Sweet Pastries; Chocolate; Chips; Fried, filled rolls; Oven-baked rolls; Instant pasta; Ice cream; Jelly; Nuggets; Hamburger; Pizza; Hot dog; Cheese rolls **Method**: Index/Score Analysis: UP, Nova	**Results at age(s)** 16.6y (14.4-19.8); 17.6y (15.3-20.9)**:** **Growth/Body composition:** Q4 v. Q1 UPF associated with lower %BF at 3y F/U (values/data NR); Q4 v. Q1 UPF was associated with lower BMI at 3y F/U (values/data NR); No interaction between age and UPF & BMI (p=0.07); Under-reporting of UPF intake (coefficient=-0.94) and PA (coefficient=-1.0) associated with BMI at F/U	• Did not account for: Race and/or ethnicity, SEP • Diet assessed only once via validated FFQ; Misclassification possible due to UPF intake based on FFQ; TEI was lower for those in Q4 of UPF intake (possible mediation); those in 4th Q of UPF at baseline had lower BMI & %BF compared to Q1 **Funding**: National Council for Scientific and Technological Development; Research Support Foundation of the State of Rio de Janeiro; Coordination for the Improvement of Higher Education Personnel

Diethelm, 2014 [38] Germany; DONALD (Dortmund Nutritional and Anthropometric Longitudinal Designed) Study Analytic N=371 **Selection data:** Included those with 3d diet record at 4 times; full-term; data on education and BF	**Age at Dietary Pattern:** 6 to 7y PCA 1 'Healthy': Higher loadings for vegetables, whole-grain bread, rice/other grains, vegetable oil and low for sweetened beverages PCA 2 'Pancakes & Potatoes': High loadings for flour, dough; potatoes; eggs; increased eggs ∆PCA1 towards 'Pancakes and Convenience foods': Increased convenience foods ∆PCA2 towards 'Traditional': Increased flour, dough; potatoes; sasuages, cold cuts, high fat and decreased pasta; dressings dips gravy; potato products RRR1: Higher baseline intake of canned or dried fruit, lower biscuits, pulses, cereals, whole grain bread, and cheese ∆RRR1: Increased savoury snacks, dressings, dips, gravy; water; cheese; sausages, cold cuts, high fat; Decreased chocolate; dairy (sweetened; high-fat); meat (high fat); fruit (canned or dried) **Method**: RRR; Factor/Cluster Analysis	**Results at age(s)** 10 to 11y**:** RRR1: T3 v. T1, 21% higher increase in BMI; p=0.0003 ∆RRR1: T3 v. T1, 34% higher increase in BMI; p=0.0002 PCA 1 & ΔBMI • T1, 2.29, 95% CI: 2.05, 2.53 • T2, 2.19, 95% CI: 1.95, 2.43 • T3, 2.19, 95% CI: 1.95, 2.43; p-trend=0.7 ΔPCA 1 & ΔBMI • T1, 2.25, 95% CI: 2.01, 2.50 • T2, 2.16, 95% CI: 1.93, 2.40 • T3, 2.25, 95% CI: 2.01, 2.49; p-trend=0.6 PCA 2 & ΔBMI • T1, 2.26, 95% CI: 2.03, 2.50 • T2, 2.18, 95% CI: 1.93, 2.42 • T3, 2.21, 95% CI: 1.97, 2.45; p-trend>0.9 ΔPCA 2 & ΔBMI • T1, 2.19, 95% CI: 1.95, 2.42 • T2, 2.31, 95% CI: 2.07, 2.56 • T3, 2.18, 95% CI: 1.94, 2.42; p-trend=0.5 RRR1: T3 v. T1, 60% higher increase in FMI; p<0.0001 ∆RRR1: T3 v. T1, 74% higher increase in FMI; p<0.0001 PCA 1 & ΔFMI • T1, 1.12, 95% CI: 0.87, 1.36 • T2, 1.04, 95% CI: 0.80, 1.27 • T3, 0.94, 95% CI: 0.70, 1.18; p-trend=0.4 ΔPCA 1 & ΔFMI • T1, 1.04, 95% CI: 0.79, 1.28 • T2, 0.98, 95% CI: 0.74, 1.22 • T3, 1.08, 95% CI: 0.84, 1.32; p-trend=0.9 PCA 2 & ΔFMI • T1, 1.14, 95% CI: 0.91, 138 • T2, 0.96, 95% CI: 0.72, 1.21 • T3, 0.97, 95% CI: 0.73, 1.21; p-trend=0.4 ΔPCA 2 & ΔFMI	• Did not account for: Physical activity • Diet assessed using 3d weighed records at 4 time points **Funding**: Kompetenznetz Adipositas (Competence Network Obesity) funded by the Federal Ministry of Education and Research

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		• T1, 0.95, 95% CI: 0.71, 1.18 • T2, 1.14, 95% CI: 0.89, 1.38 • T3, 1.03, 95% CI: 0.79, 1.27; p-trend=0.7	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Durao, 2017 [39] Portugal; Generation XXI Analytic N=3473 **Selection data:** Excluded those with diseases that influence diet, missing data	**Age at Dietary Pattern:** 4y 'Energy-dense foods' (EDF): Sweets, soft drinks, salty pastry, processed meat 'Snacking': Snack foods, lower in fish, meat, eggs, rice, pasta, potatoes, vegetables 'Healthier': Higher in vegetables, fish, and lower in energy dense foods **Method**: Latent Class Analysis	**Results at age(s)** 7y**:** OW/Ob • ♀EDF, SS: 1.48, 95 % CI: 0.96, 2.29 • ♀Snacking, SS: 1.32, 95 % CI: 0.67, 2.58 • ♂EDF, SS: 3.15, 95 % CI: 1.54, 6.45 • ♂Snacking, SS: 1.91, 95 % CI: 0.65, 5.6 BMI • ♀EDF, SS: 0.074, 95 % CI: 0.002, 0.146 • ♀Snacking, SS: 0.011, 95 % CI: -0.091, 0.114 • ♂EDF, SS: 0.021, 95 % CI: -0.055, 0.097 • ♂Snacking, SS: -0.001, 95 % CI: -0.104, 0.103 FM% • ♀EDF, SS: 0.045, 95 % CI: -0.026, 0.116 • ♀Snacking, SS: 0.05, 95 % CI: -0.051, 0.151 • ♂EDF, SS: 0.02, 95 % CI: -0.053, 0.093 • ♂Snacking, SS: -0.004, 95 % CI: -0.004, 0.095 FMI • ♀EDF, SS: 0.078, 95 % CI: 0.011, 0 WHR • ♀EDF, SS: 0.108, 95 % CI: 0.028, 0.187 • vSnacking, SS: 0.051, 95 % CI: -0.061, 0.164 • ♂EDF, SS: 0.025, 95 % CI: -0.050, 0.1 • ♂Snacking SS: 0.069, 95 % CI: -0.033, 0.171	• Did not account for: Race/ethnicity; • Diet assessed once at baseline; Diet assessment record validated in adults only **Funding**: Programa Operacional de Saúde (Regional Department of Ministry of Health); Portuguese Foundation for Science and Technology (FCT) and by the Calouste Gulbenkian Foundation; EDER from the Operational Programme Factors of Competitiveness—COMPETE and through

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Durão, 2022 [40] Portugal; Generation XXI Analytic N=1861 girls; 1962 boys **Selection data:** Excluded those with conditions that affect dietary intake and celiac dz, incomplete data on PA and screen time at 4yrs, incomplete data on maternal BMI at 4yrs, no BP data at 10yrs	**Age at Dietary Pattern:** 4 y 'Energy-dense foods' (EDF): high intakes of sweets, sugar-sweetened beverages, savory pastry, and processed meat. 'Snacking': lower in foods usually consumed at lunch and dinner (e.g., vegetables on a plate, fish, meat, rice/pasta/potatoes), higher in intermediate foods typically eaten at snacking occasions 'Healthier': higher consumption of fruit, vegetables, vegetable soup, and fish, with a lower consumption of EDF **Method**: Latent Class Analysis	**Results at age(s)** 10y**:** OW, 'Healthier': OR: 1, ref ♀ 'EDF': OR: 1.48, 95% CI: 0.96, 2.29 ♀ 'Snacking': OR: 1.32, 95% CI: 0.67, 2.58 ♂ 'EDF': OR: 1.01, 95% CI: 0.66, 1.53 ♂ 'Snacking': OR: 1.04, 95% CI: 0.58, 1.86 Obesity, 'Healthier': OR: 1, ref ♀ 'EDF': OR: 3.15, 95% CI: 1.54, 6.45 ♀ 'Snacking': OR: 1.91, 95% CI: 0.65, 5.60 ♂ 'EDF': OR: 1.16, 95% CI: 0.62, 2.18 ♂ 'Snacking': OR: 0.86, 95% CI: 0.36, 2.07 BMI, 'Healthier' ref ♀ 'EDF': β: 0.074, 95% CI: 0.002, 0.146 ♀ 'Snacking': β: 0.011, 95% CI: -0.091, 0.114 ♂'EDF': β: 0.021, 95% CI: -0.055, 0.097 ♂'Snacking': β: -0.001, 95% CI: -0.104, 0.103 FM%, 'Healthier' ref ♀ 'EDF': β: 0.045, 95% CI: -0.026, 0.116 ♀ 'Snacking': β: 0.050, 95% CI: -0.051, 0.151 ♂ 'EDF': β: 0.020, 95% CI: -0.053, 0.093 ♂ 'Snacking': β: -0.004, 95% CI: -0.004, 0.095 FMI, 'Healthier': β: 1, ref ♀ 'EDF': β: 0.078, 95% CI: 0.011, 0.145 ♀ 'Snacking': β: 0.080, 95% CI: -0.016, 0.176 ♂ 'EDF': β: 0.029, 95% CI: -0.040, 0.098 ♂ 'Snacking': β: -0.007, 95% CI: -0.101, 0.087 WHR, 'Healthier': β: 1, ref ♀ 'EDF': β: 0.108, 95% CI: 0.028, 0.187 ♀ 'Snacking': β: 0.051, 95% CI: -0.061, 0.164 ♂'EDF': β: 0.025, 95% CI: -0.050, 0.100 ♂'Snacking': β: 0.069, 95% CI: -0.033, 0.171	• Did not account for: Race/Ethnicity • Diet assessed once at baseline; Diet assessment record validated in adults only **Funding**: Health Operational Programme–Saúde XXI, Community Support Framework III, Regional Department of Ministry of Health, FEDER–COMPETE, the Foundation for Science and Technology–FCT, a Researcher Contract, Epidemiology Research Unit and Laboratory for Integra

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Farhadnejad, 2018 [41] Iran; Tehran Lipid and Glucose Study Analytic N=628 **Selection data:** Excluded those with extreme dietary intake (over/under outlier); missing info; on specific diets; or LFU	**Age at Dietary Pattern:** 14.1y, mean; 10 to 18 y DASH score [Fung, 2008]: Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages **Method**: Index/Score Analysis	**Results at age(s)** F/U: 3y**:** DASH Q5 v. Q1 & Ob: OR: 0.26, 95% CI: 0.15, 0.76 DASH & 3-y Δ BMI, mean (SD) • Q1, 2.1 (3.1) • Q2, 1.8 (2.4) • Q3, 1.5 (2.6) • Q4, 1.6 (2.2) • Q5, 1.4 (2.3) • p-trend=0.035 DASH Q5 v. Q1 & Central Ob: OR: 0.32, 95% CI: 0.14, 0.84 DASH & 3-y Δ WC, mean (SD) • Q1, 5.4 (9.1) • Q2, 4.7 (8.0) • Q3, 4.0 (7.5) • Q4, 3.3 (7.7) • Q5, 2.8 (7.4) • p-trend=0.027	• Did not account for: Anthropometry at baseline, Race/ethnicity (NR; all Iranian), SEP, Physical activity **Funding**: NR
Fernandez-Alvira, 2017 [42] Italy, Estonia, Cyprus, Belgium, Sweden, Hungary, Germany, Spain; IDEFICS (Identification and prevention of Dietary- and lifestyle-induced health EFfects In Children and infantS) study Analytic N=8341 **Selection data:** Excluded those with missing data	**Age at Dietary Pattern:** 2 to 9 y 'Processed': Higher takeaway and high-fat foods, such as savoury pastries, fritters, pizza as main dish, fried potatoes, hamburger, hot dog, kebab and wraps, and lowest scores for products such as wholemeal bread, cooked vegetables, raw vegetables, and fresh fruits without added sugar 'Sweet': Higher sugar-rich products, like chocolate- or nut-based spread, sweetened drinks, fruit juices, diet drinks, candies, loose candies, marshmallows, and biscuits, packaged cakes, pastries and puddings, with the lowest scores for water, porridge, oatmeal, gruel, unsweetened cereals, muesli, raw vegetables, plain unsweetened milk and plain unsweetened yoghurt	**Results at age(s)** 4 to 11y (FU)**:** BMIzΔ • ‘Processed' v. 'Healthy' ref (baseline): 0.027, 95% CI: −0.008, 0.061; p=0.132 • ‘Sweet’ v. 'Healthy' ref (baseline): 0.033, 95% CI: −0.011, 0.077; p=0.147 • ‘Processed’ v. ‘processed’ at FU: 0.05, 95% CI: 0.006,0.093; p=0.024 • ‘Sweet’ v. ‘processed’ at FU: 0.015, 95% CI: −0.075,0.105; p=0.741 • ‘Healthy’ v. ‘processed’ FU: 0.02, 95% CI: −0.062,0.102; p=0.629 • ‘Processed’ v. ‘sweet’ FU: 0.079, 95% CI: 0.015,0.143; p=0.016 • ‘Sweet’ v. ‘sweet’ FU: 0.05, 95% CI: −0.004,0.103; p=0.069 • ‘Healthy’ v. ‘sweet’ FU: 0.04, 95% CI: −0.058,0.139; p=0.421 • ‘Processed’ v. ‘healthy’ FU: 0.001, 95% CI:	• Did not account for: Race/ethnicity (Multi-country); • Did not account for missing data **Funding**: European Community’s Sixth RTD Framework Programme

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
	'Healthy': Higher low-fat foods, foods rich in vitamins and wholegrain foods, e.g. raw vegetables, fresh fruits without added sugar, porridge, oatmeal, gruel, unsweetened cereals, muesli and plain unsweetened milk, and the lowest values for high-fat, high-sugar products, such as fried potatoes, sweetened drinks, sweetened milk, mayonnaise and mayonnaise-based products, chocolate- or nut-based spread, crisps, corn crisps, popcorn, and biscuits, packaged cakes, pastries and puddings **Method**: Factor/Cluster Analysis	−0.042,0.043; p=0.975 • 'Sweet' v. 'healthy' FU: 0.039, 95% CI: −0.030,0.109; p=0.268 FMIzΔ • 'Processed' v. 'Healthy' ref (baseline): 0.026, 95% CI: −0.004, 0.057; p=0.099 • 'Sweet' v. 'Healthy' ref (baseline): 0.019, 95% CI: −0.021, 0.058; p=0.357 • 'Processed' v. 'processed' FU: 0.052, 95% CI: 0.014, 0.090; p=0.007 • 'Sweet' v. 'processed' FU: 0.02, 95% CI: −0.058, 0.099; p=0.612 • 'Healthy' v. 'processed' FU: 0.04, 95% CI: −0.033, 0.113; p=0.281 • 'Processed' v. 'sweet' FU: 0.076, 95% CI: 0.019, 0.133; p=0.009 • 'Sweet' v. 'sweet' FU: 0.03, 95% CI: −0.017, 0.078; p=0.213 • 'Healthy' v. 'sweet' FU: 0.007, 95% CI: −0.077, 0.092; p=0.864 • 'Processed' v. 'healthy' FU: 0.001, 95% CI: −0.037, 0.038; p=0.982 • 'Sweet' v. 'healthy' FU: 0.019, 95% CI: −0.004, 0.081; p=0.539 FFMIzΔ • 'Processed' v. 'Healthy' ref, T0: −0.004, 95% CI: −0.065, 0.056; p=0.893 • 'Sweet' v. 'Healthy' ref, T0: 0.013, 95% CI: −0.066, 0.091; p=0.752 • 'Processed' v. 'processed' FU: −0.043, 95% CI: −0.119, 0.032; p=0.262 • 'Sweet' v. 'processed' FU: −0.030, 95% CI: −0.184, 0.125; p=0.707 • 'Healthy' v. 'processed' FU: −0.038, 95% CI: −0.181, 0.105; p=0.601 • 'Processed' v. 'sweet' FU: −0.011, 95% CI: −0.123, 0.100; p=0.84	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		• 'Sweet' v. 'sweet' FU: 0.007, 95% CI: −0.089, 0.104; p=0.882 • 'Healthy' v. 'sweet' FU: −0.073, 95% CI: −0.240, 0.093; p=0.385 • 'Processed' v. 'healthy' FU: 0.011, 95% CI: −0.064, 0.085; p=0.78 • 'Sweet' v. 'healthy' FU: 0.006, 95% CI: −0.115, 0.128; p=0.919 WCzΔ • 'Processed' v. 'Healthy' ref, T0: 0.079, 95% CI: 0.022, 0.135; p=0.006 • 'Sweet' v. 'Healthy' ref, T0: 0.078, 95% CI: 0.006, 0.151; p=0.034 • 'Processed' v. 'processed' FU: 0.071, 95% CI: 0.001, 0.141; p=0.046 • 'Sweet' v. 'processed' FU: −0.015, 95% CI: −0.159, 0.129; p=0.842 • 'Healthy' v. 'processed' FU: 0.019, 95% CI: −0.113, 0.151; p=0.774 • 'Processed' v. 'sweet' FU: 0.172, 95% CI: 0.069, 0.275; p=0.001 • 'Sweet' v. 'sweet' FU: 0.127, 95% CI: 0.038, 0.216; p=0.005 • 'Healthy' v. 'sweet' FU: 0, 95% CI: −0.158, 0.158; p=0.998 • 'Processed' v. 'healthy' FU: 0.058, 95% CI: −0.011, 0.126; p=0.1 • 'Sweet' v. 'healthy' FU: 0.067, 95% CI: −0.045, 0.179; p=0.244	
Gasser, 2019 [43] Australia; Longitudinal Study of Australian Children (LSAC) Analytic N=2009 to 2014 **Selection data:** All participants enrolled in	**Age at Dietary Pattern:** 2 to 3y, B cohort; 4 to 5 y, K cohort by Wave (W) Dietary Score [Gasser 2017]: Positive: Vegetables; Fruits; Water; Milk products or alternatives; Negative: Fatty foods; Sweetened drinks; Sugary foods 'Healthy DP': Positive: fresh fruit, cooked vegetables and raw vegetables or salad in all	**Results at age(s)** 14 to 15y Dietary Score & BMIz, B cohort • W2, β: 0.01, 95% CI: -0.03, 0.04; p-trend=0.7 • W3, β: -0.02, 95% CI: -0.05, 0.02; p-trend=0.34 • W4, β: -0.01, 95% CI: -0.04, 0.02; p-trend=0.57 • W5, β: -0.03, 95% CI: -0.06, 0.01; p-	• Did not account for: n/a (all accounted for) • Derived dietary pattern scores for each child at each wave (0-1y B-Cohort; 4-5y K Cohort); **Funding**: Department of Social Services, Australian Institute of

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Australia's Medicare database	waves; water in most waves; dairy products and bread/toast in a few waves 'Unhealthy DP': Positive: savoury snacks and sweetened drinks in all waves; meat pies, hamburgers, hot dogs, sausages or sausage rolls, hot chips and fruit juice in most waves; sugary foods, diet drinks, energy drinks, coffee and soya milk products mainly in the later waves; Negative: water in six of the eleven waves **Method**: Index/Score and Factor/Cluster Analysis	trend=0.17 Healthy DP & BMIz, B cohort • W2, β: 0.01, 95% CI: -0.02, 0.05 ; p-trend=0.41 • W3, β: 0.02, 95% CI: -0.02, 0.05; p-trend=0.35 • W4, β: 0.01, 95% CI: -0.02, 0.05; p-trend=0.53 • W5, β: -0.03, 95% CI: -0.07, 0.02; p-trend=0.22 Unhealthy DP & BMIz, B cohort • W2, β: 0.02, 95% CI: -0.03, 0.06; p-trend=0.46 • W3, β: 0.01, 95% CI: -0.03, 0.05; p-trend=0.54 • W4, β: 0.02, 95% CI: -0.01, 0.05; p-trend=0.24 • W5, β: 0.01, 95% CI: -0.02, 0.05; p-trend=0.37 Dietary Score & Wt: Ht ratio, B cohort • W2, β: 0.00, 95% CI: -0.03, 0.03; p-trend=0.90 • W3, β: -0.02, 95% CI: -0.06, 0.01 ;p-trend=0.21 • W4, β: -0.03, 95% CI: -0.06, 0.00; p-trend=0.06 • W5, β: -0.04, 95% CI: -0.07, 0.00; p-trend=0.05 Healthy DP & Wt: Ht ratio, B cohort • W2, β: 0.01, 95% CI: -0.02, 0.04; p-trend=0.45 • W3, β: 0.00, 95% CI: -0.03, 0.03; p-trend=0.76 • W4, β: -0.03, 95% CI: -0.06, 0.01; p-trend=0.10	Family Studies, Australian Bureau of Statistics

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		• W5, β: -0.05, 95% CI: -0.08, -0.01; p-trend=0.007 Unhealthy DP & Wt: Ht ratio, B cohort • W2, β: 0.01, 95% CI: -0.03, 0.05; p-trend=0.62 • W3, β: 0.04, 95% CI: 0.00, 0.07; p-trend=0.03 • W4, β: 0.03, 95% CI: 0.00, 0.06; p-trend=0.03 • W5, β: 0.04, 95% CI: 0.00, 0.07; p-trend=0.03 Dietary Score & BMIz, K cohort • W2, β: 0.01, 95% CI: -0.02, 0.04; p-trend=0.55 • W3, β: 0.00, 95% CI: -0.03, 0.03; p-trend=0.84 • W4, β: 0.00, 95% CI: -0.02, 0.03; p-trend=0.83 • W5, β: 0.02, 95% CI: -0.02, 0.07; p-trend=0.36 Healthy DP & zBMI, K cohort • W2, β: -0.01, 95% CI: -0.04, 0.02; p-trend=0.47 • W3, β: -0.01, 95% CI: -0.04, 0.02; p-trend=0.42 • W4, β: 0.01, 95% CI: -0.02, 0.03; p-trend=0.52 • W5, β: 0.01, 95% CI: -0.03, 0.04; p-trend=0.73 Unhealthy DP & zBMI, K cohort • W2, β: 0.00, 95% CI: -0.03, 0.03; p-trend=0.93 • W3, β: 0.01, 95% CI: -0.02, 0.04; p-trend=0.61 • W4, β: 0.00, 95% CI: -0.03, 0.03; p-trend=0.88 • W5, β: 0.00, 95% CI: -0.05, 0.04; p-	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		trend=0.94 Dietary Score & Weight: Ht ratio, K cohort • W2, β: -0.01, 95% CI: -0.05, 0.02; p-trend=0.45 • W3, β: -0.03, 95% CI: -0.07, 0.01; p-trend=0.12 • W4, β: -0.01, 95% CI: -0.04, 0.02; p-trend=0.58 • W5, β: -0.03, 95% CI: -0.07, 0.01; p-trend=0.16 Healthy DP & Weight: Ht ratio, K cohort • W2, β: -0.01, 95% CI: -0.04, 0.02; p-trend=0.47 • W3, β: -0.02, 95% CI: -0.06, 0.02; p-trend=0.40 • W4, β: -0.03, 95% CI: -0.06, -0.00; p-trend=0.03 • W5, β: -0.05, 95% CI: -0.09, -0.00; p-trend=0.03 Unhealthy DP & Weight: Ht ratio, K cohort • W2, β: 0.03, 95% CI: -0.01, 0.07; p-trend=0.18 • W3, β: 0.04, 95% CI: -0.00, 0.08; p-trend=0.07 • W4, β: -0.03, 95% CI: -0.07, -0.00; p-trend=0.03 • W5, β: 0.00, 95% CI: -0.03, 0.04; p-trend=0.86	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
González, 2023 [44] Brazil; Uruguay; ENDIS & 2015-Pelotas-Birth Cohort Analytic N=6468; 2550 (ENDIS), 3918 (Pelotas) **Selection data:** Included those from ENDIS, who were <4 y at baseline; children with data on dietary intake & measured height/weight; Pelotas: children recruited at birth; included those with two BMI measurements	**Age at Dietary Pattern:** 2y (~25mo) UPF (Nova food classification system, group 4 [Monteiro, 2019]): Cookies; Packaged dairy deserts; Sweetened Drinks; Cookies; Processed Meat products **Method**: Index/Score Analysis: UP, Nova	**Results at age(s)** 4y (~48mo)**:** **Risk of Obesity:** UPF (baseline and current) & Incident Ob, RR: 1.02, 95% CI: 0.93, 1.12; p=0.680	• Did not account for: Physical activity, Race/Ethnicity ('Latin-American') • Diet assessed once via 24h recall (wave 1 ENDIS) or FFQ (wave 2 ENDIS, Pelotas); Misclassification possible due to different diet aassessment methods between waves & cohorts and UPF intake based on FFQ **Funding**: National Agency of Investigation and Innovation; Wellcome Trust; Conselho Nacional de Desenvolvimento Cientı´fico e Tecnolo´ gico-Brazil; Fundação de Amparo a Pesquisa do Estado do Rio Grande do Sul; Children's Pastorate

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Heerman, 2023 [45] United States; Cohort from the GROW RCT Analytic N=595 **Selection data:** Enrolled parent-child pairs qualified for at least one under-served population service (e.g., WIC), with normal to overweight/obesity (BMI b/n 50th and 95th %tile); spoke English/Spanish; telephone access; free of medical conditions precluding physical activity; lived/worked outside 5-mile radius of study centers	**Age at Dietary Pattern:** 4.3y, mean; 3y to 5y UPF (Nova food classification system, group 4 [Monteiro, 2019]), High (1300 kcal) vs. Low (300 kcal) e.g. Soft drinks; sweet or savoury packaged snacks; ice cream, chocolate, candies; massproduced packaged breads and buns; margarines and spreads; cookies, pastries and cake mixes; breakfast cereals and cereal/energy bars; milk, cocoa and fruit drinks; meat and chicken extracts and instant sauces; infant formulas, follow-on milks and other baby products; ready-to-heat/eat products and dishes (pies, pasta, pizza, desserts); processed meats and sausages; packaged soups and noodles; flavoured and/or artificial sweetened yoghurt **Method**: Index/Score Analysis	**Results at age(s)** ~ 6 to 8y (36 mos FU) High v. low UPF & zBMI • Only 3y olds: 1.2, 95% CI: 0.5, 1.9; p<0.001 • Only 4y olds: 0.6, 95% CI: 0.2, 1.0; p=0.007 • Only 5y olds: -0.1, 95% CI: -0.6, 0.4; p=0.7 • In all, mean age 4.3y: 0.4, 95% CI: -0.02, 0.7; p=0.07	• Did not account for: Anthropometry at baseline (tested BMIz); • Diet assessed at baseline only via 24-h-recall; mean daily calories from UPF in sample >60% **Funding**: NHLBI

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Hu, 2016 [46] United States; Project EAT Analytic N=2656 **Selection data:** Excluded those with missing data	**Age at Dietary Pattern:** 15 y a priori diet quality score, APQDS, pediatric [Hu, 2016]: Positive: Green Vegetables, Tomato, Yellow Vegetables; Legumes; Fruit; Nuts; Whole Grains; Fish; Poultry; Low-Fat Dairy; Oil; Chocolate, Tea, Coffee; Negative: Fried potatoes; Red Meat, Liver, Processed Meat; Whole-Fat Dairy; Desserts; Soft drinks; Butter; Fried Foods; Sauces; Salty Snacks; Neutral: Other vegetables; Potatoes; Fruit Juices; Refined Grains; Seafood; Eggs; Margarine; Diet soft drinks **Method**: Index/Score Analysis	**Results at age(s)** age ~15-25y; F/U: 5y, 10y; APDQS and: • BMI 5y f/u: −0.23, 95 % CI: −0.36,−0.11; p<0.001 • BMI 10y f/u: −0.47, 95 % CI: −0.72,−0.22; p<0.001 • Weight 5y f/u: −0.8, 95 % CI: −1.2, −0.4; p<0.001 • Weight 10y f/u:−1.5, 95 % CI: −2.3,−0.7; p<0.001 ΔAPDQS and: • BMI, age 15-20y: −0.33, 95 % CI: −0.56, −0.10; p=0.005 • BMI, age 20-25y: −0.62, 95 % CI: −0.82, −0.41; p<.001 • BMI, age 15-25y: −0.53, 95 % CI: −0.69, −0.36; p<.001 • Weight, age 15-20y: −1.8, 95 % CI: −2.5,−1.1; p<0.001 • Weight, age 20-25y: −1.7, 95 % CI: −2.3,−1.1; p<0.0	• Did not account for: n/a (all accounted for) • Self-reported outcome data; Did not account for missing data **Funding**: National Heart, Lung, and Blood Institute; National Institute on Aging; NIH

Johnson, 2008[47]
United Kingdom; Avon Longitudinal Study of Parents and Children (ALSPAC)

Analytic N=521 (DP age 5y); 628 (DP age 7y)

Selection data:
Excluded those with incomplete data

Age at Dietary Pattern: 5y; 7y

DP age 5y (top 10 components in rank): Positive for low-fiber bread; crisps and savory snacks; chocolate and confectionery; high-fat milk and cream; cheese and cheese dishes; Negative for fresh fruit; vegetables; potatoes boiled or baked; high-fiber bread; high-fiber breakfast cereals

DP age 7y (top 10 components in rank): Positive for crisps and savory snacks; chocolate and confectionery; low-fiber bread; biscuits and cakes; processed meat; Negative for fresh fruit; vegetables; high-fiber breakfast cereals; potatoes boiled or baked; high-fiber bread

Method: RRR

Results at age(s) 9y**:**

DP age 5y and:
- OW/Ob % Q1, 10; Q2, 12; Q3, 20; Q4, 20; Q5, 19; p=0.28
- BMI
  - Q1, 16.8, 95% CI: 15.8, 18.5
  - Q2, 16.5, 95% CI: 15.8, 19.4
  - Q3, 17.1, 95% CI: 15.9, 19.3
  - Q4, 17.3, 95% CI: 15.6, 19.2
  - Q5, 17.1, 95% CI: 15.7, 19.1
  - p=0.63
- Excess adiposity, per quintile: OR: 1.26, 95% CI: 1.03, 1.57; Q1, 13; Q2, 21; Q3, 20; Q4, 22; Q5, 22; p=0.13
- FM, per-SD: B: 0.14, 95% CI: -0.15, 0.45, p=0.34
  - Q1, 6.5, 95% CI: 4.6, 9.8
  - Q2, 6.3, 95% CI: 5.2, 11.1
  - Q3, 8.4, 95% CI: 4.7, 11.3
  - Q4, 7.4, 95% CI: 5.3, 10.9
  - Q5, 7.5, 95% CI: 4.2, 10.0
  - p=0.32
- FMI
  - Q1, 0.98, 95% CI: 0.72, 1.41
  - Q2, 0.99, 95% CI: 0.70, 1.62
  - Q3, 1.04, 95% CI: 0.73, 1.56
  - Q4, 1.07, 95% CI: 0.78, 1.60
  - Q5, 1.10, 95% CI: 0.69, 1.58
  - p=0.24
- BF%
  - Q1, 20.0, 95% CI: 15.1, 26.7
  - Q2, 20.8, 95% CI: 14.7, 29.3
  - Q3, 23.2, 95% CI: 15.9, 29.2
  - Q4, 23.5, 95% CI: 17.7, 28.6
  - Q5, 22.2, 95% CI: 15.0, 27.9
  - p=0.20

DP age 7y and:
- OW/Ob %: Q1, 16; Q2, 18; Q3, 20; Q4, 23; Q5, 22; p=0.16

- Did not account for: Race/Ethnicity (UK birth-cohort), Physical activity,
- Diet assessed by parent using 3d unweighed food records at age 5y and 7y

Funding: Medical Research Council (MRC) Human Nutrition Research; the Unit of Paediatric and Perinatal Epidemiology, Department of Social Medicine, University of Bristol

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		• Excess adiposity, per quintile: OR: 1.43, 95% CI: 1.18, 1.73; Q1, 13; Q2, 18; Q3, 20; Q4, 26; Q5, 23; p=0.01 • BMI ○ Q1, 17.1, 95% CI: 15.8, 18.7 ○ Q2, 16.8, 95% CI: 15.8, 19.1 ○ Q3, 17.3, 95% CI: 15.8, 19.0 ○ Q4, 17.1, 95% CI: 15.7, 19.5 ○ Q5, 17.3, 95% CI: 15.8, 19.5 ○ p=0.35 • FM, per-SD: B: 0.23, 95% CI: 0.002, 0.47, p=0.04 ○ Q1, 7.3, 95% CI: 4.6, 10.3 ○ Q2, 7.1, 95% CI: 5.2, 10.4 ○ Q3, 7.2, 95% CI: 4.5, 10.9 ○ Q4, 7.8, 95% CI: 4.6, 11.1 ○ Q5, 7.7, 95% CI: 5.1, 11.4 ○ p=0.40 • FMI ○ Q1, 1.03, 95% CI: 0.70, 1.42 ○ Q2, 1.01, 95% CI: 0.77, 1.54 ○ Q3, 1.00, 95% CI: 0.72, 1.62 ○ Q4, 1.11, 95% CI: 0.76, 1.71 ○ Q5, 1.17, 95% CI: 0.80, 1.61 ○ p=0.04 • BF% ○ Q1, 22.5, 95% CI: 15.3, 28.0 ○ Q2, 21.9, 95% CI: 16.9, 28.9 ○ Q3, 22.0, 95% CI: 15.0, 29.0 ○ Q4, 23.9, 95% CI: 15.4, 30.0 ○ Q5, 23.6, 95% CI: 17.1, 30.5 ○ p=0.18	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Krijger, 2021 [48] Netherlands; Amsterdam Born Children and their Development (ABCD) Analytic N=869 **Selection data:** Excluded those with missing data; congenital CVD; used drugs intervening with CVD factors	**Age at Dietary Pattern:** 5 to 6y DASH score [Fung, 2008]: Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages CDQS [van der Velde, 2019]: Positive: fruits, vegetables, whole grains, fish, legumes, nuts, dairy, oils and soft liquid fats. Negative: sugar-containing beverages and processed meat **Method**: Index/Score Analysis	**Results at age(s)** 11 to 12y**:** DASH & OW: OR: 0.87, 95% CI: 0.73, 1.05; p = 0.159 CDQS & OW: OR: 0.86, 95% CI: 0.72, 1.04; p = 0.113 DASH & BMI • Q1: 18.00 (0.14) • Q2: 17.96 (0.14) • Q3: 17.79 (0.16) • Q4: 17.61 (0.15) • Q5: 17.65 (0.17) • p = 0.016 CDQS & BMI • Q1: 18.12 (0.15) • Q2: 17.77 (0.15) • Q3: 17.77 (0.15) • Q4: 17.85 (0.14) • Q5: 17.56 (0.16) • p = 0.036 DASH & WC • Q1: 63.6 (0.4) • Q2: 63.5 (0.4) • Q3: 62.9 (0.4) • Q4: 62.7 (0.4) • Q5: 62.6 (0.5) • p = 0.028 CDQS & WC • Q1: 63.7 (0.4) • Q2: 63.0 (0.4) • Q3: 63.4 (0.4) • Q4: 62.8 (0.4) • Q5: 62.7 (0.5) • p = 0.066	• Did not account for: Race/Ethnicity (75% Dutch) • Sensitivity analyses: Excluding EI = diet and TG, NS for DASH (p = 0.069) & CDQS (p = 0.096); Inverse: CDQS & WC (p = 0.033) and DBP (p = 0.042). • Excluding maternal ed. = NS for DASH; Inverse: CDQS & WC (p = 0.013) and DBP (0.031) **Funding**: Netherlands Organization for Health Research and Development, The Dutch Heart Foundation and Sarphati Amsterdam.

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Lioret, 2014 [50] Australia; Resilience for Eating and Activity Despite Inequality (READI) Analytic N=216 **Selection data:** Enrolled only those living in socioeconomically-disadvantaged areas; Excluded those with missing data/LFU	**Age at Dietary Pattern:** 5 to 12y, mean 9.1y Dietary Guideline Index for Children and Adolescents (DGI-CA): Fruit/100% fruit juice, vegetables and legumes, breads and cereals, wholegrain bread relative to total, meat and alternatives (excluding processed meat); dairy products: reduced- or low-fat dairy, water as a beverage, healthy fats: total fats, <3/d 'extra foods' **Method**: Index/Score Analysis	**Results at age(s)** F/U: 3y (age ~8 to 15y, ~12)**:** DGI-CA at T1 & zBMI at T2: 0.004, 95% CI: −0.003; 0.01; p=0.28 • Larger decrease in DQI, ref 0 • Smaller decreasei in DQI, −0.09, 95% CI: −0.24; 0.07 • Increase in DQI, −0.10, 95% CI: −0.27; 0.07 • P-trend=0.26 Effects were unchanged when stratified by age, sex, maternal education, or PA	• Did not account for: Race/Ethnicity • Diet assessed at T1 and T2 with FFQ and validated index **Funding**: National Health and Medical Research Council
Luque, 2021 [51] Germany, Belgium, Italy, Poland, and Spain; CHildhood Obesity Project (EU CHOP) trial Analytic N=399 **Selection data:** Excluded those with incomplete diet /anthropometry data; moved from study region; illness or medication interfering with growth; lost contact; refusal	**Age at Dietary Pattern:** 2 y; 8y 'Core Foods Pattern': Higher intakes of fruit, vegetables, potatoes, fish, white and red meat, and olive oil 'Poor-Quality Fats and Sugars': Positively associated with intakes of potatoes, soft cheese, saturated spreads, fruit juices, and teas and negatively associated with intakes of fish and olive oil 'Protein Sources': Vegetables, potatoes, white meat, red meat, processed fish, eggs, chips and snacks, flavored milk **Method**: Factor/Cluster Analysis	**Results at age(s)** 8y**:** • Core': β: 0.21, 95% CI: 0.06, 0.35; p=0.006 • 'Protein': β: 0.13, 95% CI: -0.04, 0.30; p=0.131 • 'Fats and Sugars': β: -0.10, 95% CI: -0.27, 0.07; p=0.230	• Did not account for: Race/Ethnicity, Physical activity • Diet assessed at age 2y and 8y; Correlated intakes between 2y & 8y **Funding**: 5th-7th Framework Program, European Union's Horizon 2020 research and innovation programe

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Marinho, 2022 [52] Portugal; Generation XXI Analytic N=3575 **Selection data:** Excluded those that were pre-term children, children with dz influencing dietary intake and other congenital anomalies, children with characteristics that influence cognitive assessment, and missing data	**Age at Dietary Pattern:** 4y ‘ Energy-dense foods’ (EDF): high intakes of sweets, sugar-sweetened beverages, savory pastry, and processed meat. 'Snacking': lower in foods usually consumed at lunch and dinner (e.g., vegetables on a plate, fish, meat, rice/pasta/potatoes), higher in intermediate foods typically eaten at snacking occasions 'Healthier': higher consumption of fruit, vegetables, vegetable soup, and fish, with a lower consumption of EDF **Method**: Latent Class Analysis	**Results at age(s)** 10y**:** Mediation Analysis, of 'EDF' – WWr • Full Scale IQ: β: 0.032, 95% CI: -0.015, 0.082 • Performance IQ: β: 0.032, 95% CI: -0.017, 0.079 • Verbal IQ: β: 0.032, 95% CI: -0.017, 0.087 • Processing Speed IQ: β: 0.032, 95% CI: -0.021, 0.092 'Snacking'- WWr • Full Scale IQ: β: 0.054, 95% CI: -0.005, 0.116 • Performance IQ: β: 0.054, 95% CI: -0.006, 0.119 • Verbal IQ: β: 0.054, 95% CI: -0.012, 0.119 • Processing Speed IQ: β: 0.054, 95% CI: -0.012, 0.113	• Did not account for: Anthropometry at baseline, Age, Race/Ethnicity (100% Portuguese birth cohort) • Indirectly designed for mediation analysis on IQ **Funding**: Health Operational Programme Saúde XXI, Community Support Framework III; Regional Department of Ministry of Health, Calouste Gulbenkian Foundation, by FEDER Operational Programme Factors of Competitiveness, Epidemiology Research Unit
Marks, 2015 [53] Australia; n/a Analytic N=243 **Selection data:** Enrolled schools from bottom-SES strata	**Age at Dietary Pattern:** 11 to 13y, mean 12.2y Non-core food score [Marks, 2015]: Positive: potato chips or a similar snack; chocolate; lollies (candy); muesli or fruit bars; savory biscuits; sweet biscuits; ice cream; hot chips (french fries); pies, pasties, or sausage rolls; hot dogs; pizza **Method**: Index/Score Analysis	**Results at age(s)** mean, 12.7y (F/U 1y)**:** Non-core food & OW/Ob Mean difference: -0.6, 95% CI: -1.7 to 0.5; p=0.26	• Did not account for: Anthropometry at baseline (within outcome), Physical activity, SEP all from bottom 2 SES strata) • Indirectly designed for obesity-related behaviors and change of school (not DP) **Funding**: Windermere Foundation

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Martin-Calvo, 2016 [54] United States; Growing Up Today Study 2 Analytic N=10918 **Selection data:** Excluded those with missing data	**Age at Dietary Pattern:** 8 to 15 y modified KIDMED, m-KIDMED [Serra-Majem, 2004]: Positive: Fruit or fruit juice, vegetables, fish, legumes, modified cereals/bread, nuts, olive oil, reduced- or low-fat dairy, yogurt/cheese; specified frequency or amounts/d/wk; Negative: fast food >1/wk, skipping breakfast, commercial bakery as breakfast, candies/sweets ≥ 1/d **Method**: Index/Score Analysis	**Results at age(s)** F/U over 7y, ~ age 15 to 23y Δ BMI after 7y f/u • Q1, ref, 0 • Q2, 0.01, 95% CI: −0.09, 0.11; p=-0.89 • Q3, − 0.09, 95% CI: −0.17, − 0.00; p=0.05 • Q4, − 0.11, 95% CI: −0.19, − 0.03; p=0.005 • p-trend=0.11	• Did not account for: Race/ethnicity, SEP • Self-reported outcome data; Did not account for missing data **Funding**: Breast Cancer Research Foundation; NIH
McCourt, 2014 [55] Ireland; Young Hearts I & III Analytic N=487 **Selection data:** NR	**Age at Dietary Pattern:** 12 to 15y Mediterranean Diet Score (MDS) [Trichopolou 2003]: Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol **Method**: Index/Score Analysis	**Results at age(s)** 20 to 25y**:** MDS & BMI, mean [SD] • Least-least adherent: 23.9[3.9] • Least-most adherent: 23.3[3.3] • Most-least adherent: 24.4[3.7] • Most-most adherent: 24.5[3.9] • p=0.16 ΔMDS & ΔBMI YH1-YH3, mean [SD] • Least-least adherent: 4 [3] • Least-most adherent: 3.8 [2.6] • Most-least adherent: 3.7 [3] • Most-most adherent: 3.5 [3] • p=0.688 MDS & WC, mean [SD] • Least-least adherent: 78.5[10.8] • Least-most adherent: 77.1[9.4] • Most-least adherent: 79.9[10.1] • Most-most adherent: 80.4[10.8] • p=0.218	• Did not account for: Race/Ethnicity (Irish) • Diet assessed with 7d diet Hx at multiple time points **Funding**: YHI: Northern Ireland Chest, Heart and Stroke Association and the Department of Health and Social Services; YHIII: Wellcome Trust, British Heart Foundation.

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Nguyen, 2020 [10] Netherlands; Generation R Study Analytic N=3991 **Selection data:** Enrolled participants at birth; Excluded those with missing FFQ or outcome data	**Age at Dietary Pattern:** 8 y Children's Diet Quality (DQ) Score (CDQS) [van der Velde, 2018]: Positive: Vegetables; Fruit; Nuts; Legumes; Whole grains; Dairy; Fish; Oils and fats; Negative: High-fat and processed meats; Sugar-containing beverages **Method**: Index/Score Analysis	**Results at age(s)** 10y**:** • BMI, β: 0.02, 95% CI: -0.003, 0.04; When stratified by sex, results were only significant in girls • FMI, β: -0.001, 95% CI: -0.03, 0.02 • FFMI, β: 0.06, 95% CI: 0.04, 0.09 • %BF, β: -0.02, 95% CI: -0.04, 0.01; Similar results when stratified by sex • Weight, β: 0.04, 95% CI: 0.01, 0.06; When stratified by sex, results were only significant in girls	• Did not account for: Anthropometry at baseline (Excluding those with baseline Ob/OW yielded similar results) • Previously reported results with outcomes at age 6 y; Excluding children with baseline Ob/OW yielded similar results; Excluding individual DQ components yielded similar results; Analyses of only Dutch children yielded similar results; Effect estimates with DQ at 8 y were generally higher in girls compared to boys **Funding**: Erasmus Medical Center (EMC) Erasmus University Rotterdam(EUR); the Netherlands Organization for Health Research and Development

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Notario-Barandiaran, 2020 [56] Spain; INMA Analytic N=1527 **Selection data:** Excluded those without data on BMI, diet, and variables of interest at age 4 and/or age 8 y	**Age at Dietary Pattern:** 4y relative Mediterranean Diet Score (rMED) [Buckland 2009]: Positive: Vegetables (not potatoes); Legumes; Fruit, Nuts, and Seeds (not juice); Whole Grains, Refined Flour, Pasta, Rice, Bread, Grains; Fish; Olive Oil. Negative: Total and Processed Meat. (excluded alcohol due to age group) **Method**: Index/Score Analysis	**Results at age(s)** 8y**:** OW, low as ref • Medium, PR: 0.79, 95% CI: 0.55, 1.13; p-trend=0.200 • High, PR: 0.38, 95% CI: 0.21, 0.67; p-trend=0.001 • Per 2 pt, PR: 0.88, 95% CI: 0.78, 1.00; p-trend=0.047 Ob, low as ref • Medium, PR: 0.92, 95% CI: 0.53, 1.59; p-trend=0.776 • High, PR: 0.16, 95% CI: 0.05, 0.53; p-trend=0.002 • Per 2 pt, PR: 0.80, 95% CI: 0.66, 0.97; p-trend= 0.026 Abdominal obesity, low as ref • Medium, PR: 1.01, 95% CI: 0.58, 1.73; p-trend=0.982 • High, PR: 0.30, 95% CI: 0.12, 0.73; p-trend=0.008 • Per 2 pt, PR: 0.82, 95% CI: 0.68, 0.99; p-trend=0.041	• Did not account for: Anthropometry (adjusted for SGA); Race/Ethnicity, Physical activity • Adjusted for SGA by Weight, but not anthropometry at baseline; Diet assessed with validated FFQ at age 4y only (baseline) **Funding**: Instituto de Salud; Carlos III, Spanish Ministry of Health; University of Oviedo, Conselleria de Sanitat Generalitat Valenciana, Generalitat de Catalunya-CIRIT 1999SGR; Generalitat de Catalunya-AGAUR; Department of Health of the Basque Government; the Pro

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Oellingrath, 2017 [57] Norway; n/a Analytic N=393 **Selection data:** NR	**Age at Dietary Pattern:** 12 to 13y, mean 12.7 'junk convenient', characterised by high-energy processed fast foods, refined grains, cakes and sweets; 'varied Norwegian', characterised by food items typical of a traditional Norwegian diet, including fruits and vegetables, brown bread, fish, water and regular breakfast and lunch, close to official nutritional guidelines; 'snacking', characterised by sugar-rich snack items and drinks, low intake of vegetables and brown bread, low frequency of breakfast and dinner and high frequency of eating between meals; 'dieting', characterised by foods and drinks often associated with weight control, like artificial sweetened drinks and other 'light' products **Method**: Factor/Cluster Analysis	**Results at age(s):** ~ 15 to 16y, F/U 3y OW at 10th grade, in those "normal weight" at baseline (T1 ref) • 'Junk Convenient', T2+T3, OR: 0.9, 95% CI: 0.4, 2.3 • 'Norwegian', T2+T3, OR: 0.8, 95% CI: 0.3, 1.9 • 'Snacking', T2+T3, OR: 0.8, 95% CI: 0.3, 2.0 • 'Dieting', T2+T3, OR: 1, 95% CI: 0.4, 2.5 OW at 10th grade, in those "OW" at baseline (T1 ref) • 'Junk Convenient, T2+T3, OR: 2.2, 95% CI: 0.6, 8.6 • 'Norwegian', T2+T3, OR: 0.5, 95% CI: 0.1, 2.0 • 'Snacking', T2+T3, OR: 1.4, 95% CI: 0.4, 5.1 • 'Dieting', T2+T3, OR: 1, 95% CI: 0.2, 5.1	• Did not account for: Race/Ethnicity (Norwegian) • Diet assessed with valid FFQ at 7th and 10th grade; DP combined with PA reduced odds of OW, but only in those already OW **Funding**: Research Council of Norway and the Public Health Programme for Telemark
Okubo, 2015 [11] United Kingdom; Southampton Women's Survey Analytic N=1018 **Selection data:** Excluded those with missing data	**Age at Dietary Pattern:** 3y ' Prudent' (DQ score): Fish and shellfish, vegetables (salad, green, root other), other fruits **Method**: Factor/Cluster Analysis	**Results at age(s)** 6y OW/Ob: RR: 0.97, 95% CI: 0.89, 1.06; p-trend=0.55 BMIz at 6y • T1, B: 0.07, 95% CI: −0.15, 0.29 • T2, B: 0.02, 95% CI: −0.18, 0.23 • T3, ref • p=0.025 • per-unit, B: -0.06, 95% CI: -0.15, 0.04 FM at 6y • T1, B: 0.23, 95% CI: 0.01, 0.45 • T2, B: 0.01, 95% CI: −0.20, 0.21 • T3, ref • p=0.01 per-unit, B: -0.12, 95% CI: −0.22, -0.02	• Did not account for: Anthropometry (adjusted for Ht), Race/ethnicity, SEP **Funding**: Medical Research Council, the British Heart Foundation, Arthritis Research United Kingdom, the National Osteoporosis Society, the International Osteoporosis Foundation, the Cohen Trust, the National Institute for Health Research Southampton Biomedical Research

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Pala, 2013 [58] Italy, Estonia, Cyprus, Belgium, Sweden, Hungary, Germany, Spain; IDEFICS (Identification and prevention of Dietary- and lifestyle-induced health EFfects In Children and infantS) study Analytic N=9427 **Selection data:** Excluded those with missing data	**Age at Dietary Pattern:** 2 to 10 y 'Snacking': Street foods (e.g., sandwiches), savory pastries, chocolate bars 'Sweet': Chocolate spreads, biscuits and sweets/candy, fried meat, soft drinks 'Vegetables and Wholemeal': Vegetables, fruits, wholemeal cereal products, unsweetened milk 'Protein and Water': Fish, meat, eggs, water **Method**: Factor/Cluster	**Results at age(s)** 4 to 12y Risk OW/Ob 'Snacking' T1, ref 1 • T2, OR: 1.09, 95% CI: 0.88, 1.35 • T3, OR: 1.18, 95% CI: 0.91, 1.52; p-trend=0.22 • per-unit, OR: 1.03, 95% CI: 0.97, 1.09 'Sweet and fat' T1, ref 1 • T2, OR: 1.08, 95% CI: 0.88, 1.33 • T3, OR: 0.97, 95% CI: 0.77, 1.22; p-trend=0.74 • per-unit, OR: 1.01, 95% CI: 0.95, 1.07 'Vegetables and wholemeal' T1, ref 1 • T2, OR: 0.76, 95% CI: 0.62, 0.94 • T3, OR: 0.69, 95% CI: 0.54, 0.88; p-trend=0.003 • per-unit, OR: 0.93, 95% CI: 0.87, 0.99 'Protein and water' T1, ref 1 • T2, OR: 1, 95% CI: 0.80, 1.25 • T3, OR: 0.95, 95% CI: 0.74, 1.23; p-trend=0.59 • per-unit, OR: 1, 95% CI: 0.93, 1.06 Δ BMI after 2y f/u • Snacking' ○ T1, mean Δ: 0.73 ○ T2, mean Δ: 0.76; p=0.51 ○ T3, mean Δ: 0.78; p=0.35 ○ p-trend=0.36 • 'Sweet and fat' ○ T1, mean Δ: 0.73 ○ T2, mean Δ: 0.76; p=0.55 ○ T3, mean Δ: 0.78; p=0.26 ○ p-trend=0.26 • 'Vegetables and wholemeal' ○ T1, mean Δ: 0.80 ○ T2, mean Δ: 0.73; p=0.04 ○ T3, mean Δ: 0.74; p=0.11	• Did not account for: Race/ethnicity (Country) • Diet measured once at baseline; Water intake was imputed; Did not account for missing data **Funding**: European Community's Sixth RTD Framework Programme

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		○ p-trend=0.18 • 'Protein and water' ○ T1, mean Δ: 0.73 ○ T2, mean Δ: 0.74; p=0.19 ○ T3, mean Δ: 0.80; p=0.16 ○ p-trend=0.11	
Pinto, 2021 [60] Portugal; Generation XXI Analytic N=4698 **Selection data:** Excluded twins, no diet or other variables of interest, lack of f/up, incomplete data	**Age at Dietary Pattern:** 7 y regression analysis (no label): yogurt, cheese, bread, cakes, carbonated soft drinks 'Western': positively associated with sugary drinks, candies, sweets, and salty snacks; negatively associated with fishery, vegetable soup, and fruits 'DASH diet based': positively associated with fruits and vegetables, fishery, and dairy 'energy-dense foods': positively associated with ice cream, cheese, sausage, ham, bread, cakes, coffee, coke, carbonated and noncarbonated soft drinks; negatively associated with whole milk and vegetable soup 'fish based': positively associated with fishery; negatively associated with more energy dense food **Method**: Factor/Cluster	**Results at age(s)** 10y zBMI • regression analysis (no label): β=0.168, 95% CI: 0.088, 0.248 • 'western': β=0.023, 95% CI: 0.006, 0.040 • 'DASH diet based': β=0.004, 95% CI: -0.012, 0.021 • 'energy-dense foods': β=0.032, 95% CI: 0.017, 0.047 • 'fish based':β=-0.001, 95% CI: -0.012, 0.011	• Did not account for: Race/Ethnicity (100% Portugese-birth cohort) • Effects remained unchanged in additional analyses by sex and energy intake; 'energy-dense foods' DP was more likely among children from younger and less educated mothers and/or children who were born heavier and did not practice regular PA at age 7y. **Funding**: Generation XXI: Health Operational Programme Saúde XXI, Community Support Framework III, Regional Department of Ministry of Health; the study: FEDER Operational Programme Factors of Competitiveness Foundation for Science and Technology (Portuguese Ministry of Education and Science), Calouste Gulbenkian Foundation

Rashid, 2020 [61]
Netherlands; Amsterdam Born Children and their Development (ABCD)

Analytic N=1765

Selection data:
Excluded those with multiple pregnancy, LFU, non-response; lack of or invalid FFQ; did not attend 10 y health check

Age at Dietary Pattern: 5 y

‘Snacking': Sweet and savory snacks, refined breakfast products, and low intakes of whole grain breakfast products

'Full-fat': Full-fat spreads and pasta dishes and low intakes of low-fat spreads

'Meat': Low and high fat meat, sauces and refined grain products for warm meals

'Healthy pattern': Water and tea, vegetables, fish, and fruits

Method: Factor/Cluster

Results at age(s) 10y**:**

By Ethnicity
'Snacking'
- Dutch: β: -0.047, 95% CI: -0.102, 0.008
- African Sur: β: -0.096, 95% CI: -0.345, 0.152
- Turkish: β: 0.203, 95% CI: -0.209, 0.615
- Moroccan: β: -0.093, 95% CI: -0.356, 0.171
- Other: β: -0.025, 95% CI: -0.154, 0.104

'Full-fat'
- Dutch: β: -0.069, 95% CI: -0.114, -0.024
- African Sur: β: 0.150, 95% CI: -0.090, 0.390
- Turkish: β: -0.165, 95% CI: -0.486, 0.155
- Moroccan: β: 0.125, 95% CI: -0.168, 0.417
- Other: β: -0.130, 95% CI: -0.285, 0.025

'Meat'
- Dutch: β: 0.020, 95% CI: -0.027, 0.066
- African Sur: β: -0.033, 95%CI: -0.245, 0.180
- Turkish: β: 0.272, 95% CI: -0.091, 0.155
- Moroccan: β: 0.080, 95% CI: -0.163, 0.324
- Other: β: 0.030, 95% CI: -0.101, 0.161

'Healthy'
- Dutch: β: 0.092, 95% CI: 0.047, 0.137
- African Sur: β: -0.014, 95% CI: -0.264, 0.237
- Turkish: β: 0.221, 95% CI: -0.190, 0.632
- Moroccan: β: 0.259, 95% CI: 0.002, 0.516
- Other: β: 0.047, 95% CI: -0.122, 0.216

By SES

- Did not account for: Physical activity
- Diet assessed only at age 5y (baseline); FFQ validated for Dutch but not other ethnicities studied; Examined different ethnicities within a Dutch population
- Results were independent of energy intake; Sensitivity analyses were mainly NS with no clear pattern by BMI category

Funding: Netherlands Organisation for Scientific Research; ABCD study supported by Academic Medical Centre, The Netherlands and Public Health Service

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		• Low/middle SES ○ 'Snacking': β: 0.019, 95% CI: -0.071, 0.108 ○ 'Full-fat': β: -0.062, 95% CI: -0.147, 0.023 ○ 'Meat': β: 0.042, 95% CI: -0.045, 0.128 ○ 'Healthy': β: 0.094, 95% CI: 0.008, 0.179 • High SES: ○ 'Snacking': β: -0.081, 95% CI: -0.136, -0.025 ○ 'Full-fat': β: -0.072, 95% CI: -0.119, -0.026 ○ 'Meat': β: 0.013, 95% CI: -0.033, 0.059 ○ 'Healthy': β: 0.096, 95% CI: 0.047, 0.143	
Saldanha-Gomes, 2017 [62] France; EDEN Analytic N=883 **Selection data:** Excluded those with multiple pregnancy, diabetes Hx, French illiteracy, plans to move	**Age at Dietary Pattern:** 2 y 'Guidelines': high frequency of cooked vegetables, rice, fruits, raw vegetables, low fat fish, potatoes, ham, compotes, meat, and bread 'Processed, fast foods': high freqency of French fries, processed meat, carbonated soft drinks, crisps, biscuits, pizzas, fruit juices, dairy puddings and ice cream, legumes, and bread; low in cooked vegetables **Method**: Factor/Cluster - UP?	**Results at age(s)** 5y**:** Processed, fast-food' • ♂ BMI -0.04, 95% CI: -0.11, 0.04; P=0.364 • ♀ BMI 0.08, 95% CI: -0.01, 0.17; P=0.099 'Guidelines' • ♂ BMI -0.01, 95% CI: -0.09, 0.07; P=0.81 • ♀ BMI -0.07, 95% CI: -0.16, 0.02; P=0.12 'Processed, fast-food' • ♂ BF% 0.02, 95% CI: -0.20, 0.25; P=0.829 • ♀ BF% 0.19, 95% CI: -0.08, 0.46; P=0.176 'Guidelines' • ♂ BF% 0.00, 95% CI: -0.22, 0.22; P=0.97 • ♀ BF% -0.21, 95% CI: -0.47, 0.06; P=0.12	• Did not account for: Race/Ethnicity • Diet assessed at age 2y only via FFQ; Complete-case analysis produced similar/consistent results as main findings; EDEN participants generally higher SEP than rest of France **Funding**: Foundation for Medical Research, National Agency for Research, National Institute for Research in Public Health, French Ministry of Health, French Ministry of Research, INSERM Bone and Joint Diseases National Research, Human Nutrition National Research

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Saldanha-Gomes, 2022 [63] France; EDEN Analytic N=1138 **Selection data:** Excluded children who died, dropped out, 2y questionnaire not returned, age at adiposity rebound not calculable	**Age at Dietary Pattern:** 2 y 'Processed and fast foods': high intakes of French fries, processed meat, carbonated soft drinks, crisps, biscuits, pizzas, fruit juices, dairy puddings and ice cream, legumes and bread and lower in cooked vegetables. 'Nutrient-dense foods': high intake of cooked vegetables, rice, fruits, raw vegetables, low fat fish, potatoes, ham, compotes, meat and bread. **Method**: Factor/Cluster	**Results at age(s)** 5.5y, mean Adiposity rebound (AR) (dichotomous; 3.8y boys/3.6y girls) • 'Processed and fast foods': OR: 1.23, 95% CI: 1.00, 1.50; p=0.05 • 'Nutrient-dense foods': OR: 0.93, 95% CI: 0.76, 1.15; p=0.51 AR (continuous) • 'Processed and fast foods': β: -24, 95% CI: -55, 8); p=0.14 • 'Nutrient-dense foods': β: 12, 95% CI: -18, 42; p=0.43	• Did not account for: Race/Ethnicity • Diet assessed at age 2y only via FFQ; EDEN participants generally higher SEP than rest of France **Funding**: Foundation for medical research, National Agency for Research, National Institute for Research in Public Health, French Ministry of Health, French Ministry of Research, INSERM Bone and Joint Disease National Research, Human Nutrition National Research Pro

Santos, 2019 [15]
Brazil; Pelotas Birth Cohort Study

Analytic N=3374

Selection data:
Excluded those missing BMI at 6 y or LFU

Age at Dietary Pattern: 2y, 4y

at 2 y

- 'Milks': positive for breast milk, negative for cow's milk
- 'Staple': positive for rice and beans, negative for pasta
- 'Beverages': positive for juice, negative for water and tea
- 'Snacks': positive for coffee, bread, cookies, negative for yogurt
- 'Meat and vegetables': positive for meats, vegetables, legumes, potato and cassava, and fruits

at 4 y

- 'Milks': positive for cow's milk and chocolate powder
- 'Staple': positive for rice, beans, and meat
- 'Beverages': positive for juice, negative for soft drinks
- 'Snacks': positive for coffee, bread and cookies, and water and tea, negative for yogurt and soft drinks
- 'Treats': positive for crisps, sweets, and chocolate

Method: Factor/Cluster

Results at age(s) 6y

Milks, 2y & zBMI, T1, β=1, ref
- T2, β= -0.03, 95% CI: -0.16, 0.09
- T3, β= 0.06, 95% CI: -0.08, 0.21
- p-trend = 0.451

Staple, 2y & zBMI, T1, β=1, ref
- T2, β= 0.09, 95% CI: -0.04, 0.22
- T3, β= 0.11, 95% CI: -0.02, 0.24
- p-trend = 0.085

Meat and vegetables, 2y & zBMI, T1, β=1, ref
- T2, β= 0.03, 95% CI: -0.10, 0.15
- T3, β= 0.07, 95% CI: -0.06, 0.20
- p-trend = 0.271

Beverages, 2y & zBMI, T1, β=1, ref
- T2, β= -0.03, 95% CI: -0.16, 0.09
- T3, β= -0.07, 95% CI: -0.19, 0.06
- p-trend = 0.306

Snacks, 2y & zBMI, T1, β=1, ref
- T2, β= -0.11, 95% CI: -0.24, 0.02
- T3, β= -0.08, 95% CI: -0.22, 0.05
- p-trend = 0.223

Milks, 4y & zBMI, T1, β=1, ref
- T2, β= 0.03, 95% CI: -0.10, 0.17
- T3, β= 0.03, 95% CI: -0.10, 0.16
- p-trend = 0.650

Staple, 4y & zBMI, T1, β=1, ref
- T2, β= -0.03, 95% CI: -0.16, 0.10
- T3, β= -0.03, 95% CI: -0.16, 0.10
- p-trend = 0.671

Treats, 4y & zBMI, T1, β=1, ref
- T2, β= -0.08, 95% CI: -0.21, 0.05
- T3, β= -0.03, 95% CI: -0.16, 0.09
- p-trend = 0.597

Beverages, 4y & zBMI, T1, β=1, ref
- T2, β= 0.05, 95% CI: -0.07, 0.18
- T3, β= -0.01, 95% CI: -0.15, 0.12
- p-trend = 0.846

Snacks, 4y & zBMI, T1, β=1, ref
- T2, β= -0.07, 95% CI: -0.20, 0.07
- T3, β= -0.17, 95% CI: -0.30, 0.03

- Did not account for: Race/Ethnicity (adjusted skin color), Physical activity
- Corpulence included measures of body circumference (waist, hip, seat, chest, abdomen, knee, calf, and biceps circumferences), diameters (sagittal diameter, waist, abdomen width), and volumes (body volume and torso)

Funding: Wellcome Trust, WHO, Brazilian National Research Council, Brazilian Ministry of Health, 'Science without Borders' Brazilian scheme

- p-trend = 0.019

Milks, 2y & Corpulence, T1, β=1, ref
- T2, β= -0.02, 95% CI: -0.11, 0.07
- T3, β= 0.01, 95% CI: -0.09, 0.12
- p-trend = 0.832

Staple, 2y & Corpulence, T1, β=1, ref
- T2, β= 0.04, 95% CI: -0.05, 0.13
- T3, β= 0.09, 95% CI: -0.01, 0.18
- p-trend = 0.059

Meat and vegetables, 2y & Corpulence, T1, β=1, ref
- T2, β= 0.03, 95% CI: -0.06, 0.12
- T3, β= 0.08, 95% CI: -0.02, 0.17
- p-trend = 0.126

Beverages, 2y & Corpulence, T1, β=1, ref
- T2, β= -0.06, 95% CI: -0.15, 0.04
- T3, β= -0.03, 95% CI: -0.13, 0.06
- p-trend = 0.539

Snacks, 2y & Corpulence, T1, β=1, ref
- T2, β= -0.06, 95% CI: -0.15, 0.04
- T3, β= -0.05, 95% CI: -0.15, 0.05
- p-trend = 0.306

Milks, 4y & Corpulence, T1, β=1, ref
- T2, β= 0.04, 95% CI: -0.06, 0.13
- T3, β= 0.05, 95% CI: -0.04, 0.15
- p-trend = 0.286

Staple, 4y & Corpulence, T1, β=1, ref
- T2, β= -0.02, 95% CI: -0.08, 0.11
- T3, β= 0.04, 95% CI: -0.06, 0.14
- p-trend = 0.404

Treats, 4y & Corpulence, T1, β=1, ref
- T2, β= 0.00, 95% CI: -0.10, 0.09
- T3, β= -0.02, 95% CI: -0.11, 0.07
- p-trend = 0.669

Beverages, 4y & Corpulence, T1, β=1, ref
- T2, β= 0.03, 95% CI: -0.06, 0.13
- T3, β= 0.03, 95% CI: -0.07, 0.13
- p-trend = 0.537

Snacks, 4y & Corpulence, T1, β=1, ref

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		• T2, β= -0.07, 95% CI: -0.16, 0.03 • T3, β= -0.09, 95% CI: -0.19, 0.01 • p-trend = 0.077	
Setayeshgar, 2017 [64] Canada; QUebec Adipose and Lifestyle InvesTigation in Youth (QUALITY) Analytic N=546 **Selection data:** Enrolled those with one parent with Ob; Excluded those with DM, any serious illness/condition, on anti-HTN meds or steroids; or restricted diet	**Age at Dietary Pattern:** 8 to 10y modified Diet Quality Index-International (DQI-I) [Kim, 2003]: m DQI score: Positive (Adequacy): Vegetable group; Fruit group; Grain group; Fiber; Protein; Iron; Calcium; Vitamin C; Negative: Total Fat, SFA, Cholesterol; Sodium; Empty-Energy Foods. Neutral: Carbohydrate: Protein: Fat Ratio; PUFA: MUFA: SFA ratio; Variety **Method**: Index/Score Analysis	**Results at age(s)** ~ 10 to 12y; F/U: 2y • DQI & BMI, β: −0.06, 95% CI: −0.26, 0.14 • DQI & FMI, β: −0.16, 95% CI: −0.33, 0.01 • DQI & BF%, β: −0.55*, 95% CI: −1.08, −0.02; p<0.05 • DQI & central FMI, β: −0.08, 95% CI: −0.17, −0.003; p<0.05 • DQI & central BF%, β: −0.28, 95% CI: −0.55, 0.0007	• Did not account for: Race/Ethnicity (Caucasian), SEP (all higher SES) • Diet assessed using 3, 24h-recalls at baseline only **Funding**: Canadian Institutes of Health Research; Heart and Stroke Foundation of Canada; Fonds de la Recherche en Santé du Québec
Shinsugi, 2020 [65] Japan; n/a Analytic N=110 **Selection data:** Excluded those with missing data at baseline or follow-up; outlying data on the outcome variables; incorrect values of age and sex	**Age at Dietary Pattern:** 4.8y, mean modified Japanese Food Guide [Kurotani 2016]: Positive: Vegetable Dishes; Fruit; Grain Dishes; Fish and Meat Dishes; White: Red Meat; Milk. Negative: Energy from Beverages & Snacks; Total Energy Intake **Method**: Index/Score Analysis	**Results at age(s):** 5 to 7y; F/U: 1y ΔBMI-for-age • T1, β: 1, ref • T2, β: 0.16, 95% CI: -0.29, 0.60 • T3, β: -0.14, 95% CI: -0.61, 0.33 ΔHt-for-age • T1, β: 1, ref • T2, β: - 0.15, 95% CI: -0.50, 0.21 • T3, β: -0.06, 95% CI: -0.43, 0.30	• Did not account for: Race/Ethnicity (Japanese public preschoolers) • Outcome from parent-reported height and weight; DQ based on guardian-reported dietary intake; Sample size <300 **Funding**: Japan Society for the Promotion of Science, Asahi Group Foundation

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Siddiqui, 2022 [66] Netherlands; Generation R Study Analytic N=3991 **Selection data:** Enrolled participants at birth; Excluded those with missing FFQ or outcome data	**Age at Dietary Pattern:** 8 y Children's Diet Quality (DQ) Score (CDQS) [van der Velde, 2018]: Positive: Vegetables; Fruit; Nuts; Whole Grains; Dairy Products; Fish; Oils and fats; Negative: Meat; Sugar-containing beverages; **Method**: Index/Score Analysis	**Results at age(s)** 10y • BF%, β: -0.03, 95% CI: -0.05, 0.001	• Did not account for: Anthropometry (but analyses adjusting for weight/height yielded similar results) • Non-fasting blood samples (insulin, TG, and HDL); LDL cholesterol calculated according to the Friedewald formula; % BF results were not adjusted for anthropometry but additional analyses with Weight & Height showed similar results **Funding**: Erasmus Medical Center (EMC), the Dutch Ministry of Health, Welfare, and Sports, and the Netherlands Organization for Health Research and Development
Sirkka, 2021 [67] Netherlands; GECKO Drenthe birth cohort Analytic N=938 **Selection data:** Excluded those with incomplete dietary and covariate data; no BMI measurement age 3 to 10 y; LFU	**Age at Dietary Pattern:** 3 y 'Minimally processed': high intakes of vegetables, sauces, rice/pasta, and savory dishes 'Ultra-processed': high intakes of white bread, crisps, savory snacks, and SSB; low intakes of whole-grain bread **Method**: Factor/Cluster- UP	**Results at age(s)** 10y 'Minimally processed' & OW at 10y: OR: 1.03, 95% CI: 0.86, 1.24; p=0.74 'Ultra-processed food' & OW at 10y: OR: 1.30, 95% CI: 1.08, 1.57; p=0.006	• Did not account for: Physical activity • Diet assessed by parent via FFQ at baseline only (age 3y); FFQ validated for children 4-6y **Funding**: Unrestricted grant of Hutchison Whampoa Ltd., Hong Kong, and supported by the University of Groningen, Well Baby Clinic Foundation Icare, Noordlease, Paediatric Association Of The Netherlands, Youth Preventive Health Care Drenthe, and the European Union's

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Smith, 2014 [68] United Kingdom; Avon Longitudinal Study of Parents and Children (ALSPAC) Analytic N=3911 **Selection data:** Excluded those with missing data; other reasons NR	**Age at Dietary Pattern:** 9 y 'Health Aware': Higher loadings for fruits and vegetables, high-fiber bread, pasta, cheese, and fish, lower loadings for chips (French fries), crisps (potato and corn snacks), processed meat, fizzy (carbonated) drinks 'Traditional': Higher loadings for meat, roast potatoes, vegetables, batter and pastry products, low energy-density sauces (e.g. gravy, desserts) 'Packed Lunch': Higher loadings for low-fiber bread, margarine, cheese, cold meats, salty flavorings such as yeast extract, diet squash (dilutable soft drink) **Method**: Factor/cluster analysis	**Results at age(s)** 11y In valid reporters, FM, ♂ • 'Health aware', 0.991, 95% CI: 0.978,1.005 • 'Traditional', 1.003, 95% CI: 0.990,1.016 • 'Packed-lunch', 0.989, 95% CI: 0.976,1.002 In valid reporters, FM, ♀ • Health aware': 0.988, 95% CI: 0.976,1 • Traditional': 0.992, 95% CI: 0.981,1	• Did not account for: Race/ethnicity (97% White) • Diet assessed once each age time point; unclear timing of diet measurement in relation to outcomes • Unclear if diet assessment methods were valid/reliable • Did not account for missing data **Funding**: The UK Medical Research Council, the Wellcome Trust and the University of Bristol; World Cancer Research Fund
Sorensen, 2021 [69] Norway; Norwegian Mother, Father and Child Cohort Study (MoBa) Analytic N=17513 **Selection data:** Excluded those with mothers with no available baseline socio-demographic, lifestyle and health related data; no maternal diet data during pregnancy; missing dietary data at child age 3 and/or 7 y	**Age at Dietary Pattern:** 3 y modified MDS [Tognon 2014 modified Knoops 2004 modified Trichopolou 2003)]: Positive: Vegetables; Fruit; Cereals; Fish and Fish Products; MUFA+PUFA/SFA; Alcohol. Negative: Meat, Meat Products, and Eggs; Dairy Products children's Diet Quality Index (cDQI) [Huybrechts 2010]: Vegetables (no juices/soups); Fruit (no juices); Potatoes and grains; Bread and cereals; Milk products (milk, sugared milks, yoghurt, milk deserts, Ca+ soy drinks); Cheese; Meat, game, poultry, fish, and meat replacements; Restricted food groups: Beverages; Snacks (sweet, salty, chocolate, brioches, sweet desserts); Sugared drinks (tea, soft drinks); Fruit juice **Method**: Index/Score Analysis	**Results at age(s)** 8y modified MDS & OW, Low, OR: 1, ref High, OR: 0.98, 95% CI: 0.83, 1.16 DQI (DQ scale only) & Ob • per-SD, OR: 0.886, 95% CI: 0.810, 0.969 • T1, OR: 1, ref • T2, OR: 0.849, 95% CI: 0.696, 1.035 • T3, OR: 0.738, 95% CI: 0.595, 0.916 DQI (total) & OW • T1, OR: 1, ref • T2, OR: 0.94, 95% CI: 0.77, 1.15 • T3, OR: 0.77, 95% CI: 0.62, 0.96 • Per SD, OR: 0.93, 95% CI: 0.84, 1.02	• Did not account for: Race/Ethnicity • DQI total score included diversity, adequacy, and equilibrium components for OW; DQI-DQ scale only and BMI/Ob extracted from supplemental table 8 **Funding**: Miljøforsk-Programme on Environmental Research for a Green Transition of the Norwegian Research Council

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Temple, 2023 [70] United States; n/a Analytic N=158 **Selection data:** Enrolled those in the Western NY area, speak and read English; willing to consume study foods; Excluded those with medications impacting appetite/body weight, conditions impacting consumption of study foods	**Age at Dietary Pattern:** 12 to 14y, mean 13.3y DGA, 2020-2025: Yes/No to consuming Vegetables; Fruit; Whole grains; Dairy; Protein; Limit: Added sugars; Saturated fat; Sodium **Method**: Index/Score Analysis	**Results at age(s)** 15.25y, mean at F/U Yes v. No DGA & Δ zBMI, β: 0.084 (0.068), T: 1.23; F: 1.51; p-trend=0.22	• Did not account for: Physical activity, SEP (all higher income/educated) • Indirectly examined via yes/no to DGA alignment; Energy Intake & zBMI over 24 months was moderated by DGA alignment (β: -0.0008 (0.0003), T: -1.99; F: 3.99; p-trend=0.048); primary interest in reinforcing value and energ-density of food, not dietary patterns; Smaller sample size with relatively high attrition ~30% **Funding**: NIH
Tognon, 2014 [71] Italy, Estonia, Cyprus, Belgium, Sweden, Hungary, Germany, Spain; IDEFICS (Identification and prevention of Dietary- and lifestyle-induced health EFfects In Children and infantS) study Analytic N=9114 **Selection data:** Excluded those with missing data	**Age at Dietary Pattern:** 2 to 9 y frequency-based MDS (fMDS) [Tognon, 2014]: Positive: Vegetables and legumes, fruit and nuts (fruit added or not with sugar, nuts, seeds, dried fruit), cereals (breakfast cereals, white and wholemeal bread, rolls and crispbread, pasta, noodles and rice), fish (fresh or frozen fish, and fried fish and fish fingers; Negative: Dairy (milk, yoghurt, cheese including spreadable cheese), and meat products (fried and non-fried meat, hamburgers, falafel, kebab, etc.) **Method**: Index/Score Analysis	**Results at age(s)** F/U: 2y, age ~ 4-11y • Δ Q5, High BMIz, OR: 0.87, 95% CI: 0.78, 0.98; p≤0.05 • Δ Q5, High %FM, OR: 0.89, 95% CI: 0.78, 1; p=0.06 • Δ Q5, High WHR, OR: 0.88, 95% CI: 0.78, 0.99; p≤0.05 • Δ Q5, High WC, OR: 0.87, 95% CI: 0.77, 0.98; p≤0.05	• Did not account for: Race/ethnicity NR • Dietary pattern comparison groups not clearly described ("High" included wide range, scores > 3 from scale 0-9); Diet measured once at baseline; Did not account for missing data **Funding**: European Union within the Sixth RTD Framework Program; Swedish Council on Working Life and Social Research (FAS) EpiLife Center and the Swedish Research Council

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Vallejo, 2022 [72] Germany; DONALD (Dortmund Nutritional and Anthropometric Longitudinal Designed) Study Analytic N=298 final sample; 284 sensitivity analysis **Selection data:** Excluded those <15y; had <2 WDR; missing data; underreported EI; multiple birth pregnancies; low birth weight; preterm pregnancy; those with a long f/up time	**Age at Dietary Pattern:** 15 y and older Dietary index (DI) score from the EAT-Lancet Reference Diet [Vallejo, 2022]: Positive: Whole grains & all grains, ≤ 464 g/d and whole grain fiber; Tubers or starchy vegetables, ≤ 100 g/d; Vegetables, ≥ 200 - ≤ 600 g/d; Fruits, ≥ 100 - ≤ 300 g/d; Dairy foods, ≤ 500 g/d; Beef and lamb, ≤ 14 g/d; Pork, ≤ 14 g/d; Chicken and other poultry, ≤ 58 g/d; Eggs, ≤ 25 g/d; Fish, ≤ 100 g/d; Dry beans, lentils & peas, ≤ 100 g/d; Soy foods, ≤ 50 g/d; All nuts, ≥ 25 g/d; Palm oil, ≤ 6.8 g/d; Unsaturated oils, ≥ 20 - ≤ 80 g/d; Lard or tallow, ≤ 5 g/d; Butter, 0 g/d; All sweetners, ≤ 31 g/d **Method**: Index/Score Analysis	**Results at age(s)** 18y BMI • Continuous: β: 0.99, 95% CI: 0.97, 0.99; p = 0.004 • T1: β: 22.9, 95% CI: 22.0, 23.9 • T2: β: 22.5, 95% CI: 21.6, 23.5 • T3: β: 21.9, 95% CI: 20.9, 22.8 • p = 0.030 FFMI • Continuous: β: 0.99, 95% CI: 0.99, 0.99; p = 0.034 • T1: β: 16.9, 95% CI: 16.3, 17.5 • T2: β: 16.8, 95% CI: 16.2, 17.4 • T3: β: 16.6, 95% CI: 16.1, 17.2 • p = 0.514 BF % • Continuous: β: 0.98, 95% CI: 0.96, 0.99; p = 0.049 • T1: β: 25.1, 95% CI: 22.6, 27.9 • T2: WC • Continuous: β: 0.99, 95% CI: 0.98, 0.99; p = 0.022 • T1: β: 77.1, 95% CI: 74.8, 79.4 • T2: β: 76.3, 95% CI: 74.1, 78.6 • T3: β: 74.9, 95% CI: 72.7, 77.1 • p = 0.089 BW • Continuous: β: 0.98, 95% CI: 0.97, 0.99; p = 0.002 • T1: β: 70.5, 95% CI: 67.3, 73.8 • T2: β: 69.4, 95% CI: 66.4, 72.7 • T3: β: 67.6, 95% CI: 64.6, 70.7 • p = 0.117	• Did not account for: Anthropometry (adjusted for birthweight), Race/Ethnicity, Physical activity • Sensitivity analyses by sex: DI score & continuous Weight (p = 0.036) and continuous BMI (p = 0.020) for males; tertiles & DBP (0.039) for females; After removal of long follow-up: continuous DI score & Weight, BMI, FFMI, WC, Body fat %; Tertiled DI score & BMI; Using standardized kcal/d for males & females: similar results (data NR) **Funding**: German Federal Ministry of Education and Research grant, Ministry of Science and Research of North Rhine Westphalia, Germany

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Vedovato, 2021 [73] Portugal; Generation XXI Analytic N=1175 **Selection data:** Excluded those without 2-d food diaries; missing CEBQ data; congenital anomalies or diseases that might influence dietary intake; twins; missing data	**Age at Dietary Pattern:** 4 y; 7 y UPF (Nova food classification system, group 4 [Monteiro, 2019]) e.g. Soft drinks; sweet or savoury packaged snacks; ice cream, chocolate, candies; massproduced packaged breads and buns; margarines and spreads; cookies, pastries and cake mixes; breakfast cereals and cereal/energy bars; milk, cocoa and fruit drinks; meat and chicken extracts and instant sauces; infant formulas, follow-on milks and other baby products; ready-to-heat/eat products and dishes (pies, pasta, pizza, desserts); processed meats and sausages; packaged soups and noodles; flavoured and/or artificial sweetened yoghurt **Method**: Index/Score Analysis	**Results at age(s)** 10y UPF at 4y & zBMI at 10 y • β: 0.028, 95% CI: 0.006, 0.051 UPF at 7y & zBMI at 10y • β: 0.014, 95% CI: -0.007, 0.036	• Did not account for: Race/Ethnicity (100% Portugese-birth cohort) • Data NR for sensitivity analyses by UPF in % Total Energy (only per 100 kcal) **Funding**: Portuguese Ministry of Education and Science; Health Operational Programme; Community Support Framework III; Regional Department of Ministry of Health

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Vilela, 2022 [74] Portugal; Generation XXI Analytic N=3034 **Selection data:** Excluded those with missing diet/anthro data; twins; and those with congenital anomalies or diseases impacting food intake	**Age at Dietary Pattern:** 7y UPF (Nova food classification system, group 4 [Monteiro, 2019]) e.g. Carbonated beverages, fruit-based beverages and other sugar-sweetened beverages; flavored and/or artificial sweetened yoghurt and milk based drinks; sweet or savory packaged snacks; ice-cream, chocolate, candies; mass-produced packaged breads and buns; margarines and spreads; ultra-processed cheeses; cookies, pastries and cake mixes; breakfast cereals and cereal/energy bars; milk, cocoa and fruit drinks; meat and chicken extracts and instant sauces; infant formulas, follow-on milks and other baby products; ready-to-heat/eat products and dishes (pies, pasta, pizza, desserts); processed meats and sausages; packaged soups and noodles; food supplements and artificial sweeteners. **Method**: Index/Score Analysis: UP, Nova	**Results at age(s)** 10y **Growth/Body composition:** • Nova 4 & FMz, β:−0.006, 95% CI: −0.022, 0.011 • Nova 4 & FFMz, β:0.012, 95% CI: −0.005, 0.029 • Nova 3 & FMz, β:−0.002, 95% CI: −0.043, 0.040 • Nova 3 & FFMz, β:0.037, 95% CI: −0.005, 0.079 • Nova 2+1 & FMz, β:−0.023, 95% CI: −0.035; −0.011 • Nova 2+1 & FFMz, β: 0.002, 95% CI: −0.010, 0.014 • Nova 4 & BMIz, β:−0.009, 95% CI: −0.029, 0.011 • Nova 3 & BMIz, β:0.010, 95% CI: −0.040, 0.061 • Nova 2+1 & BMIz, β:−0.028, 95% CI: −0.043; −0.014 • Nova 4 & WCz, β:−0.003, 95% CI: −0.019, 0.014 • Nova 3 & WCz, β:0.005, 95% CI: −0.037, 0.046 • Nova 2+1 & WCz, β:−0.020, 95% CI: −0.032; −0.008 • Nova 4 & WCz, β:−0.003, 95% CI: −0.019, 0.014 • Nova 3 & WCz, β:0.005, 95% CI: −0.037, 0.046 • Nova 2+1 & WCz, β:−0.020, 95% CI: −0.032; −0.008	• Did not account for: Age; Race/Ethnicity (Portuguese birth-cohort) • Diet assessed only once with 3d food diaries at 7y; Outcomes objectively measured **Funding**: FEDER through the Operational Programme Factors of Competitiveness, COMPETE; Foundation for Science and Technology, FCT; Unidade de Investigaç~ao em Epidemiologia - Instituto de Saúde Pública da Universidade do Porto (EPIUnit); the Laboratorio para a Investigaç~ao Integrativa e Translacional, ITR.

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Vinke, 2020 [75] Netherlands; GECKO Drenthe birth cohort Analytic N=1001 **Selection data:** Enrolled participants at birth; Excluded those with birth weight < 2500 g; missing dietary data or BMI at age 3 or 10 y	**Age at Dietary Pattern:** 3 y Lifelines Diet score (LLDS) [Vinke, 2018]: Positive: Vegetables; Fruits; Legumes and Nuts; Whole-grain products; Fish; Unsweetened dairy; Oils and soft margarines; Tea; Negative: Negative: Red and processed meats; Butter and hard margarines; Sugar-sweetened beverages **Method**: Index/Score Analysis	**Results at age(s)** 10y Ob/OW • Q1, OR: 2.55, 95% CI: 1.13, 5.76 • Q2, OR: 1.82, 95% CI: 0.81, 4.09 • Q3, OR: 3.14, 95% CI: 1.39, 7.10 • Q4, OR: 1.72, 95% CI: 0.75, 3.92 • Q5, OR: 1.00, ref • p-trend=0.044 Δ zBMI, β: -0.043, 95% CI: -0.079, -0.007; p-trend= 0.019	• Did not account for: Race/Ethnicity, Physical activity • Diet assessed with validated FFQ at baseline (age 3y) only; Those LFU hasd slightly higher BMI and mothers with lower education levels; Physical activity data were not available **Funding**: Hutchison Whampoa Ltd., Hong Kong; University of Groningen, Well Baby Clinic Foundation Icare, Noordlease, Paediatric Association Of the Netherlands, and Youth Health Care Drenthe
Wolters, 2018 [76] Germany; KOPS- and IDEFICS- only German cohorts Analytic N=372 KOPS; N=312 IDEFICS **Selection data:** NR	**Age at Dietary Pattern:** 5 to 7y KOPS; 2 to 9.9y IDEFICS KOPS PCA 1 'Fast food': High loadings for fish sticks, curry-sausage, lasagna, pancakes, potato fritters, pizza, meatballs PCA 2 'Healthy': Higher loadings for vegetables, fruits, whole grains, muesli, cheese-curd-yogurt ΔPCA1: Increased meatballs, fish sticks, lasagna, pizza, pancakes, curry-sausage, potato fritters ΔPCA2: Increased vegetables, fruits, meat, potatoes ΔPCA3: Increased white bread, savory baked goods, decreased whole grain bread RRR1, 'Fast food': Higher intake of lemonade, children's yogurt, potato fritters, meat balls, meat; lower whole grain bread, cheese-curd-	**Results at age(s)** 9 to 11y KOPS; 4 to 11.9 y IDEFICS KOPS DPs & BMI (T1, ref OR: 1) • RRR1 ['Fast food]] & higher odds of excess BMI (p<0.0006) • ΔRRR1 [Increased Fast food/starchy carbs'] & higher odds of excess BMI (p=0.0004) PCA1 • T2, OR: 0.81, 95% CI: 0.44, 1.49 • T3, OR: 1, 95% CI: 0.55, 1.80 • Cont., OR: 1.01, 95% CI: 0.95, 1.07; p=0.8457 ΔPCA 1 • T2, OR: 0.95, 95% CI: 0.51, 1.75 • T3, OR: 1.49, 95% CI: 0.83, 2.68 • Cont., OR: 1.05, 95% CI: 0.99, 1.10; p=0.1133 PCA2	• Did not account for: Race/Ethnicity (adjusted for migration in IDEFICS) **Funding**: Federal Ministry of Education and Research; Open Access Fund of the Leibniz Association; Additional funding for KOPS and IDEFICS studies separate

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
	yogurt ΔRRR1: Increased fast foods and starchy carbohydrate (whole grain brad, potatoes, pizza, fish sticks); decreased vegetables <u>IDEFICS</u> PCA 1 'Snack': High loadings for sweet snacks, potatoes; ketchup etc.; savory snacks; sweetened drinks; chocolate, candy bars; candies, ice cream/milk/fruit-bars PCA 2 'Mediterranean type': Higher loadings for plain unsweeteend yogurt; milled cereal dish; nuts, seeds, dried fruits; pizza as main; cheese; fresh meat not fried; plain unsweetened milk; fresh fruits w/o added sugar; water; pasta noodles, rice ΔPCA1 to PCA2: Increased nuts, seeds, dried fruits; pasta noodles, rice, fresh meat not fried; pizza as main; milled cereal dish; sweet yogurt, fermented milk; fried meat ΔPCA2 twds 'Traditional': Increased cooked vegetables, potatoes, beans, legumes; sweetened drinks; butter, margarine on bread; fresh fruits w/o added sugars ΔPCA3 to PCA1: Increased sweet snacks, candies, ice cream/milk/fruit-bars, savory snacks; chocolate, candy bars RRR1, 'nuts, meat, pizza': nuts, seeds, dried fruits; fresh meat not fried; pizza as main; plain unsweeteend yogurt; jam, honey; savory pastries, fritters; milled cereal dish; low intakes of cooked vegetables potatoes, legumes, breakfast cereals, sweetened muesli ΔRRR1: Higher reduced-fat products on breads; Lower fresh meat not fried, savory pastries, fried/scrambled eggs; sweetened drinks; nuts, seeds, dried fruits; milled cereal dish	• T2, OR: 1.1, 95% CI: 0.62, 1.95 • T3, OR: 0.77, 95 % CI: 0.41, 1.43 • Cont., OR: 1, 95%CI: 0.91, 1.08; p=0.9079 ΔPCA 2 • T2, OR: 1.03, 95% CI: 0.57, 1.86 • T3, OR: 0.76, 95% CI: 0.42, 1.39 • Cont., OR: 0.98, 95% CI: 0.90, 1.08; p=0.7236 ΔPCA 3 • T2, OR: 0.89, 95% CI: 0.50, 1.61 • T3, OR: 0.9, 95% CI: 0.50, 1.63 • Cont., OR: 0.99, 95% CI: 0.88, 1.10; p=0.8046 IDEFICS DPs & BMI (T1, ref OR: 1) • RRR1 ['Nuts, meat, pizza'] & odds of excess BMI (p=0.0036) • ΔRRR1 ['Decreased protein/snack carbohydrates'] & higher odds of excess BMI (p=0.0029) PCA1 • T2, OR: 0.67, 95% CI: 0.35, 1.26 • T3, OR: 0.47, 95% CI: 0.23, 0.91 • Cont., OR: 0.94, 95% CI: 0.87, 1.01; p=0.081 ΔPCA1 • T2, OR: 1.12, 95% CI: 0.60, 2.11 • T3, OR: 0.65, 95% CI: 0.33, 1.30 • Cont., OR: 0.93, 95% CI: 0.87, 0.99; p=0.0436 PCA 2 • T2, OR: 0.65, 95% CI: 0.33, 1.27 • T3, OR: 0.92, 95% CI: 0.47, 1.79 • Cont., OR: 1.04, 95% CI: 0.99, 1.11; p=0.1403 ΔPCA 2 • T2, OR: 1.02, 95% CI: 0.52, 1.98 • T3, OR: 1.06, 95% CI: 0.54, 2.07	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
	Method: RRR; Factor/cluster PCA	• Cont., OR: 1.02, 95% CI: 0.92, 1.14; p=0.6587 ΔPCA 3 • T2, OR: 1.6, 95% CI: 0.83, 3.15 • T3, OR: 1.46, 95% CI: 0.75, 2.87 • Cont., OR: 1.02, 95% CI: 0.94, 1.11; p=0.6363 KOPS DPs & FMI (T1, ref OR: 1) • KOPS-RRR1 ['Fast food]] & higher odds of excess FMI (p=0.2465) • KOPS-ΔRRR1 [Increased Fast food/starchy carbs'] & higher odds of excess FMI (p=0.0012) PCA1 & FMI • T2, OR: 0.67, 95% CI: 0.37, 1.24 • T3, OR: 0.73, 95% CI: 0.41, 1.33 • Cont., OR: 0.99, 95% CI: 0.94, 1.06; p=0.8556 ΔPCA 1 • T2, OR: 1.19, 95% CI: 0.64, 2.21 • T3, OR: 1.86, 95% CI: 1.03, 3.38 • Cont., OR: 1.06, 95% CI: 1.00, 1.12; p=0.0411 PCA2 • T2, OR: 1.42, 95 %CI: 0.80, 2.53 • T3, OR: 0.89, 95% CI: 0.47, 1.67 • Cont., OR: 1, 95% CI: 0.92, 1.09; p=0.9971 ΔPCA 2 • T2, OR: 0.86, 95% CI: 0.47, 1.57 • T3, OR: 0.92, 95% CI: 0.51, 1.65 • Cont., OR: 1, 95% CI: 0.91, 1.09; p=0.9852 ΔPCA 3 • T2, OR: 0.75, 95% CI: 0.41, 1.35 • T3, OR: 0.96, 95% CI: 0.53, 1.72 • Cont., OR: 0.97, 95% CI: 0.87, 1.09;	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		p=0.6091 IDEFICS DPs & FMI (T1, ref OR: 1) • RRR1 ['Nuts, meat, pizza'] & odds of excess FMI (p=0.0090) • RRR1 ['Decreased protein/snack carbohydrates'] & higher odds of excess FMI (p=0.0030) PCA1 • T2, OR: 1.06, 95% CI: 0.55, 2.03 • T3, OR: 0.78, 95% CI: 0.39, 1.52 • Cont., OR: 0.98, 95% CI: 0.91, 1.05; p=0.6013 ΔPCA1 • T2, OR: 1.05, 95% CI: 0.55, 1.99 • T3, OR: 0.79, 95% CI: 0.40, 1.56 • Cont., OR: 0.94, 95% CI: 0.87, 0.99; p=0.049 PCA2 • T2, OR: 1, 95% CI: 0.52, 1.92 • T3, OR: 0.91, 95% CI: 0.46, 1.81 • Cont., OR: 1.05, 95% CI: 0.99, 1.12; p=0.1073 ΔPCA 2 • T2, OR: 1.02, 95% CI: 0.53, 1.96 • T3, OR: 0.83, 95% CI: 0.42, 1.63 • Cont., OR: 0.99), 95% CI: 0.89, 1.10; p=0.878 ΔPCA3 • T2, OR: 1.27, 95% CI: 0.65, 2.50 • T3, OR: 1.49, 95% CI: 0.78, 2.90 • Cont., OR: 0.99, 95% CI: 0.91, 1.08; p=0.8546 KOPS DPs & WHR • RRR1 ['Fast food]] & higher odds of excess WHR (p=0.0047) • ΔRRR1 [Increased Fast food/starchy	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		carbs'] & higher odds of excess WHR (p=0.0015) PCA1 • T2, OR: 0.54, 95% CI: 0.29, 1.01 • T3, OR: 0.88, 95% CI: 0.49, 1.57 • Cont., OR: 1, 95% CI: 0.95, 1.06; p=0.9329 ΔPCA 1 • T2, OR: 0.79, 95% CI: 0.43, 1.46 • T3, OR: 1.35, 95% CI: 0.76, 2.40 • Cont., OR: 1.02, 95% CI: 0.97, 1.08; p=0.3665 PCA 2 • T2, OR: 0.97, 95% CI: 0.55, 1.72 • T3, OR: 0.72, 95% CI: 0.39, 1.34 • Cont., OR: 1, 95% CI: 0.92, 1.09; p=0.9676 ΔPCA 2 • T2, OR: 0.61 , 95% CI: 0.33, 1.13 • T3, OR: 0.8, 95% CI: 0.45, 1.43 • Cont., OR: 0.96, 95% CI: 0.88, 1.05; p=0.3628 ΔPCA 3 • T2, OR: 0.92, 95% CI: 0.52, 1.64 • T3, OR: 0.71, 95% CI: 0.39, 1.30 • Cont., OR: 0.92, 95% CI: 0.82, 1.03; p=0.1262 IDEFICS DPs & WHR • RRR1 ['Nuts, meat, pizza'] & higher odds of excess WHR (p=0.0019) • ΔRRR1 ['Decreased protein/snack carbohydrates'] & higher odds of excess WHR (p<0.0001) PCA1 • T2, OR: 1.18, 95% CI: 0.62, 2.28 • T3, OR: 0.95, 95% CI: 0.48, 1.87 • Cont., OR: 0.98, 95% CI: 0.92, 1.05;	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		p=0.6481 ΔPCA1 • T2, OR: 1.04, 95% CI: 0.55, 1.99 • T3, OR: 0.79, 95% CI: 0.40, 1.56 • Cont., OR: 0.93, 95% CI: 0.87, 0.99; p=0.049 PCA2 • T2, OR: 0.6, 95% CI: 0.31, 1.17 • T3, OR: 0.86, 95% CI: 0.44, 1.67 • Cont., OR: 1.04, 95% CI: 0.98, 1.11; p=0.1764 ΔPCA 2 • T2, OR: 0.63, 95% CI: 0.32, 1.24 • T3, OR: 0.77, 95% CI: 0.40, 1.50 • Cont., OR: 0.94, 95% CI: 0.85, 1.04; p=0.2324 ΔPCA3 • T2, OR: 1.17, 95% CI: 0.59, 2.33 • T3, OR: 1.64, 95% CI: 0.86, 3.19 • Cont., OR: 1.03, 95% CI: 0.95, 1.12; p=0.4342	

[a] Abbreviations: BMI, body mass index; BF, body fat (total unless otherwise specified as trunk, gynoid, android, etc.); BF%, body fat percentage; DP, dietary pattern; DQ, diet quality; EDF, energy-dense food; FFM, fat-free mass; FFMI, fat-free mass index; FM, fat mass (total, unless otherwise specified as trunk, gynoid, android, etc.); FMI, fat mass index; F/U, follow-up; HEI, Healthy Eating Index; NR, not reported; NS, not statistically significant; OR, odds ratio; Q, quantile; T, tertile; TEI, total energy intake; Wt, body weight

Table 11. Risk of bias for randomized controlled trials examining dietary patterns consumed by children and adolescents and growth, body composition, and risk of obesity. [a]

Article	Randomization	Deviations from intended interventions (effect of assignment or per-protocol)	Missing outcome data	Outcome measurement	Selection of the reported result	Overall
Asodeh, 2020[24]	LOW	LOW	LOW	LOW	SOME CONCERNS	SOME CONCERNS
Lee, 2020[49]	LOW	LOW	LOW	LOW	LOW	LOW
Papamichael, 2019[59]	LOW	HIGH	LOW	LOW	LOW	HIGH

[a] Possible ratings of low, some concerns, or high determined using the "Cochrane Risk-of-bias 2.0" (RoB 2.0) (August 2019 version)" Sterne JAC, Savovic J, Page MJ, et al. RoB 2: a revised tool for assessing risk of bias in randomised trials. *BMJ* 2019; **366**: l4898. doi:10.1136/bmj.l4898.)

Table 12. Risk of bias for observational studies examining dietary patterns consumed by children and adolescents and growth, body composition, and risk of obesity.[a]

Article	Confounding	Exposure Classification	Participant Selection	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Agnihotri, 2021[2]	High	Low	Low	Low	High	Low	Low	High
Aljahdali, 2022[19]	Low	Some concerns	Low	Some concerns	High	Low	High	High
Ambrosini, 2016[20]	Some concerns	Some concerns	Low	Low	High	Low	Some concerns	High
Arenaza, 2020[21]	High	Low	Low	Low	High	Low	Low	High
Arruda Neta, 2021[22]	Low	Some concerns	Low	Low	High	Low	Low	Some concerns
Asghari, 2016[23]	High	Low	Low	Low	Low	Low	Some concerns	High
Bawaked, 2020[25]	Some concerns	High	Some concerns	Low	Low	Low	Low	High
Biazzi, 2017[27]	Some concerns	Low	Some concerns	Low	Some concerns	Low	Some concerns	High
Bekelman, 2021[26]	Some concerns	Some concerns	Low	Low	Some concerns	Low	Some concerns	High
Buckland, 2022[28]	Some concerns	Some concerns	Low	Low	Some concerns	Low	Some concerns	High
Bull, 2016[29]	High	High	Low	Low	High	Low	High	Very high
Chan She Ping-Delfos, 2015[30]	Some concerns	Low	Low	Low	Some concerns	Low	Some concerns	Some concerns
Chang, 2021[31]	Low	Some concerns	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns
Choy, 2020[32]	High	High	Low	Low	High	Low	Some concerns	High
Costa, 2019[35]	High	Low	Some concerns	Low	Low	Low	Some concerns	High
Costa, 2021[33]	Some concerns	High	Low	Low	Low	Low	Low	High
Costa, 2022[34]	Some concerns	High	Low	Low	Low	Some concerns	Some concerns	High

Article	Confounding	Exposure Classification	Participant Selection	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Costa, 2023[36]	High	Some concerns	Some concerns	Low	High	Low	Some concerns	High
Cunha, 2018[37]	High	High	Some concerns	Low	Low	Low	Low	High
Diethelm, 2014[38]	High	Low	Low	Low	Some concerns	Low	Low	Some Concerns
Durao, 2017[39]	Some concerns	Some concerns	Low	Low	High	Low	Some concerns	High
Durão, 2022[40]	Some concerns	Some concerns	Some concerns	Low	Some concerns	Low	Some concerns	High
Farhadjenad, 2018[41]	High	Low	Some concerns	Low	High	Low	Some Concerns	High
Fernandez-Alvira, 2017[42]	Some concerns	Some concerns	Low	Low	High	Low	Some concerns	High
Gasser, 2019[43]	Low	Some concerns	Low	Low	Some concerns	Low	Some concerns	Some concerns
González, 2023[44]	Some concerns	Very High	Low	Low	Low	Low	High	Very High
Heerman, 2023[45]	High	Some concerns	High	Low	Low	Low	Some concerns	High
Hu, 2016[46]	Low	Low	Low	Low	High	High	Some concerns	High
Johnson, 2008[47]	High	Low	Low	Low	Low	Low	Some concerns	High
Krijger, 2021[48]	Low	Low	Some concerns	Low	High	Low	Some concerns	High
Lioret, 2014[50]	High	Low	Low	Low	High	Low	Some concerns	High
Luque, 2021[51]	Some concerns	Low	Low	Low	Some concerns	Low	High	High
Marinho, 2022[52]	Very high	Some concerns	Low	Low	Low	Low	High	Very high
Marks, 2015[53]	High	High	High	Low	Some concerns	Low	Low	High
Martin-Calvo, 2016[54]	High	Low	Low	Low	Some concerns	High	Some concerns	High

Article	Confounding	Exposure Classification	Participant Selection	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
McCourt, 2014[55]	Some concerns	Low	Low	Low	Some concerns	Low	Low	Some concerns
Nguyen, 2020[10]	Some concerns	Low	Low	Low	Low	Low	High	High
Notario-Barandiaran, 2020[56]	High	Low	Low	Low	Some concerns	Low	Some concerns	High
Oellingrath, 2017[57]	Some concerns	Low	Some concerns	Low	High	Some concerns	Some concerns	High
Okubo, 2015[11]	High	Low	Low	Low	High	Low	Some concerns	High
Pala, 2013[58]	Some concerns	Low	Low	Low	High	Low	Some concerns	High
Pinto, 2021[60]	Some concerns	Some concerns	Some concerns	Low	Low	Low	Some concerns	Some concerns
Rashid, 2020[61]	High	Low	Low	Low	Some concerns	Low	Low	High
Saldanha-Gomes, 2017[62]	Some concerns	Some concerns	Low	Low	Low	Low	Low	Some concerns
Saldanha-Gomes, 2022[63]	Some concerns	High	Low	Low	Some concerns	Low	Low	High
Santos, 2019[15]	High	Some concerns	Low	Low	Some concerns	Low	Some concerns	High
Setayeshgar, 2017[64]	Some concerns	Low	Some concerns	Low	Low	Low	Low	Some concerns
Shinsugi, 2020[65]	Some concerns	Some concerns	Low	Low	Some concerns	High	Low	High
Siddiqui, 2021[66]	Low	Low	Low	Low	Some concerns	Low	Some concerns	Some concerns
Sirkka, 2021[67]	High	Some concerns	Some concerns	Low	High	Low	Low	High
Smith, 2014[68]	Low	Low	Some concerns	Low	Very high	Low	Some concerns	Very high
Sorensen, 2021[69]	Some concerns	Some concerns	Low	Low	Low	Some concerns	Some concerns	High
Temple, 2023[70]	High	Some concerns	Low	Low	Low	Low	Some concerns	High

Article	Confounding	Exposure Classification	Participant Selection	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Tognon, 2014[71]	Some concerns	Some concerns	Low	Low	High	Low	Some concerns	High
Vallejo, 2022[72]	High	Some concerns	Low	Low	Low	Low	Some concerns	High
Vedovato, 2021[73]	Low	Some concerns	Low	Low	Some concerns	Low	Some concerns	Some concerns
Vilela, 2022[74]	Low	Low	Some concerns	Low	Low	Low	Some concerns	Some concerns
Vinke, 2020[75]	Some concerns	Low	Low	Low	Some concerns	Low	Low	Some concerns
Wolters, 2018[76]	Some concerns	Low	Low	Low	High	Low	Low	High

[a] Possible ratings of low, some concerns, high, very high, no information, or not applicable were determined using the "Risk of Bias in Non-randomized Studies of Exposures (ROBINS-E)" tool (ROBINS-E Development Group (Higgins J, Morgan R, Rooney A, et al. Risk Of Bias In Non-randomized Studies - of Exposure (ROBINS-E). Launch version, 1 June 2022. Available from: https://www.riskofbias.info/welcome/robins-e-tool.) *Low risk of bias except for concerns about uncontrolled confounding.

Adults and older adults

The 2025 Dietary Guidelines Advisory Committee updates the existing systematic review* by synthesizing an additional 106 articles that were published between January 2014 and May 2023 and met inclusion criteria by assessing how this new evidence relates to the conclusion statement from the existing systematic review. The 106 new articles examined the relationship between dietary patterns consumed by adults and older adults and body composition, and risk of obesity.[77-182] Twenty-six articles came from interventions (20 RCTs) and 80 articles were from observational studies (79 prospective cohort studies, and 1 retrospective cohort study).(**Table 16**).

Description of the evidence

Population

Sample size of study groups ranged from N=37 up to N=192,567. Most participants were followed for at least 6 months, but the follow-up duration across the body of evidence ranged between 3 months/12 weeks up to 4.8 years in intervention studies and from 6 months up to 30 years in observational studies.

Many studies exclusively enrolled those at high-risk for diet-related chronic disease, with 100% participants with overweight or obesity, 3 or more risk factors for metabolic syndrome, or other conditions such as hypertension or dyslipidemia. Participants' mean BMI at baseline was 25 kg/m^2 or greater, indicating overweight or obesity, in 68 articles.

Information on the race and/or ethnicity of participants was reported in 49 articles and included participants that were categorized as "predominantly" White/Caucasian in 34 articles[44,84,87,89,92,94-97,99,102,105,108,109,132,140,142,143,156,162,163,165-167,169-171,173,174,177,178,182], 100% Puerto Rican[148], 91% non-Hispanic Black [175], 87% non-White [139], 50-100% Chinese[138,140,144], or ~40-50% "Black" [104,170]. Racial/ethnic minorities were generally under-represented across the evidence, such as those identifying as Asian and/or Pacific Islander, American Indian, Eskimo, Aleut, and/or Alaska Native. Several articles indicated participant heritage aligned with the country of conduct (e.g., Danish, Iranian, Italian, Japanese, Korean, Spanish). [93,116,120-122,127,131,137,149,151,152,161,179,180] The remaining articles did not report specific data on the race and/or ethnicity of participants.

Some information about the socioeconomic position (SEP) of participants was reported in 80 articles, but the type of data widely varied. Educational attainment was the most common type of SEP information reported and most participants received at least 13 years of education (i.e., some college).[44,77,79,81-83,85,88-91,93-95,97-100,104,105,109,112,117-120,123,128,131,135,136,140,142,144,148,154,157,170,171,174,175,178,181]

Some studies reported indicators of participant's income and/or socioeconomic status.[44,83,86,92,96,97,100,105,109,113-115,122,136,139,140,142,143,148,154,161,165,171,175,181]

Studies were conducted in 22 different countries: Australia; Brazil; Canada; China; Croatia; Denmark; Finland; France; Greece; Iran; Italy; Japan; Korea; Mexico; Netherlands; Singapore; Spain; Sweden; Switzerland; United Kingdom; and the United States. Two articles studied participants across multiple European countries.[164,166] Multiple articles with data from a single cohort were included but examined either different dietary patterns, outcomes, and/or sub-sets of participants: Australian Longitudinal Study on Women's Health (ALSWH); BIOBANK; China Health and Nutrition Survey (CHNS); China Nutrition and Health Survey; CoLaus |

*Dietary Patterns Technical Expert Collaborative and NESR Staff. A Series of Systematic Reviews on the Relationship Between Dietary Patterns and Health Outcomes. March 2014. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://nesr.usda.gov/sites/default/files/2019-06/DietaryPatternsReport-FullFinal2.pdf

PsyColaus study; Coronary Artery Risk Development in Young Adults (CARDIA); ELSA-Brasil; European Prospective Investigation into Cancer (EPIC); Health Professionals Follow-Up Study (HPFS) and/or Nurse's Healthy Study (NHS I, II); Korean Genome and Epidemiology Study (KoGES); MEDLey; Multi-ethnic Cohort (MEC); NutriNet-Sante; (PREDIMED); PREDIMED Plus; SUN Cohort; Tehran Lipid and Glucose study; Women's Health Initiative (WHI).

Intervention/exposure and comparator

Most studies used a validated food-frequency questionnaire or 24-hour recalls to assess dietary intake. Diet was assessed once only in 29 articles [77,79,84,87,89,97,101,103,105,107,109,112,122,123,125,134,135,148,149,152,154,155,158,161,164,168,178]

Dietary pattern methods included:

- Investigator-assigned dietary intervention[81,85,93-95,98,104,106,108,113-115,120,124,139,144,145,153,156,157,159,162,169,174,175,177]
- A priori Index/Score derivation [44,77-80,82,83,86-91,97,99-103,105,109-112,116-119,121-123,125,127-134,136,138,143,146-149,152-155,158,160,161,163,164,166-168,170,172,173,178-182] , including 6 from RCTs[93,104,108,156,175,177] and several examining "UPF" via Nova food classification system[88,97,103,132,136,149,161]
- Factor/cluster or latent-class analysis[84,87,107,135,151]
- Reduced rank regression[92,126,137,141,142,171]

Labels or names of dietary patterns varied across studies, with examples including "Mediterranean" style indices, DASH diet scores, dietary guideline-related scores such as the Healthy Eating Index (HEI), plant-based diet indices, "Prudent", and "Western" dietary patterns. A visualization of all dietary pattern components in each dietary pattern examined in relation to outcomes of interest is available in **Appendix 6**: Dietary pattern visualization**.**

Outcomes

Most studies used standard protocols to measure weight, height, and/or waist circumference of participants, with exception of 21 articles that used self-reported weight, height and/or waist circumference for reported outcomes.[44,78,79,83,88,89,100,110,111,117-119,128,129,166,167,172,173,179,181,182] Across the body of evidence, the following outcomes were reported:

- Weight (gain, loss) [44,79-81,85,93-95,98,102,104,106,108,110,113-115,117,119,120,124,128,129,134,138,139,144,145,153,156,157,159,162,164,167,169,172,174,175,177-179,182]
- Fat-mass or body fat (e.g., kg or %)[81,85,95,99,101,104,120,121,125,132,141,142,144,146,147,158,161,171,175]
- Waist Circumference, Waist-hip ratio, Abdominal Obesity[77,81,83,85,87,89,92,93,95,98,99,102,106,108,112-114,116,120,123,124,127,128,131,136,137,141,142,144,145,148,152,155,157,159,161,162,164,168-170,175,177]
- BMI[81,85-89,92,93,95,98,100-102,104-106,113-116,119,120,122,124,126,128,130,135,141,143,145-148,153,154,157,160,161,166,171,175,179,180]
- Risk of Overweight and/or Obesity[77,82,88,89,92,97,100,110,114,117-119,133,136,141,142,149,161,181]

Synthesis of the evidence

In 79 of 106 articles (12 RCTs; 67 observational), dietary patterns consumed by adults and older adults were associated with significantly lower risk of overweight/obesity and less gain in or lower body weight, BMI, waist circumference, and adiposity. Most of these associations reached statistical significance. These dietary patterns shared emphasis on vegetables, fruits, nuts, legumes, whole grains, fish/seafood and were generally lower in red and processed meats, refined grains, and sugar-sweetened foods and beverages. Many of the dietary patterns included dairy and/or dairy products as well as alcoholic beverage components, but considerably varied in scoring procedures (e.g., positive or negative) and specificity of select components.

Dietary patterns consumed by adults and older adults were associated with higher risk of overweight/obesity and greater gain in BMI and waist circumference in 24 of 106 articles (1 RCT; 23 observational). The magnitude and statistical significance of these associations varied. In addition, specific components of these dietary patterns varied, but most reflected higher intakes of processed meats, refined grains, sugar-sweetened foods and beverages, and (food sources of) saturated fats.

"Mediterranean"-style scores showed statistically significant associations with lower (or less gain) in weight, BMI, WC, WHR or lower risk of abdominal obesity, lower fat mass, trunk fat, visceral fat, or greater fat-free mass, and/or lower risk of overweight or obesity in 19 articles.[77,82,89,91,99,105,111,112,121,122,125,129,133,134,143,147,152,160,164,166,170,173,179] All or most of these "Mediterranean" indices scored the following components positively: vegetables (not potatoes), fruit, legumes, nuts, fish, and unsaturated vegetable oils/fats; and; positive or positive in moderation: alcoholic beverages; and negatively: red and processed meat, sugar-sweetened beverages. Most of these scores also reflected higher intakes of whole grains and/or cereal grains that were not refined explicitly. A few studies reported no statistically significant associations between a "Mediterranean" style diet index and outcomes [112,134,152] or unclear/mixed results [91].

"DGA-related" such as the Healthy Eating Index (HEI)-2005, HEI-2010, HEI-2015, or alternative HEI-2010, showed statistically significant associations with lower or less gain in: weight, WC, WHR or risk of abdominal obesity, BMI, adiposity and/or greater fat-free mass.[80,83,87,99,111,121,122,129,138,146-148,179,182]. All or most of these DGA-related indices scored the following components positively: vegetables (not potatoes), fruit, legumes and nuts, and unsaturated relative to saturated fats; positive in moderation: alcoholic beverages; and negatively: red and processed meats, foods with/intake of trans, solid and/or saturated fats; sugar-sweetened foods and/or beverages including fruit juice, and sodium. Several studies included scores (i.e., HEI-2010) with total protein foods and seafood/plant proteins as positive components and refined grains as negative components. One study found higher AHEI-2010 scores were significantly associated with favorable outcomes, but reported no significant associations when examining HEI-2005 scores in the same participants.[148] One article reported findings in mixed directions: high adherence (Q1 or Q2 vs. Q5) to the HEI-2010 was significantly associated with ***higher risk*** of self-reported weight gain ≥ 10% after 1 year follow-up in postmenopausal women, who were predominantly non-Hispanic White. Notably, most women in this sample gained weight and the analyses did not account for alcoholic beverage intake. Results aligning with much of the other evidence (i.e. lower risk of weigh gain) were found in unadjusted analyses, when examining other dietary patterns, and in sensitivity analyses of this sample e.g., high adherence (Q1 or Q2 vs. Q5) to a "low-fat" diet was significantly associated with ***lower risk*** of self-reported weight gain≥ 5%.[109]

'DASH' style scores showed statistically significant associations with lower or less gain in weight and/or adiposity (e.g., BMI, WC) in 8 articles.[99,116,138,147,179] All of these "DASH"-style indices scored the following components positively: vegetables (not potatoes), fruit and fruit juice, legumes **and** nuts, whole grains and low-fat dairy and negatively: red and processed meat, sugar-sweetened beverages, and sodium. Two articles reported no statistically significant associations between DASH-style scores and WC [148,155], BMI, or WHR [148], but did report favorable associations between other dietary scores and outcomes.

Other scores were associated with statistically, significantly lower or less gain in weight, BMI and/or risk of overweight/obesity in 20 articles.[44,83,89,91,101,102,105,109,110,117,118,123,127,130,131,143,148,155,163,167,168,172,178,180] Examples of these scores include the a priori Diet Quality Score, the Global Diet Quality score, the Plant-Based Diet Index (PDI), the healthful PDI, and/or the unhealthful PDI, and the Provegetarian Food Pattern. Most of these scores shared the following components and scored them positively: vegetables, fruit, legumes, whole grains and negatively: red and processed meat, and saturated fats/butter. Most of these scores did not include a component for alcoholic beverage intake. Some variations between scores included scoring fish and/or seafood and lean meat differently (that is, about half scored these positively while the other half scored

negatively due to emphasis on a plant-based diet). Additional one-off components included: “ultra-processed foods” (UPF), “purchased deep-fried foods”, and/or “miscellaneous animal foods” each scored negatively; and chocolate, diet soft drinks, and pickled foods each scored positive within moderation. Six of these articles also reported direct associations between ***higher*** ***unhealthful*** PDI scores and ***higher*** weight gain.

Country-specific scores were associated with outcomes such as lower or less gain in weight, adiposity, and/or lower risk of overweight/obesity that reached statistical significance in 6 of 11 articles [78,79,100,119,128,154]including. Five of the articles reported data in Australian participants from three different cohort studies. Most of these scores shared the following components scored positively: vegetables, fruit, legumes, whole grains (or non-refined cereals), fish and/or seafood; and negatively: red and processed meat. Scores had variation between components and scoring, such as alcoholic beverage intake scored positively in moderation, negatively or negatively if greater than moderate (≥10 drinks/week), or positively scored total protein foods, including nuts and lean meats.

Dietary patterns with varying amounts of UPF were all statistically, significantly associated with higher adiposity and body weight outcomes in 10 (of 10) articles using the Nova food classification system of UPF. All of these patterns reflected higher intakes of processed meat; commercial-baked goods, refined grains (i.e., cookies; pastries; breakfast cereals), or sugar-sweetened foods (e.g., chocolate, sugar/confectionary) and beverages (e.g., iced tea, fruit drinks in bottles); saturated fats (i.e., margarine).

Dietary patterns based on reduced-rank regression were statistically, significantly associated with higher adiposity and body weight outcomes in 6 of the 6 articles using that approach.[92,126,137,141,142,171] Dietary pattern components varied but shared the following commonalities: higher intakes of refined grains (e.g., ‘low-fiber’ or ‘white’ bread) and/or sugar-sweetened foods and beverages (e.g, chocolate, confectionary, soft drinks, juice, cake, cookies), and food sources of saturated fats (i.e., butter, full-fat spreads). Two articles reported results in both directions based on the different dietary patterns examined, aligning with the overall body of evidence.[137,142]

Dietary patterns based on factor or cluster analysis in 6 articles followed similar themes identified above, but generally reported no statistically significant associations.[84,87,107,135,151]Specific components between these dietary patterns varied widely. Several of these articles reported results in both directions based on the different dietary patterns examined.

Conclusion statement and grade

The 2025 Dietary Guidelines Advisory Committee updated the conclusion statement from an existing systematic review to answer the question, “What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity?” based on their review of new evidence from an additional 106 articles published between January 2014 and January 2024 that met inclusion criteria examining dietary patterns consumed by adults and older adults and body composition and risk of obesity.(**Table 13**)

Table 13. Conclusion statement and grade for dietary patterns consumed by adults and older adults and growth, body composition, and risk of obesity

Conclusion Statement	Dietary patterns consumed by adults and older adults that are characterized by higher intakes of vegetables, fruits, legumes, nuts, whole grains, fish/seafood; and lower intakes of meats (including red and processed meats), refined grains and sugar-sweetened foods and beverages are associated with lower adiposity (body fat, body weight, BMI, and/or waist circumference) and risk of obesity. These dietary patterns also included higher intakes of unsaturated fats and lower intakes of saturated fats and sodium. This conclusion statement is based on evidence graded as moderate.
Grade	Moderate
Body of Evidence	106 articles (26 RCT, 79 prospective and 1 retrospective cohort) assessed as they relate to the evidence in the existing review (38 articles)
Consistency	Minimal variation in direction and significance of findings
Precision	• Most of the interventions demonstrated adequate power/sample sizes. • Many of the observational studies had large sample sizes and reported results with relatively narrow width of confidence intervals.
Risk of bias	• Some concerns with risk of bias due to important confounding domains not accounted for, namely race and/or ethnicity. • Some concerns with risk of bias due to selection of reported results.
Directness	• Few concerns with directness: the populations, intervention/exposure, comparators, and outcomes were directly related to the systematic review question in many studies.
Generalizability	• Relative to the U.S. population, the dietary patterns and outcomes examined in many of the included studies are applicable. However, findings may be less generalizable to younger adults, those with lower education, and/or healthier individuals.

Assessment of evidence

The body of evidence includes 106 articles published since 2014, assessed as they relate to the evidence included in the existing review[*] and examined the relationship between dietary patterns consumed by adults and older adults and body composition and/or risk of obesity. This body of evidence includes both large and small studies, including small studies with null findings, which makes publication bias less likely. As outlined and described below, the body of evidence was assessed for the following elements used when grading the strength of evidence.

Consistency:

The direction of findings was consistent with many studies supporting significant associations between consumption of dietary patterns higher in vegetables, fruits, and whole grains; fish/seafood; nuts; legumes; lower in red and processed meats, refined grains and sugar-sweetened foods and beverages and favorable outcomes such as lower risk of obesity, overweight, and/or abdominal obesity, and/or less gain in weight and/or adiposity (BMI). A smaller sub-set of evidence supported associations between dietary patterns [*that varied more between components but generally were higher in processed meat; refined grains and/or sugar-sweetened foods, sugar-sweetened beverages; and food sources of saturated fats*] and unfavorable outcomes that included primarily higher risk of and/or greater gain in weight and adiposity. Effect sizes ranged in magnitude across the body of evidence, with many articles reporting results with appreciable effects.

[*] Dietary Patterns Technical Expert Collaborative and NESR Staff. A Series of Systematic Reviews on the Relationship Between Dietary Patterns and Health Outcomes. March 2014. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://nesr.usda.gov/sites/default/files/2019-06/DietaryPatternsReport-FullFinal2.pdf

Precision:

Most of the interventions demonstrated adequate power/sample sizes. Many of the observational studies had large sample sizes and reported results with relatively narrow width of confidence intervals.

Risk of bias:

Studies had numerous risks of bias across domains, which have the potential to influence the results reported (see **Table 15, Table 17**). Most articles controlled for most key confounders with exception of race and/or ethnicity of participants. Many of the articles (49 of 106) reported using repeated measures to assess diet from baseline as well as during follow-up, but some (31 of 106) used only a single diet assessment and therefore may be at higher risk of exposure misclassification. Notably, studies that reported results from both diet at baseline as well as over time tended to report similar results between those analyses. Some of the articles (23 of 106) relied upon self-report for outcome measures and are therefore at higher risk of bias due to outcome measurement concerns. Some of the articles (16 of 106) are at higher risk of bias due to missing data. Because many of the included articles came from observational studies without pre-specified analytic plans and/or conducted multiple exposure and outcome analyses, the body of evidence tended to be at higher risk of bias for selection of reported results.

Directness:

Several, but not all, of the interventions were designed to directly examine the relationship between dietary patterns and body composition and risk of obesity in the population of interest. In most of the observational studies, the populations, intervention, comparators, and outcomes of interest were directly related to the systematic review question.

Generalizability:

The body of evidence included studies from a total of 22 countries with similar HDI classification as the U.S. Some studies (25 of 106) were conducted in the United States. Among the studies conducted in other countries, most examined dietary patterns that are applicable to those consumed by Americans. Younger adults and those with lower education were under-represented in this body of evidence, but it is possible that findings are generalizable to them. The majority of participants in this body of evidence had overweight, obesity, or several risk factors for cardiometabolic disease, and therefore, are generalizable to the U.S. population.

Table 14. Evidence in adults and older adults from randomized controlled trials examining the relationship between dietary patterns consumed and body composition and risk of obesity[a]

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Alvarez-Perez, 2016 [81] Spain; PREDIMED-Canarias Analytic N=351 **Participant characteristics:** **Health:** 92-97% Ob or OW; mean BMI ~ 31; ~83% HTN; ~76-86% Dyslipidemia; ~54-59% DM; ~80% on anti-HTN-agents **Race and/or Ethnicity**: NR; "Canarian" **SEP:** Education: 85-91% primary; 7-11% secondary; ~1% uni; Retired: ~ 58-67%; Housewives: ~19-22%; Workers 11-15%	**Age at Dietary Pattern:** 55 to 80 y at baseline Med+EVOO: Assigned to abundant olive oil, vegetables, fresh fruit and juices, legumes, fish or seafood, nuts and seeds, select white meat instead of red or processed meats, cook regularly with tomato, garlic and onion; wine preferred (if consuming alcohol); ad libitum nuts, eggs, fish, seafood, low-fat cheese, chocolate, whole-grain cereals + 15L EVOO Med+Nuts: Assigned to same diet as Med+EVOO in lieu of EVOO; + 15g/d walnuts, 7.5g/d almonds, and 7.5g/d hazelnuts Control: Advice to reduce dietary fat **Method(s)**: RCT	**Follow-up duration:** 1y Med+EVOO; Med+Nuts; Control • BF% : -0.1, 95% CI: -2.4, 2.2 v. 1.3, 95% CI: -1.4, 3.8 ; 3.3, 95% CI: 1.0, 5.7; p=0.136 • FM: 0.5, 95% CI: -2.4, 3.4 ; -0.2, 95% CI: -2.8, 2.4 ; 2.6, 95% CI: -0.4, 5.5; p=0.390 • FFM, -1.0, 95% CI: -2.4, 0.3 v. -0.8, 95% CI: -2.4 , 0.8 v. -2.8, 95% CI: -4.0, -1.6; p=0.110 • Trunk FM%: 0.2, 95% CI: -2.8, 3.3 ; 3.9, 95% CI: -0.7, 8.5 ; 6.9, 95% CI: 0.8, 13.1; p=0.124 • Trunk FM, kg,: -0.6, 95% CI: -4.1, 2.9 ; 2.3, 95% CI: -3.8, 8.4 ; 9.0, 95% CI: -0.2, 18.1; p=0.100 • BMI: -1.1, 95% CI: -2.0, -0.2 ; -0.8, 95% CI: -2.3, 0.8 ; -1.1, 95% CI: -2.2, 0.2; p=0.877 • WC: -0.9, 95% CI: -2.0, 0.2 ; -2.2, 95% CI: -3.3, -1.0 ; -2.9, 95% CI: -4.1, -1.6; p=0.061 • Wt, kg: -1.1, 95% CI: -2.0 , -0.2 ; -0.7, 95% CI: -1.7, 0.3 ; -1.2, 95% CI: -2.2 , -0.3; p=0.657 **Summary:** NS/Null: Med+EVOO v. Med+Nuts v. Control & BMI, WC, Wt, % BF, FM, FFM, trunk Fat/FM at 1y	• Concerns with randomization related to the 2018 retraction and republication of primary data • Indirect comparators in 2 arms of nuts v. EVOO relative to both Med diet arms v. Control **Funding**: Instituto de Salud Carlos III (ISCIII)[*]

[*] Additional funding for Alvarez-Perez, 2016: Fondo de Investigaciones Sanitarias, Ministerio de Sanidad y Consumo RTICCentro de Investigac on Biomedica en Red de Fisiopatologıa de la Obesidad y Nutricion (CIBERobn); Agencia Canaria de Investigacion, Innovacion y Sociedad de la Informacion,Gobierno de Canarias

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Arjmand, 2022 [85] Iran; Shiraz University of Medical Sciences Analytic N=37 **Participant characteristics:** **Health:** 100% OW/Ob, mean 41% BF, BMI 32 **Race and/or Ethnicity**: NR **SEP:** Education, mean y: 16.4 v. 16.40	**Age at Dietary Pattern:** 40-60 y at baseline MIND diet, calorie restricted: Increased intake of green leafy vegetables, other vegetables, berries, fruits, beans [lentils, soybeans], whole grains, olive oil as the primary source of fat, fish and poultry (not fried); Decreased consumption of red meat and products, butter, fast fried foods, pastries and sweets (nuts remained similar) Control, calorie-restricted: Increased intake of green leafy vegetables, beans, olive oil as the primary source of fat, fish and poultry (not fried); Decreased consumption of nuts, whole grains, butter, fish not fried, fast fried foods, pastries and sweets **Method(s)**: RCT	**Follow-up duration:** 3mo MIND v. Control • ∆ BF kg: 95% CI: -4.65, -0.77; p-trend<0.05 • ∆ BF %: -5.16±0.82 v. -2.56±0.72; 4.96, 95% CI: -4.82, -0.36; η: 0.124; p-trend=0.03 • ∆ FFM, kg: 2.54±0.52 v. 1.95±0.64; 0.49, 95% CI: -1.10, 2.28; η: 0.014; p-trend=0.48 • ∆ BMI: -1.55±0.11 v. -0.92±0.07; 16.86; 95% CI: -0.91, -0.34; η: 0.325; p-trend<0.001 • ∆ WC, cm, -3.54±0.56 v. -1.46±0.49; 6.74; 95% CI: -3.69, 0.43; η: 0.162; p-trend=0.01 • ∆ Hip-C, cm, -2.27±0.23, v. -0.30±0.12; 37.66; 95% CI: -2.51, -1.26; η: 0.518; p-trend<0.001 • ∆ Wt kg, -3.98±-0.29 vs. -2.34±0.17; 18.21; 95% CI: -2.41, -0.85; η: 0.342; p-trend<0.001 **Summary:** Significantly greater decrease in BF (kg or %), BMI, Wt, WC, Hip-C in the MIND vs. Control diet arms; NS/Null: ∆FFM (kg	• Small sample size • Baseline serum leptin greater in MIND group (57.90±6.00 ng/mL) compared to control group (39.13±5.93 ng/mL), p=0.04; • Participants refrained from PA and alcohol immediately prior to trial **Funding**: Shiraz University of Medical Science, Shiraz, Iran

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Bruno, 2020 [93] Italy; Fondazione IRCCS Istituto Nazionale dei Tumori di Milano Analytic N=416 **Participant characteristics:** **Health:** • 100% women who were carriers of or had mutations in BRCA1/2 • Weight (kg): IG: 62.1 ±110.7; CG: 65.6±14.6 • BMI (kg/m2): IG: 23.9 ± 4.4, CG: 24.7± 5.1 • WC (cm): IG: 77.1 ± 11.7, CG: 79.0± 13.5 **Race and/or Ethnicity**: NR (Italian) **SEP:** Education: 1st level ~17%; 2nd 44%; 3rd level 39%	**Age at Dietary Pattern:** 18 to 70 y ♀ at baseline Intervention (IG) v. Control (CG) had higher scores on Mediterranean Diet Adherence Screener (MEDAS) [Schroder 2011]: Positive: Vegetables; Dishes with Tomato Sauce (tomato, garlic, onion, leek, olive oil); Pulses; Fruit; Nuts; Fish; White Meat Over Red Meat; Olive Oil; Olive Oil as Principal Cooking Fat; Red Wine. Negative: Commercial Pastries; Red Meat or Sausages; Animal fat; Sugar-Sweetened Beverages IG v CG: assigned to follow a Mediterranean diet with restriction of animal protein to ~11% TEI and refined foods, red and processed meats; received six cooking classes, conferences; encouraged to consume whole grains, nuts, and legume flours, and impove dietary habits **Method(s)**: RCT/Index	**Follow-up duration:** 6mo IG v. CG • Δ BMI, -0.6 v. -0.2; p<0.001 • Δ WC, -2.0 v. -0.7; p=0.01 • Δ HIP-C, -1.6 v. -0.5; p=0.01 • Δ Wt, -1.5 v. -0.5; p<0.001 **Summary:** Significantly greater decreases in BMI, Wt, WC, Hip-C among those with higher MEDAS (IG v. CG).	• At baseline, IG v. CG had significantly smaller Hip-C • All female BRCA1/2 carriers or mutations **Funding**: Italian Association of Cancer Research; Italian Ministry of Health

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Calvo-Malvar, 2021 A [94] Spain; Galiat study Analytic N=661 **Participant characteristics:** **Health:** CVD, 16-18%; DM, 6% **Race and/or Ethnicity**: 100% Caucasian **SEP:** • Employed ~48-52%; Retired ~14-20%; Other ~32-34% • Education: None, ~10%; Elementary, 36-42%; Secondary 32-36%; Uni+ 16-18% • Marital status: Partner 68-73%;Separated/Divorced/Widow 19-10%; Single 21-17%	**Age at Dietary Pattern:** 45y, mean; 3 to 85 y at baseline 'Caloric': Positive: high-energy drinks, processed meats, precooked food, pizza, salty snacks, mayonnaise and ketchup, sweets. Negative: wine 'Frieds': Positive: refined grains, fried meats, fried potatoes, fried fish, whole-fat dairy products, sunflower oil, sweets. Negative: low-fat dairy products, whole grains 'Fruits, Vegetables, and Dairy Products': Positive: fruits, tea and herbal tea, honey, vegetables, nuts, olive oil, sweets, low-fat dairy products, whole grains 'Alcohol': Positive: beer, liquors, wine, coffee, olive oil, processed meats 'Fish and Boiled Meals': Positive: cooked/steamed/roasted meats, boiled potatoes, legumes, vegetables, boiled fish and seafood, fried or scrambled eggs, boiled or poached eggs, sunflower oil, fried fish **Method(s)**: RCT/Factor/Cluster	**Follow-up duration:** 6mo ∆ Wt (ITT) • Caloric, β: 0.146, -0.030, 0.332; p-trend=0.103 • Frieds, β: 0.240, 95% CI: 0.050, 0.429; p-trend=0.013 • Fruits, vegetables, and dairy products, β: -0.184, 95% CI: -0.379, 0.012; p-trend=0.063 • Alcohol, β: 0.026, 95% CI: -0.185, 0.237; p-trend=0.812 • Fish and boiled meats, β: -0.099, 95% CI: -0.262, 0.064; p-trend=0.234 ∆ Wt (PP) • Caloric, β: 0.172, 95% CI: 0.002, 0.343; p-trend=0.047 • Frieds, β: 0.250, 95% CI: 0.065, 0.434; p-trend=0.008 • Fruits, vegetables, and dairy products, β: -0.186, 95% CI: -0.375, 0.002; p-trend=0.053 • Alcohol, β: 0.025, 95% CI: -0.177, 0.226; p-trend=0.881 • Fish and boiled meats, β: -0.074, 95% CI: -0.236, 0.089; p-trend=0.374 **Summary:** Significantly higher weight among those consuming a "Fried" (ITT or PP) or 'Caloric' (PP); NS/Null: Alcohol, Fruits, vegetables, and dairy products, Fish and boiled meats (ITT or PP, parents+children) & Wt	• Dietary data and results include children and adults, from ages 3 to 85 y **Funding**: ERDF-Innterconecta for Galicia Program

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Calvo-Malvar, 2021 B [95] Spain; Galiat study Analytic N=661 **Participant characteristics:** **Health:** CVD, 16-18%; DM, 6% **Race and/or Ethnicity**: 100% Caucasian **SEP:** • Employed ~48-52%; Retired ~14-20%; Other ~32-34% • Education: None, ~10%; Elementary, 36-42%; Secondary 32-36%; Uni+ 16-18% • Marital status: Partnered 68-73%;Separated/Divorced/Widowed 19-10%; Single 21-17%	**Age at Dietary Pattern:** 39y, mean; 3 to 85 y at baseline Atlantic diet, Positive: breads, cereals, wholegrain cereals, rice, pasta, potatoes, olive oil, fruit, vegetables, dairy products, nuts (preferable chestnuts and walnuts), fish and seafood, eggs, lean meat, pulses. Negative: fatty meat, cured sausage, margarine, butter, sweets, pastries, cakes, ice cream Control: usual dietary pattern **Method(s)**: RCT	**Follow-up duration:** 6mo ITT, Atlantic vs. Control • ∆%BF β: -0.85, 95% CI: -1.20, -0.50; p-trend<0.001 • ∆BMI, β: -0.44, 95% CI: −0.62, −0.25; p-trend<0.001 • ∆WHR, β: -0.012, 95% CI: -0.019, -0.005; p-trend=0.001 • ∆Wt, kg (adults only, 18y+), β: -1.1, 95% CI: −1.6, −0.7; p-trend<0.001 PP • ∆%BF, β: -0.88, 95% CI: -1.22, -0.53; p-trend<0.001 • ∆BMI, β: -0.45, 95% CI: -0.63, -0.27; p-trend<0.001 • ∆WHR, β: -0.013, 95% CI: -0.020, -0.006; p-trend<0.001 • ∆Wt, kg (adults only, 18y+), β: -1.2, 95% CI: -1.7, -0.7 ; p-trend<0.001 **Summary:** Significantly greater decrease in Weight, BMI, WHR, %BF between Atlantic v. Control diet groups (in parents; ITT or PP); NS/Null children's z-score	• Dietary data includes children and adults, from ages 3 to 85 y • No adjustment for multiple testing was conducted; • All participants were from one rural small community **Funding**: ERDF-Innterconecta for Galicia Program

Casas, 2022 [98]
Spain; PREDIMED
 	
Analytic N=2278
 	
Participant characteristics:
 	
Health: At baseline: Q4 greater prevalence of HTN, DM compared to Q1. Q1
	Age at Dietary Pattern: 59y (Q1); 74y (Q4), means at baseline
	
	MedDiets v. Control: consumed higher fruit, legumes, fish and seafood; Q1 consumed higher vegetables and tea
	
	Med+EVOO: Assigned to abundant olive oil, vegetables, fresh fruit and juices, legumes, fish or seafood, nuts
		Follow-up duration: 3y
		
		3y∆ BMI, p-arm=0.036; p-age=0.04; p-inx=0.297
		• ≤ 62y, All, -0.12, 95% CI: -0.22, -0.01
		  ○ MedDiet+EVOO: -0.09, 95% CI: -0.26, 0.08
		  ○ MedDiet+Nuts: +0.03, 95% CI: -0.15, 021
		  ○ Control arm, ≤ 62y: -0.28, 95% CI: -0.49, -0.08
		• ≥ 71, All, -0.27, 95% CI: -0.38, -0.17
		  ○ MedDiet+EVOO -0.39, 95% CI: -0.55, -0.23
		  ○ MedDiet+Nuts: -0.14, 95% CI: -0.32, 0.04
			• Some concerns with baseline differences between groups
			• Adjustment for multiple testing NR
			
			Funding: Spanish Government, CIBERobn, Instituto de Salud Carlos III, Hojiblanca, Patrimonio Comunal Olivarero,

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
greater prevalence of current smoking, family Hx of premature CHD compared to Q4 **Race and/or Ethnicity**: NR **SEP**: Higher educational attainment in Q1 compared to Q4 (data NR)	and seeds, select white meat instead of red or processed meats, cook regularly with tomato, garlic and onion; wine preferred (if consuming alcohol); ad libitum nuts, eggs, fish, seafood, low-fat cheese, chocolate, whole-grain cereals + 15L EVOO Med+Nuts: Assigned same diet as Med+EVOO, but in lieu of EVOO: + 15g/d walnuts, 7.5g/d almonds, and 7.5g/d hazelnuts Control: Advice to reduce dietary fat **Method(s)**: RCT	○ Control arm: -0.29, 95% CI: -0.48, -0.09 3yΔ WC, cm, p-arm=0.601; p-age=0.519; p-inx=0.582 • ≤ 62y: All, +0.07, 95% CI: -0.33, 0.45 ○ MedDiet+EVOO: -0.02, 95% CI: -0.6, 0.6 ○ MedDiet+Nuts: +0.44, 95% CI: -0.2, 1.1 ○ Control arm: -0.23, 95% CI: -0.99, 0.53 • ≥ 71y: All -0.12, 95% CI: -0.49, 0.26 ○ MedDiet+EVOO: -0.01, 95% CI: -0.58, 0.56 ○ MedDiet+Nuts: -0.14, 95% CI: -0.81, 0.52 ○ Control arm: -0.19, 95% CI: -0.90, 0.52 3yΔ Wt, kg, p-arm=0.024; p-age=0.002; p-inx=0.402 • ≤ 62y: All, -0.18, 95% CI: -0.46, 0.1 ○ MedDiet+EVOO: -0.15, 95% CI: -0.59, 0.29 ○ MedDiet+Nuts, +0.23, 95% CI: -0.24, 0.7 ○ Control arm, -0.61, 95% CI: -1.14, -0.08 • ≥ 71y All: -0.81, 95% CI: -1.08, -0.54 ○ MedDiet+EVOO: -1.08, 95 %CI: -1.5, -0.67 ○ MedDiet+Nuts: -0.47, 95% CI: -0.9, 0.002 ○ Control arm: -0.89, 95% CI: -1.39, -0.38 **Summary:** NS/Null: Med+EVOO or Med+Nuts & Δ BMI, Δ WC over 3y; Significantly greater Wt gain in Q1 and less Wt loss in Q4 of Med+Nuts v. Control arms	California Walnut Commission, Borges SA, and Morella Nuts

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Crosby, 2022 [104] United States; n/a Analytic N=219 **Participant characteristics:** **Health:** Lipid-Tx, 19% v. 17%; HTN-Tx, ~27%; Thyroid-meds 13% v. 12% **Race and/or Ethnicity**: • White 47% v. 51%; • Black 49% v. 41%; • Asian, Pacific Islander 1% v. 6% • American Indian, Eskimo, Aleut 2% v. 0% • Did not dislose 4% • Non-Hispanic 79% v. 85% • Hispanic 7% v. 4% • Not disclosed 15% v. 11% **SEP:** • Education: ≤HS, 6% v. 8%; Some college 15% v. 20%, College degree 17% v. 23%, Grad. degree 61% v. 50% • Service 22% v. 12%; Technical ~27%; Professional/Mgr 28% v. 33%; Retired 12% v. 20%; Other 10% v. 9%	**Age at Dietary Pattern:** 52.6y, mean (Vegan group), 56.5y (Control group) Vegan vs. Control: Higher AHEI-2010 scores; Significantly higher intakes of total starchy vegetables (non-fried); legumes; meat alternatives; total legumes and meta alternatives; whole grains; and significantly lower intake of fried vegetables; nuts and seeds; eggs; high-fat dairy; low-fat dairy; meat; fish and shellfish; poultry; total meat, fish and poultry; added sugars, oils, and animal fats; Similar intakes of fruit juice; avocado; dark green vegetables; and nut and seed butters Control: Usual diet, no energy restriction Alternative HEI (AHEI-2010) [Chiuve 2012]: Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol **Method(s)**: RCT	**Follow-up duration:**16 wks Vegan vs. Control: • FM (kg), t: –4.1, 95% CI: –4.7, –3.5; p-trend<0.001 • VAT, t: –238.3, 95% CI: –316.7, –159.9; p-trend<0.001 • BMI, t: –2.0, 95% CI: –2.4, –1.7; p-trend<0.001 • Wt , t: -5.9, 95% CI: -6.8, -5.0; p-trend<0.001 AHEI-2010, per 1-pt: ○ FM, -0.14; p-trend=0.03 ○ Wt, r=-0.20; p-trend=0.003 **Summary:** Significant decreases in Wt, BMI, FM (kg) and VAT volume in Vegan v. Control groups; Higher AHEI-2010 scores were significantly associated with lower FM and Wt	**Funding**: Physicians Committee for Responsible Medicine

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Davis, 2017 J Nutr [106] Australia; MedLey Analytic N=166 All non-smokers, w/o chronic disease and major psychological illnesses **Participant characteristics:** **Health:** mean BMI ~27; 33% v. 23% on lipid-lowering meds **Race and/or Ethnicity**: NR **SEP:** NR	**Age at Dietary Pattern:** ≥ 65 y, at baseline Mediterranean diet: 15–45 mL EVOO/d, abundant vegetables, fruit, nuts, legumes, and whole grains, moderate fish, and avoid red meat (<1 serv/wk), small goods (salami, mettwurst, bacon, other processed meats); moderate red wine and dairy (cheese, yogurt) + written guide + recipe book + daily checklists + 30-min bimonthly session with RD [EVOO, nuts, legumes, and yogurt provided to participants] Habitual diet: maintain usual intake, no new foods + written guide + $10 grocery voucher + 30-min bimonthly session with RD Both groups reported as having "good compliance" with dietary protocols **Method(s)**: RCT	**Follow-up duration:** 3mo; 6mo Mediterranean v. Habitual diet groups, mean differences in: BMI, kg/m2 • at 3mo: -0.4, 95% CI: -0.31, 0.29, p=0.08; • at 6mo: -0.3, 95% CI: -1.47, 0.98, p=0.94 WHR • at 3mo: 0.00, 95% CI: -0.31, 0.29, p=0.75; • at 6mo: -0.00 95% CI: -0.03, 0.03, p=0.18 Wt, kg • at 3mo: -2.4, 95% CI: -6.6, 1.8, p=0.07; • at 6mo: -1.9, 95% CI: -6.2, 2.4, p=0.10 **Summary:** NS/Null: Mediterranean compared to Habitual Diet groups did not differ in reductions of BMI or WHR after 3 or 6 months or Weight loss after 3 or 6 months	• Primary outcome was cognitive function - cardiometabolics were secondary • Completers v. non-completers had similar baseline values except lower insulin in Habitual diet group • Similar results were reported in multiple articles by study authors (excluded for data overlap) **Funding**: National Health and Medical Research Council of Australia
Estruch, 2019 [108] Spain; PREDIMED Analytic N=3985 **Participant characteristics:** **Health:** • 100% high-risk for CVD • ~48% Diabetes • mean Wt, ~77kg;	**Age at Dietary Pattern:** 67y, mean (55 to 80 y) at baseline Med+EVOO: Consumed higher Fish/Seafood and Legumes and higher MEDAS scores than Control; Assigned to abundant olive oil, vegetables, fresh fruit and juices, legumes, fish or seafood, nuts and seeds, select white meat instead of red or processed meats, cook regularly with tomato, garlic and	**Follow-up duration:** 4.8 y, median ΔWC, baseline at 1 y • Med+EVOO v. Control, β: -0.313, 95% CI: -0.630, 0.004; p-trend=0.053 • Med+Nuts v. Control, β: -0.156, 95% CI: -0.493, 0.180; p-trend=0.362 ΔWC, baseline at 3 y • Med+EVOO v. Control, β: -0.535, 95% CI: -1.071, 0.001; p-trend=0.051 • Med+Nuts v. Control, β: -0.209, 95% CI: -0.745, 0.327; p-trend=0.442	• No adjustment for multiple testing; includes imputed data **Funding**: Spanish Government, CIBERobn, Instituto de Salud Carlos III, Hojiblanca, Patrimonio Comunal Olivarero, California Walnut Commission, Borges SA, and Morella Nuts

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations

• mean WC ~100cm; WHR, 0.63;
• Smoking: never ~61%, former ~25%, current 14%
 	
Race and/or Ethnicity: 97% white, European
 	
SEP: NR
	onion; wine preferred (if consuming alcohol); ad libitum nuts, eggs, fish, seafood, low-fat cheese, chocolate, whole-grain cereals + 15L EVOO
	
	Med+Nuts: Consumed higher fish/seafood and legumes and higher MEDAS scores than Control; Assigned to same diet as Med+EVOO, but in lieu of EVOO: +15g/d walnuts, 7.5g/d almonds, and 7.5g/d hazelnuts
	
	Control: Advised to reduce dietary fat
	
	Method(s): RCT
		ΔWC, baseline at 5 y
		• Med+EVOO v. Control, β: -0.466, 95% CI: -1.109, 0.176; p-trend=0.154
		• Med+Nuts v. Control, β: -0.923, 95% CI: -1.604, -0.241; p-trend=0.008
		
		Average ΔWC
		• Med+EVOO v. Control, β: -0.03, 95% CI: -0.13, 0.07; p-trend=0.54
		• Med+Nuts v. Control, β: -0.11, 95% CI: -0.22, 0.01; p-trend=0.065
		• In only age <70y
		  ○ Med+EVOO v. Control, β: -0.02, 95% CI: -0.14, 0.11; p-trend=0.77
		  ○ Med+Nuts v. Control, β: -0.11, 95% CI: -0.24, 0.03; p-trend=0.13
		• In only age ≥70y
		  ○ Med+EVOO v. Control, β: -0·07, 95% CI: -0.22, 0.10; p-trend=0.49
		  ○ Med+Nuts v. Control, β: -0.11, 95% CI: -0.29, 0.06; p-trend=0.20
		
		ΔWt after 1 y
		• Med+EVOO v. Control, β: -0.006, 95% CI: -0.225, 0.213; p-trend=0.958
		• Med+Nuts v. Control, β: 0.124, 95% CI: 0.113, 0.361; p-trend=0.306
		• ΔWt after 3 y
		• Med+EVOO v. Control, β: -0.326, 95% CI: -0.669, 0.016; p-trend=0.062
		• Med+Nuts v. Control, β: -0.029, 95% CI: -0.383, 0.326; p-trend=0.874
		
		ΔWt after 5 y
		• Med+EVOO v. Control, β: -0.410, 95% CI: -0.830, 0.010; p-trend=0.056
		• Med+Nuts v. Control, β: -0.016, 95% CI: -0.453, 0.421; p-trend=0.942	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations

		Average ΔWt per y
		• Med+EVOO v. Control, β: -0.04, 95% CI: -0.11, 0.03; p-trend=0.24
		• Med+Nuts v. Control, β: 0.05, 95% CI: -0.02, 0.12; p-trend=0.14
		• In age <70y
		  ○ Med+EVOO v. Control, β: 0.01, 95% CI: -0.08, 0.10; p-trend=0.89
		  ○ Med+Nuts v. Control, β: 0.07, 95% CI: -0.01, 0.16; p-trend=0.12
		• In age ≥70y
		  ○ Med+EVOO v. Control, β: -0.13, 95% CI: -0.24, -0.02; p-trend=0.02
		  ○ Med+Nuts v. Control, β: -0.0004, 95% CI: -0.11, 0.11; p-trend=0.95
		
		Summary:
		NS/Null: Med+EVOO or Med+Nuts v. Control & Δ Wt, Δ WC (1 y, 3 y, average/y); Significantly lower WC only at 5 y in Med+Nuts v. Control diet	

Georgoulis, 2020; 2021 and 2023 [113] Greece; MIMOSA Analytic N=180 **Participant characteristics:** **Health:** Mean BMI 35.4, 79% Ob; 61% (n=110) fulfilled MS criteria at baseline (most prevalent disorders were increased WC, HTN followed by decreased HDL and increased TG,	**Age at Dietary Pattern:** 49y, mean (18 to 65 y) at baseline MDG: high consumption of olive oil, vegetables, legumes, whole grains, fruits and nuts, moderate consumption of poultry, fish and dairy products, low consumption of red meat products and sweets, and low-to-moderate consumption of wine; 7, 60-min group counselling sessions, biweekly for the first two months and monthly for the next four months; based on cognitive behavioral therapy; + CPAP device	**Follow-up duration:** 6mo, 12mo MDG vs. SCG & Obesity at 6mo, RR: 0.23, 95% CI: 0.09, 0.57; p=0.002 BMI, kg/m2 • 6mo: -3.07, 95% CI: -3.93, -2.22, P<0.001 • 12mo: 2.95, 95% CI: -3.89, -2.01, p-trend<0.001 WC • 6mo: -5.51, 95% CI: -8.50, -2.51, P<0.001 • 12mo: -3.63, 95%CI: -7.12, -0.14, P=0.039 Increased WC • 6mo: RR 0.68, 95% CI: 0.17, 2.70, P=0.6; P-	• MDG v. SCG only relevant data for GBCO; No true control/placebo • High attrition rate (35% for SCG, 29% for the MDG); • Follow-up times relative to reported results were not clearly reported • No record of feedback on intervention; • No adjustment for multiple testing; includes imputed data; SCG did not include

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
hyperglycemia); 77% severe OSA; 75% male; low-PA level **Race and/or Ethnicity**: NR **SEP:** 38% low, 46% medium, 16% high income	SCG: Written advice for a healthy lifestyle and an indicative hypocaloric daily dietary plan, i.e., 7531 kJ (1800 kcal) for men and 6276 kJ (1500 kcal) for women; + CPAP prescription MDG v. SCG had higher Mediterranean Diet Score (MedDietScore) [Panagiotakos, 2007]: Positive: fruits, vegetables, grains (preferably whole grains), dairy,fish & seafood, white meat, legumes, olive oil. Negative: red meat, processed meat, sugar, salt. Moderate alcohol Data not included for MLG comparisons due to multi-components: MDG+physcial activity and optimal sleep duration and quality; + CPAP device **Method(s)**: RCT/Index	adj=0.9 • 12mo: RR: 0.98, 95% CI: -.46, 2.10, p-trend=0.863 % ΔWt • 6mo: -7.4% [4.1] v. 0.3% [3.6], p<0.001 Wt, kg • 6mo: -8.96, 95% CI: -12.6, -6.33, P<0.001 • 12mo: -8.43, 95% CI: -11.3, -5.54, p-trend<0.001 **Summary:** Significantly lower risk of obesity and greater reductions in BMI, WC, and Wt @ 6 or 12mo in the MDG v. SCG group; NS: MDG v. SCG & odds of increased WC @ 6 or 12mo	CPAP device • ITT and per-protocol analyses generated similar results in different publications. • No significant differences were observed between completers (n=127) v. dropouts(n=53) in age, sex, education, financial and employment status, dietary, physical activity and sleep habits, or body weight status, AHI and OSA severity, presence of the MS (all p≥0.1). • Both intervention arms had high participation rate in the counselling sessions (mean number of attended sessions, MDG: 6.38 ± 0.66, MLG: 6.58±0.62, P=0.2). **Funding**: Department of Nutrition and Dietetics, Harokopio University

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Gotfredsen, 2021 [120] Denmark; Diet and Prevention of Ischemic Heart Disease: a Translational Approach (DIPI) Analytic N=186 **Participant characteristics:** **Health:** 100% with 1 or more risk factors (Ob/OW, BMI 25; WC 80cm/94cm; Physically inactive) • Overweight: 51%, 56%, 51% (HAB, SUB, OFF) • Obesity: 16%, 22%, 21% (HAB, SUB, OFF) **Race and/or Ethnicity**: 100% Danish (NR) **SEP:** Education (HAB, SUB, OFF): • ≤HS, 22%, 26%, 29%; • Associate 11%, 8%, 6%; • Undergrad. 37%, 42%, 40%; • Grad 30%, 24%, 25%	**Age at Dietary Pattern:** 30 to 65 y at baseline SUB DG group: Targeted substitution dietary guidance, " Eat fruit instead of candy and cake; Eat coarse vegetables instead of fine vegetables; Eat fish instead of red meat; Eat whole grain products instead of products with no whole grains; Eat unsaturated fat instead of saturated fat" OFF group: Official Danish dietary guidance, "Eat a variety of foods, but not too much, and be physically active; Eat fruits and many vegetables; Eat more fish; Choose whole grains; Choose lean meats and cold meats; Choose low-fat dairy products; Eat less saturated fat; Eat foods with less salt; Eat less sugar; Drink water" HAB group: habitual intake (no intervention) **Method(s)**: Other RCT	**Follow-up duration:** 6mo SUB v. HAB • BF% 6mo, β: 0.08, 95% CI: -0.54, 0.70; • BF% 12mo, β: 0.59, 95% CI: -0.20, 1.38 • Trunk % 6mo, β: 0.12, 95% CI: -0.62, 0.87 • Trunk % 12mo, β: 0.75, 95% CI: -0.16, 1.67 • BMI 6mo, β: -0.13, 95% CI: -0.47, 0.20 • BMI 12mo, β: -0.06, 95% CI: -0.47, 0.35 • WC 6mo, β: -0.29, 95% CI: -1.62, 1.05 • WC 12mo, β: -0.92, 95% CI: -2.33, 0.48 • WHR 6mo, β: 0.003, 95% CI: -0.009, 0.02 • WHR 12mo, β: -0.007, 95% CI: -0.02, 0.005 • Wt 6mo, β: -0.40, 95% CI: -1.40, 0.60 • Wt 12mo, β: -0.19, 95% CI: -1.40, 1.03 OFF v. HAB • BF% 6mo, β: -0.10, 95% CI: -0.72, 0.5 • BF% 12mo, β: -0.04, 95% CI: -0.82, 0.74 • Trunk % 6mo, β: -0.12, 95% CI: -0.86, 0.62 • Trunk % 12mo, β: -0.03, 95% CI: -0.93, 0.88 • BMI 6mo, β: -0.24, 95% CI: -0.58, 0.09 • BMI 12mo, β: -0.17, 95% CI: -0.58, 0.23 • WC 6mo, β: 0.11, 95% CI: -1.22, 1.45 • WC 12mo, β: -0.08, 95% CI: -1.49, 1.32 • WHR 6mo, β: -0.00009, 95% CI: -0.01, 0.01 • WHR 12mo, β: 0.0008, 95% CI: -0.01, 0.01 • Wt 6mo, β: -0.67, 95% CI: -1.67, 0.32 • Wt 12mo, β: -0.47, 95% CI: -1.68, 0.73 **Summary:** NS/Null: SUB v. HAB or OFF v. HAB & BF%, Trunk Fat%, BMI, WC, WHR, Wt	• Intervention was not well-controlled (i.e., weak) • Diet assessed at 3 times, 6mo apart **Funding**: Danish Council for Strategic Research

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Jenkins, 2017 [124] Canada; Analytic N=919 **Participant characteristics:** **Health:** 100% OW **Race and/or Ethnicity**: NR **SEP:** NR	**Age at Dietary Pattern:** ≥ 18 y, mean 44.7y Advice: Increased intake of fruit, vegetables, whole grains, and cereals v. Control arm after 6mo; Advice to increase fruit, vegetables, whole grains, cholesterol-lowering foods (e.g., soy foods, nuts, and viscous fiber sources such as oats and barley and reduce meat, sweets, sugar-sweetened beverages Advice+Food: Higher intakes of fruit, vegetables, whole grains, nuts, soy protein, and viber than control arm after 6mo; Advice to increase fruit, vegetables, whole grains, cholesterol-lowering foods (e.g., soy foods, nuts, and viscous fiber sources such as oats and barley and reduce meat, sweets, sugar-sweetened beverages; plus provided weekly food basket Food: Higher intakes of fruit, vegetables, whole grains, nuts, soy protein, and fiber than control arm after 6mo; Provided weekly food basket Control: Lower intakes of fruits and vegetables after 6mo than three intervention arms **Method(s)**: RCT	**Follow-up duration:** 6mo; 18mo BMI Tx difference (range) • Advice v. Control, ○ 0 to 6mo: -0.1 (-0.5, 0.2); PR>0.463 ○ 0 to 18mo: -0.1 (-0.7,0.4); PR>0.601 • Advice+Food v. Food, ○ 0 to 6mo: -0.2 (-0.6, 0.3); PR>0.469 ○ 0 to 18mo: -0.1 (-0.8,0.6); PR>0.777 WC Tx difference (range) • Advice v. Control, ○ 0 to 6mo: -0.7 (-2.2, 0.8); PR>0.339 ○ 0 to 18mo: 0.1 (-1.3,1.6); PR>0.849 ○ 6 to 18mo: 0.7 (-0.9,2.3); PR>0.376 • Advice+Food v. Food, ○ 0 to 6mo: -0.9 (-2.5, 0.7); PR>0.251 ○ 0 to 18mo: -0.4 (-2.4,1.5); PR>0.658 ○ 6 to 18mo: 0.3 (-1.6,2.1); PR>0.787 Wt Tx difference (range) • Advice v. Control, ○ 0 to 6mo: -0.2 (-1.5, 1); PR>0.695 ○ 0 to 18mo: -0.3 (-1.3,0.7); PR>0.584 ○ 6 to 18mo: -0.1(-1.3,1.1); PR>0.842 • Advice+Food v. Food: ○ 0 to 6mo: -0.5 (-1.9, 0.9); PR>0.475 ○ 0 to 18mo: -0.4 (-1.8,0.9); PR>0.515 ○ 6 to 18mo: -0.1(-1.4,1.2); PR>0.87 **Summary:** NS/Null in BMI, WC, Wt	• Greater drop-out rates in arms that did not receive food; • Greater adverse events in treatment arms than control **Funding**: Institute of Nutrition, Metabolism, Diabetes of the Canadian Institute for Health Research, and Loblaw Cos

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Lima, 2013 [139] Brazil; Analytic N=206 (156 completed) **Participant characteristics:** **Health:** 100% HTN, mostly Ob **Race and/or Ethnicity**: Non-white: 87% **SEP:** Income: low, 36% v. 29%, mid 53% v. 55%, high 11% v. 17%	**Age at Dietary Pattern:** ≥ 20y, mean 44.7y DASH: Guidance to increase vegetables, fruits, legumes (beans and manioc products), low-fat dairy products, grains, roots and tubers, fish, and avoid excess salt, meats and meat products and SSBs; Reported consumption of vegetables, fruits, beans, milk and dairy foods, fish, and added fats and oils Control: Guidance to reduce sodium intake; Reported consumption of vegetables, fruits, beans, milk and dairy foods, fish, and added fats and oils **Method(s)**: RCT	**Follow-up duration:** 6mo DASH v. Control & Wt, kg, at: • 1mo, 65.7 v. 64.5 • 2mo, 65.3 v. 64.4 • 3mo, 65 v. 64.4 • 4mo, 64.7 v. 64.4 • 5mo, 64.3 v. 64.4 • 6mo, 64 v. 64.3; p<0.01 **Summary:** Significantly lower body weight across 1-6 mo follow-up for DASH diet compared to Control.	• Both groups received anti-HTN meds as Co-Intervention (drug NR) • Dietary intake assessed with 3 non-consecutive 24h records **Funding**: Fundac¸a˜o de Amparo e Pesquisa do Estado do Maranha˜o and Coordenac¸a˜o de Aperfeic¸oamento de Pessoal de Nı´vel Superior

Luo, 2022 [144]
China; n/a

Analytic N=202

Participant characteristics:

Health:

- 100% Prediabetes;
- 100% OW/Ob;
- 18% on lipid/HTN meds

Race and/or Ethnicity: NR (Chinese)

SEP: Education: 92% 13y+; 8% 12y or less;

Age at Dietary Pattern: 25 to 60 y

Mediterranean Diet (MD): ~25% energy restriction. Positive: extra-virgin olive oil, marine fish, nuts, whole grain products, fruits, vegetables, poultry. Negative: refined cereals, meat, soy products, sunflower oil

Traditional Jiangnan Diet (TJD, traditional cuisine of SE China): ~25% energy restriction. Positive: refined cereals, legumes, vegetables, fruits, freshwater fish and shrimp, soy products, sunflower oil. Moderate: whole grains such as brown rice. Negative: meat, poultry, nuts, oil oil

Control Diet (CD, current diet of megacities): ~25% energy restriction. Positive: Refined cereals, meat, poultry, sunflower oil, refined rice. Negative: brown rice, buchwheat products, fruits, vegetables, freshwater fish, marine fish, nuts, soy products, olive oil

Method(s): RCT

Follow-up duration: 3mo, 6mo

∆VAT, 3 mo
- MD, EMM: -34.1, 95% CI: -41.6, -26.50
- TJD, EMM: -30.8, 95% CI: -37.7, -23.9
- CD, EMM: -29.0, 95% CI: -35.7, -22.3

∆VAT, 6 mo p-trend=0.44
- MD, EMM: -39.88, 95% CI: -47.7, -32.1
- TJD, EMM: -36.2, 95% CI: -43.7, -28.6
- CD, EMM: -40.5, 95% CI: -47.5, -33.5

∆SAT, 3 mo
- MD, EMM: -22.4, 95% CI: -28.2, -16.6
- TJD, EMM: -15.2, 95% CI: -20.6, -9.90
- CD, EMM: -17.7, 95% CI: -22.9, -12.5

∆SAT, 6 mo p-trend=0.26
- MD, EMM: -25.8, 95% CI: -31.8, -19.7
- TJD, EMM: -17.7, 95% CI: -23.6, -11.9
- CD, EMM: -24.4, 95% CI: -29.8, -19.0

∆Abdominal fat, 3 mo
- MD, EMM: -56.6, 95% CI: -68.2, -44.9
- TJD, EMM: -45.8, 95% CI: -56.4, -35.2
- CD, EMM: -47.1, 95% CI: -57.4, -36.7

∆Abdominal fat, 6 mo p-trend=0.17
- MD, EMM: -65.6, 95% CI: -77.5, -53.6
- TJD, EMM: -53.9, 95% CI: -65.3, -42.5
- CD, EMM: -65.2, 95% CI: -76.0, -54.5

∆Wt (kg), 3 mo
- MD, EMM: -5.11, 95% CI: -5.79, -4.44
- TJD, EMM: -4.72, 95% CI: -5.38, -4.06
- CD, EMM: -4.97, 95% CI: -5.64, -4.31

∆Wt (kg), 6 mo p-trend=0.64
- MD, EMM: -5.72, 95% CI: -6.40, -5.03
- TJD, EMM: -5.05, 95% CI: -5.73, -4.38
- CD, EMM: -5.38, 95% CI: -6.06, -4.70

Summary: NS/Null: ∆Weight, ∆Abdominal Fat, ∆VAT, ∆SAT in MD compared to either TJD or Control [Note that all three groups lost VAT, SAT, WC, and Wt]

All arms were calorie-restricted [lost VAT, SAT, WC, and Wt] and received study foods (i.e., controlled-feeding study)

Funding: Strategic Priority CAS Project, Chinese Academy of Sciences, Ministry of Science and Technology of China, National Natural Science Foundation of China, Shanghai Municipal Science and Technology Major Project, Outstanding Academic Leader Project of Shanghai Municipal Health Commission, Shanghai Medicine and Health Development Foundation

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Maruyama, 2021 [145] Japan; n/a Analytic N=98 **Participant characteristics:** **Health:** 100% dyslipidemic (43% on LDL-lowering med; 18% TG-lowering med; 28% on both) **Race and/or Ethnicity**: NR **SEP:** NR	**Age at Dietary Pattern:** 54y, mean; 30 to 65y at baseline Japan Diet (JD): Consume more vegetables; seaweed/mushrooms/konjak; unrefined cereals or barley; soybean products - natto; fish; Reduce animal fat/fatty meat/poultry; confections; alcohol Partial JD (PJD): Reduce animal fat/fatty meat/poultry; confections; alcohol **Method(s)**: RCT	**Follow-up duration:** ∆3mo; ∆6mo Mean diffferences (95% CI) BMI, • 0-3mo: 0.1 (-0.2, 0.4); Effect size: 0.14; p=0.50 • 3-6mo: 0.1 (-0.2, 0.5); Effect size: 0.16; p=0.43 WC, • 0-3mo: -1.0 (-2.1, 0.0); Effect size: 0.41; p=0.053 • 3-6mo: -1.2 (-2.5, 0.2); Effect size: 0.35; p=0.091 Wt, • 0-3mo: 0.3 (-0.4, 1.0); Effect size: 0.16; p=0.44 • 3-6mo: 0.4 (-0.6, 1.3); Effect size: 0.17; p=0.41 **Summary:** NS/Null: BMI, WC and Wt in JD vs. PJD; marginally lower WC only at 0-3mo	Canned mackerel, rice with barley provided to JD arm **Funding**: SKYLARK Food Science Institute

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Murphy, 2022 [153] Australia; MedLey Analytic N=108 All non-smokers, w/o chronic disease and major psychological illnesses **Participant characteristics:** **Health:** NR **Race and/or Ethnicity**: NR **SEP:** NR	**Age at Dietary Pattern:** 71 y, mean; 64 to 86 y at baseline modified Mediterranean Diet Score (MedDiet) [Davis 2017 modifed Sofi, 2008] MedDiet group: higher MedDiet scores than Control group, Positive: Vegetables; Fruit; Nuts; Legumes; Whole grains; Olive Oil. Negative: Potatoes (White, starchy); Dairy (whole or low-fat; products); Eggs; Red meat; Sugars; Discretionary Foods; Other Alcohol; Moderate: Fish; Red wine Control group consumed less EVOO, vegetables, fish, more discretionary foods **Method(s)**: RCT/Index/Score analysis	**Follow-up duration:** 6 to 18mo ∆BMI, kg/m2, mean difference • 6 to 18mo: MedDiet, Mean: 0.1±0.1, 95% CI: -0.2, 0.3; p-trend=0.498 vs. Control, Mean: 0.1±0.1, 95% CI: -0.2, 0.4; p-trend=1.000; MedDiet vs. Control, p-trend=0.049 • 0 to 18mo: MedDiet, Mean: -0.2±0.1, 95% CI: -0.5, 0.2; p-trend=1.000 ∆Wt (kg), mean difference 6 to 18mo • 6 to 18 mo, MedDiet, Mean: 0.2±0.3, 95% CI: -0.6, 0.9; p-trend=0.387 vs. Control, Mean:0.1±0.3, 95% CI: -0.6, 0.9; p-trend=1.000; MedDiet vs. Control, p-trend=0.019 • 0 to 18mo, MedDiet, Mean: -0.4±0.3, 95% CI: -1.3, 0.5; p-trend=1.000 **Summary:** NS/Null: MedDiet scores & ∆BMI or ∆Wt from 6-18mo	• Diet repeatedly assessed with 74-item validated FFQ; Authors did not consider between-group differences as significant • **Funding**: None (Primary intervention study funded by National Health and Medical Research Council of Australia)
Pattinson, 2020 [156] Australia; TEMPO Analytic N=79 **Participant characteristics:** **Health:** 100% Ob women postmenopause **Race and/or Ethnicity**: NR, "Predominantly White" **SEP:** NR (all from metro area)	**Age at Dietary Pattern:** 45 to 65 y at baseline Food-Based (FB) Group: Increased intake of Fruit, decreased intake of Discretionary Foods vs.TMR; Assigned to 3-6 serv/d protein foods (meat and meat alternatives, reduced-fat dairy); 4 serv/d CHO foods (grains, cereals, starchy vegetables); 2 serv/d fruits; 5 serv/d non-starchy vegetables; 2 serv/d fats; up to 1 serv/d discretionary food and/or alcohol;	**Follow-up duration or age:** 52 wks PP, mean difference ∆Wt (kg) • TMR v. FBG, -6.5, 95% CI: -9.4, -3.6; p-trend<0.001 • ∆HEIFA, -8.2, 95% CI: -13.8, -2.7; p-trend=0.004 ITT, mean difference ∆Wt (kg) • TMR v. FBG, -7.4, 95% CI: -10.3, -4.4; p-trend<0.001 • ∆HEIFA, -5.1, 95% CI: -9.7, -0.5; p-trend=0.030 **Summary:** Significantly greater Wt loss (~ 1.7x more) at 52 wk between those in the Food-based	• Unequal provision of food between interventions (only meal replacements given); • Advice offered to participants after transitioning off meal-replacements; • HEIFA was not designed specifically for weight loss **Funding**: National Health and Medical Research Council of Australia; University of Sydney; Australian Government

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
	Total Meal Replacement (TMR) Group: Decreased intake of Fruit, Increased intake of Discretionary Foods vs. FBG; Assigned to 65-75% energy restriction for 16 wks. Included 3 MR shakes or soups, up to 2 c/d non-starchy vegetables, 1 tsp/d fats or oils. Minimal-energy foods such as diet jelly, black tea and coffee, garlic, herbs and spices permitted. 16-wk period followed by moderately energy-restricted food-based diet; Healthy Eating Index for Australian Adults (HEIFA) [Pattinson, 2021 modified Roy 2016]: Positive: Vegetables; Vegetable variety; Fruit; Fruit variety; Total Grains; Whole grains; Fat (PUFA foods, US oils, nuts, seeds). Negative: Saturated Fat; Added Sugars; Discretionary Foods (including processed meat). Moderate: Dairy and Dairy Alternatives; Meat and Meat Alternatives (not processed) **Method(s)**: RCT/Index/score	group (FBG), with higher HEIFA scores, compared to the total meal replacement (TMR) group	Department of Education and Training

Pavić, 2019 [157]
Croatia; Other:

Analytic N=124

Participant characteristics:

Health: 100% Ob/OW

Race and/or Ethnicity: NR

SEP: Education: 42% v. 27% uni+; Employment: 59% v. 37%; Married: 67.2% v. 67.2%

Age at Dietary Pattern: 18 to 69 y

Mediterranean diet (MD): Increased intake (but NS) of olive oil, nuts, and fish vs. SHD; Assigned to nutrition education, behavior therapy, exercise, and MD: vegetables (2–3 servings/day), fresh fruits (3 servings/day), whole grains (e.g. non-refined cereals, whole-grain bread, pasta etc.), non-fat or low-fat dairy products (1–2 servings/day); low in red meat, with poultry and fish (3–4 servings/week) replacing pork, beef and lamb; energy intake restricted to an average of 1573 kcal/d; 3–4 portions of fish per wk, nuts handful/d (56 g/wk) and 2 tablespoons (corresponding to 30 ml) of EVOO/d provided at the study entry.

Standard Hypolipidemic Diet (SHD): Lower but NS in olive oil, nuts, and fish vs. MD; Assigned to nutrition education, behavior therapy, exercise, and SHD: whole grains, fruit (3 servings/d), vegetables (2–3 servings/d), restricted additional fats, sweets and high-fat snacks with energy intake limited to 1287 kcal/day; recommended non-fat or low-fat dairy products (1–2 servings/d), legumes (4 servings/wk); Encouraged fish if already part of a regular diet but <1/weekly; Reduce salt

Method(s): RCT

Follow-up duration or age:12mo

MD vs. SHD, mean [SD] Δ 0-12mo

- ΔBMI, kg/m2: -3.0 [3.2] vs. -1.8 [2.9]; P<0.001
- ΔWC, cm: -7.7 [7.3] vs. -5.1 [6.6], P<0.001
- ΔWt, kg: -8.7 [9.6] vs. -4.9 [8.1], P<0.001

Summary: Significantly greater reductions in BMI, WC, and Wt over 12mo in the MD compared to SHD

- Drop-out rate: 33.1% (motivation and/or unwillingness to continue, health related issues, pregnancy, death and unknown)
- Adherence to diet was reported as "satisfactory" but MD v. SHD did not significantly differ in the increase intake in olive oil, nuts, fish and reduced red or processed meats, sweets, sweetened beverages and alcoholic drinks
- All participants intervened upon with diet, physical activity and supervision therefore the results represent interaction effect of all three components

Funding: NR

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Poulsen, 2015 [159] Denmark; Analytic N=147 (110 completed) **Participant characteristics:** **Health:** 43-45% MetSyn; mean BMI 30.7; 80-88% HTN and 13% on HTN-meds **Race and/or Ethnicity**: NR **SEP:** NR	**Age at Dietary Pattern:** 43y, mean at baseline New Nordic diet (NND), controlled feeding intervention: Vegetables (cabbages, root, legumes); Fruit (berries); Potatoes; Nuts, Whole grain; Meat (game); Fish and shellfish; Seaweed; Wild plants and mushrooms; Fresh herbs Average Danish Diet (ADD): NR **Method(s)**: RCT	**Follow-up duration or age:**12mo NND v. ADD, adjused mean diffferences @ 26 wks • WC: -3.5, 95% CI: -5.6, -1.4; p=0.002 • Hip: -2.1, 95% CI: -3.8, -0.5; p=0.01 • Sagittal diameter: -0.9, 95% CI: -1.5, -0.2; p=0.008 • Wt:-3.3, 95% CI: -5.0, -1.6; p<0.001 @ 78 wks • WC: 1.7, 95% CI: -0.3, 3.6; p=0.1 • Hip-C: 2.4, 95% CI: 0.7, 4.2; p=0.006 • Sagittal diameter: 0.6, 95% CI: 0.0, 1.2; p=0.07 • Wt: 1.8, 95% CI: 0.1, 3.4; p=0.041 **Summary:** Significantly greater weight loss and lower WC, Hip-C, and Sagittal diameter at 26 weeks NND v. ADD. However, NND v. ADD+NND regained more Wt, Hip-C at 78 weeks NS: Both NND and ADD+NND regained WC and Sagittal diameter at 78 wk.	Dietary compliance was partially subjective **Funding**: Nordea Foundation Denmark

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Reidlinger, 2015 [162] United Kingdom; Cardiovascular disease risk REduction Study (CRESSIDA) Analytic N=162 **Participant characteristics:** **Health:** • Non-smoking, healthy; • Mean BMI 25.5 v. 26.8; • mean WC 98 v. 97 cm; • 50% v. 56% post-menopausal **Race and/or Ethnicity**: DG v. CG • White: 87% v. 80% • Black: 7% v. 8% • Asian: 7% v. 8% **SEP:** NR	**Age at Dietary Pattern:** 40 to 70 y "Dietary Guidelines" DG diet: Increased Vegetables and Fruit; Whole Grains; Oily Fish; Reduced Total Fat; SFA; Sodium; Added Sugars; Advice to choose Low-fat Dairy; Lean Meat; and Limit Meat; Meat products, SSBs; Salt; Confectionary, Snacks; Moderate alcohol Control: traditional British diet without sugar/salt restrictions: Higher in Refined Cereals; Potatoes; Meat; Moderate in Whole Grains, Oily Fish; Advice to consume Vegetables, Fruit, Full-Fat Dairy and Limit Confectionary, snacks; Moderate alcohol **Method(s)**: RCT	**Follow-up duration or age:** 12 wks WC, -1.7, 95% CI: -2.8,-0.7; p=0.002 Wt, kg, -1.9%, 95% CI: 2.5,-1.3; p<0.001 **Summary:** Significantly lower weight and WC at 12 wk in those on DG diet v. Control	Advised both groups in attempt to keep weight stable **Funding**: UK Food Standards Agency and Department of Health and by the National Institute for Health Research (NIHR) Clinical Research Facility at Guy's and St Thomas' NHS Foundation Trust and NIHR Biomedical Research Centre based at Guy's and St Thomas' NHS Foundation Trust and King's College London

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Sidahmed, 2014 [169] United States; Healthy Eating for Colon Cancer Prevention Study Analytic N=120 **Participant characteristics:** **Health:** 64% family Hx of CRC, 27% Hx adenoma, or 9% both **Race and/or Ethnicity**: 88% Caucasian **SEP:** NR	**Age at Dietary Pattern:** 53 y, mean at baseline 'Healthy eating' arm: Assigned to consume Fruit 2 serv/d, Vegetables 2 serv/d, Dark green or orange vegetables 1 serv/d, Whole grains ≥3 serv/d, SFA <10% Total E 'Mediterranean' arm: Assigned to consume Fruit (vit. C) 1 serv/d, Fruit (Other) 1 serv/d, Allium vegetables 1-2 serv/d, Dark green vegetables 1-2 serv/d, Orange and yellow vegetables 1-2 serv/d, Red vegetables 1-2 serv/d, Other vegetables 1-2 serv/d, Dark green herbs 1 serv/d, Whole grains ≥3 serv/d, High MUFA foods 7-10 exchanges/d, High n-3 foods 3 oz, twice/wk **Method(s)**: RCT	**Follow-up duration or age:** 6mo Hip circumference: Mediterranean 41.1 to 40.0 inches; data NR for 'Healthy Eating' arm Healthy v. Mediterranean and Wt. loss: 0.92 kg v. 1.58 kg, NS; Within Mediterranean arm, those who were OW/Ob lost significantly more weight than those who were not. **Summary:** NS/Null: 'Healthy eating' v. 'Mediterranean' diet groups did not differ in weight loss	Compliance with assigned intervention was difficult to interpret and low at 6 mo: Healthy 67% v. Mediterranean 32% compliant with meeting 100% of dietary goals; Healthy 89% v. Mediterranean 85% compliant with meeting ≥70% of dietary goals **Funding**: NIH; Cancer Center Support

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Turner-McGrievy, 2015 [174] United States; Analytic N=62 (power estimate of 80% for n=12 per arm) **Participant characteristics:** **Health:** mean BMI ~33-36 **Race and/or Ethnicity**: 18% Black; 81% White; 1% Other **SEP:** 94% of participants were college graduates or held advanced degrees; 63% married	**Age at Dietary Pattern:** 43 to 53y, mean across groups Vegan: No animal products (meat, fish, poultry, eggs, or dairy) but emphasizes plant-based foods, such as fruits, vegetables, whole grains, and legumes/beans. Vegetarian: No meat, fish, or poultry but does contain eggs and dairy, in addition to plant-based foods, such as fruits, vegetables, whole grains, and legumes/beans. Pesco-vegetarian: No meat or poultry but does contain fish and shellfish, eggs, and dairy, in addition to plant-based foods, such as fruits, vegetables, whole grains, and legumes/beans. Semi-vegetarian: All foods, including meat but red meat 1/wk, poultry 5/wk, fish and shellfish, eggs, and dairy, in addition to plant-based foods, such as fruits, vegetables, whole grains, and legumes/beans. Omnivore: All food groups **Method(s)**: RCT	**Follow-up duration or age:**6mo WL at 6mo • Vegan v. Omni: -7.5% (4.5%) v. -3.1% (3.6%); P 0.03 • Vegan v. Semi-Veg: -7.5% (4.5%) v. -3.2% (3.8%); P 0.03 • Vegan v. Pesco-Veg: -7.5% (4.5%) v. -3.2% (3.4%); P 0.03 **Summary:** Greater weight lost at 2mo in each dietary pattern compared to Omnivore; Greater weight lost at 6mo in the Vegan and Vegetarian groups compared to other patterns; Those in any arm lost weight at 2mo and 6mo	• Analyses were not powered to detect differences between diets or weight loss, despite power estimate at n=12 per arm; • Sample was mostly White, educated, men • Unclear reporting of data on weight for all arms and time points **Funding**: NR

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Tussing-Humphreys, 2022 [175] United States; Building Research in Diet and Cognition study Analytic N=100 **Participant characteristics:** **Health:** • 100% OW/Ob; 67% HTN **Race and/or Ethnicity**: • 91% non-Hispanic, Black • 3% Native American • 6% Multi-racial **SEP:** • Income: 22% <$20K, 23% $20-$40K, 54% >$40K; 99% health-insured • Education: 30% grad. degree; 20% college grad; 10% associate degree; 9% ≤HS • Marital status: 25% single; 28% married; 16% widowed; 31% divorced	**Age at Dietary Pattern:** 55 to 85 y at baseline MedDiet Score (MDS) [Tangney 2011]: Positive: Non-refined grains, potatoes, fruit, vegetables, legumes and nuts, fish, olive oil. Negative: Red meats, poultry, full-fat dairy. Moderate: wine, alcohol MedDiet Group: Higher MDS v. Control at 8mo F/U; Assigned to follow MDS recommendations, maintain body Wt and PA; Increased MDS by F/U Control Group: No dietary recommendation provided; Health education materials provided weekly. No change in MDS by F/U, but lower MDS than MedDiet at F/U **Method(s)**: Index, RCT	**Follow-up duration or age:** 8mo MedDiet vs. Control ∆%BF, mean: -0.8, 95% CI: -1.2, -0.3 vs. -0.2, 95% CI: -0.8, 0.4; p-trend=0.02 ∆BMI, mean: -1.0, 95% CI: -1.4, -0.6 vs. -0.2, 95% CI: -0.8, 0.3; p-trend<0.001 ∆Visceral Adipose Mass, mean: -162, 95% CI: -248, -76 vs. 91, 95% CI: -18, 200; p-trend<0.001 ∆Wt (kg), mean: -2.6, 95% CI: -3.7, -1.5 vs. -0.6, 95% CI: -2.1, 0.8; p-trend<0.001 **Summary:** Significantly greater reductions in weight, BMI, BF%, and Visceral Adipose Mass in MedDiet v. Control groups	MedDiet+ER group data not included here due to it reflecting multi-components **Funding**: NIH

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Van Horn, 2020 [177] United States; WHI Analytic N=10371 **Participant characteristics:** **Health:** BMI, mean 28; 2% treated for DM; 100% normotensive **Race and/or Ethnicity**: • White: 84-85%; • Black 7-8%; • Hispanic: 3-4%; • American Indian/Alaska Native: 0.3%; • Asian/Pacific Islander ~2%; • Unknown 1-2% **SEP:** NR	**Age at Dietary Pattern:** 61 y, mean at baseline Intervention v. usual diet: increased vegetables, fruit, grains, and reduced fat; Higher aMED (higher legumes separate from nuts), DASH, aHEI-2010, and HEI-2005 (higher low-fat dairy) scores after 1y • Alternate Med Diet Score (aMED) [Fung 2005] • DASH Score [Fung 2008] • Alternative HEI (AHEI)-2010 [Chiuve 2012] • Healthy Eating Index (HEI-2005) [Guenther 2008]: **Method(s)**: RCT/Index/score	**Follow-up duration or age:** 1y WC (cm): − 2.0 ± 6.6 vs. -0.1 ± 6.6, p<0.001 Wt (kg): − 2.4 ± 7.7 vs. 0.2 ± 8.8, p<0.001 **Summary:** Increased scores for aMED, AHEI-2010, HEI-2005, and DASH was significantly associated with lower weight and WC after 1y	• Attempted to titrate TEI in order to maintain weight between groups. Both intervention and control groups lost weight • Adherence to intervention confirmed with higher scores on multiple indices **Funding**: NR

[a] Abbreviations: DM, Diabetes; HS, high school; HTN, hypertension; NR, not reported; Ob, Obesity; OW, Overweight; SEP/SES, Socioeconomic position/status

[a] Abbreviations in Results: BF, Body fat (total unless specified as trunk, gynoid, android, etc.); BF%, Body fat percentage; FFM, Fat-free mass; FFMI, Fat-free mass index; FM, Fat mass (total, unless specified as trunk, gynoid, android, etc.); FMI, Fat mass index; F/U, Follow-up; Hip-C, hip circumference; ITT, intent-to-treat; NR, not reported; NS, not statistically significant; PP, per-protocol; WC, waist circumference; WHR, waist-hip ratio; Wt, Body weight

Table 15. Risk of bias for randomized controlled trials examining dietary patterns consumed by adults and older adults and body composition and risk of obesity[a]

Article	Randomization	Deviations from intended interventions (effect of assignment)	Deviations from intended interventions (per-protocol)	Missing outcome data	Outcome measurement	Selection of the reported result	Overall
Alvarez-Perez, 2016 [81]	SOME CONCERNS	LOW	LOW	LOW	LOW	HIGH	HIGH
Arjmand, 2022 [85]	LOW	n/a	SOME CONCERNS	LOW	LOW	HIGH	HIGH
Bruno, 2020 [93]	SOME CONCERNS	LOW	LOW	LOW	LOW	SOME CONCERNS	SOME CONCERNS
Calvo-Malvar, 2021 A [94]	LOW	LOW	SOME CONCERNS	LOW	LOW	HIGH	SOME CONCERNS
Calvo-Malvar, 2021 B [95]	SOME CONCERNS	LOW	SOME CONCERNS	LOW	LOW	HIGH	HIGH
Casas, 2022 [98]	SOME CONCERNS	n/a	SOME CONCERNS	LOW	LOW	SOME CONCERNS	HIGH
Crosby, 2022 [104]	HIGH	LOW	n/a	LOW	LOW	SOME CONCERNS	HIGH
Davis, 2017 J Nutr [106]	LOW	LOW	LOW	LOW	LOW	SOME CONCERNS	SOME CONCERNS
Estruch, 2019 [108]	LOW	LOW	LOW	LOW	LOW	SOME CONCERNS	SOME CONCERNS
Georgoulis, 2020; 2021 and 2023 [113]	LOW	SOME CONCERNS	n/a	LOW	LOW	HIGH	HIGH
Gotfredsen, 2021 [120]	LOW	LOW	LOW	LOW	LOW	HIGH	HIGH
Jenkins, 2017 [124]	LOW	SOME CONCERNS	n/a	SOME CONCERNS	LOW	HIGH	HIGH
Lima, 2013 [139]	LOW	SOME CONCERNS	n/a	LOW	LOW	LOW	SOME CONCERNS
Luo, 2022 [144]	LOW	LOW	n/a	LOW	LOW	HIGH	SOME CONCERNS
Maruyama, 2021 [145]	LOW	LOW	LOW	LOW	LOW	LOW	LOW

Article	Randomization	Deviations from intended interventions (effect of assignment)	Deviations from intended interventions (per-protocol)	Missing outcome data	Outcome measurement	Selection of the reported result	Overall
Murphy, 2022[153]	SOME CONCERNS	LOW	n/a	HIGH	LOW	HIGH	HIGH
Pattinson, 2020 [156]	SOME CONCERNS	LOW	n/a	SOME CONCERNS	LOW	SOME CONCERNS	SOME CONCERNS
Pavić, 2019 [157]	LOW	n/a	SOME CONCERNS	SOME CONCERNS	LOW	SOME CONCERNS	SOME CONCERNS
Poulsen, 2015 [159]	HIGH	SOME CONCERNS	SOME CONCERNS	SOME CONCERNS	LOW	LOW	HIGH
Reidlinger, 2015 [162]	LOW	LOW	LOW	LOW	LOW	LOW	LOW
Sidahmed, 2014 [169]	LOW	LOW	LOW	LOW	LOW	HIGH	HIGH
Turner-McGrievy, 2015 [174]	LOW	SOME CONCERNS	n/a	LOW	LOW	SOME CONCERNS	SOME CONCERNS
Tussing-Humphreys, 2022 [175]	SOME CONCERNS	LOW	LOW	LOW	LOW	HIGH	HIGH
Van Horn, 2020 [177]	LOW	LOW	LOW	LOW	LOW	SOME CONCERNS	SOME CONCERNS

[a] Possible ratings of low, some concerns, or high determined using the "Cochrane Risk-of-bias 2.0" (RoB 2.0) (August 2019 version)" (Sterne JAC, Savović J, Page MJ et al. RoB 2: a revised tool for assessing risk of bias in randomised trials. *BMJ* 2019; **366**: l4898.

Table 16. Evidence in adults and older adults from observational studies examining the relationship between dietary patterns consumed and body composition and risk of obesity[a]

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Aljadani, 2020_F [79] Australia; Australian Longitudinal study on Women's Health (ALSWH) Analytic N=4083 **Participant characteristics:** • Smoking Status: 58% non-smoker, 18% ex-smoker, 24% smoker • PA (METs. minutes): 1178.5 ± 1407.2 • ARFS tertiles differed by PA and smoking (at baseline and F/U) **Race and/or Ethnicity:** NR **SEP:** • Education: 1% no formal school, 28% school certificate, 24% trade and apprentice, 47% university degree and higher • Marital status: 38% married, 21% defacto, 3% separated, 1% divorced, 0% widowed, 37% single • Residence: 60% urban, 36% rural, 3% remote	**Age at Dietary Pattern:** 27-31 y at baseline Austrailian Recommended Food Behavior Score (ARFS) [Collins, 2008], Positive: Vegetables; Fruit; Grains; Protein foods (Nuts, Beans, Soya; Egg; Fish). Negative: Meat; Neutral: Fat; Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:**6 y **Body weight:** ARFS & ΔWt (kg) T1, 4.1 ± 6.8 kg T2, 3.6 ± 6.5 kg T3, 3.7 ± 6.8 kg p-trend=0.04 ARFS per 1 pt, β: -0.04, 95% CI: -0.07, 0.00; R2 : 0.03; p-trend=0.03	• **Did not account for:** Race/Ethnicity • Self-reported Wt, Ht used at both baseline and follow-up • Diet assessed at baseline only **Funding**: N/A
Aljadani, 2020_I [78] Australia; Australian Longitudinal study on Women's Health (ALSWH)	**Age at Dietary Pattern:** 45 to 49 y at baseline Austrailian Recommended Food Behavior Score (ARFS) [Collins, 2008, Positive:	**Follow-up duration or age:** 9 y **Body weight:** ARFS & Wt T1, β=1, ref	• **Did not account for:** Age, Race/Ethnicity, Physical activity • Self-reported Wt, Ht; Diet assessed over time at Survey 3 (2001) and 6 (2010) with

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Analytic N=1999 **Participant characteristics:** **Race and/or Ethnicity:** NR **SEP:** • No education 18% • School certificate 32% • Trade, apprenticeship 17%; • ≥ University degree 23%; Married 77%; Defacto 6%; Separated 3%; Divorced 8%; Widowed 3%; Single 3%	Vegetables, Fruit, Protein foods (≤2 eggs/wk; ≥1 serving/wk plant protein); Grains; Dairy, Skim or Reduced fat; Negative: Meat (1-4 servings/wk beef, lamb, pork, poultry, fish/seafood); Neutral: PUFA or MUFA margarine; Alcohol **Method(s)**: Index/score analysis	T2, β: -0.33, 95% CI: -1.28, -0.62; p=0.49 T3, β: -1.2, 95% CI: -2.31, -0.11; p=0.03	validated, 74-item FFQ **Funding**: None
Allaire, 2020 [80] United States; Diabetes Prevention Program (DPP) Analytic N=2914 **Participant characteristics:** • Participants at high risk of T2D • Current smoker: 6.2%; Family Hx of T2D: 69.3%; HTN: 28.6% • BMI kg/m2: 33.9 ± 6.6 • Waist cm: 105.1 ± 14.4 • WHR: 0.92 ± 0.09 • No differences by treamtent group for baseline characteristics **Race and/or Ethnicity:** 45% of minority race/ethnicity; 55.4% Caucasian; 19.4% African American, 15.8% Hispanic,	**Age at Dietary Pattern:** ≥25 y at baseline Alternative HEI (AHEI)-2010 [Chiuve 2012] AHEI-2010, Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains (*this was classifed as high fiber grains and breads); Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:**1 y; T2D 3.2y **<u>Body weight:</u>** ∆AHEI & ∆Wt, per 10pt β: -0.512 (0.155), p=0.001 Caucasian: β: -1.128 (0.191), p<0.0001 African American: β: -0.363 (0.293), p=0.216 Hispanic: β: -0.852 (0.287), p=0.003 American Indian: β: -0.901 (0.631), p=0.155 Asian: β: 0.494 (0.461), p=0.286 P-interaction=0.020 ∆AHEI & ∆Wt, β (SE) Q1, β: 1, ref Q2, β: -0.401 (0.331), p=0.2264 Q3, β: -0.404 (0.342), p=0.2378 Q4, β: -1.328 (0.347), p=0.0001 Q5, β: -2.357 (0.359), p<0.0001	• **<u>Did not account for:</u>** N/A • Diet change assessed ∆1y; Wt measured in duplicate **Funding**: NIDDK; The General Clinical Research Center Program; National Center for Research Resources; VA; NICHD; NIA; National Eye Institute; NHLBI; NCI; ORWH; the National Institute on Minority Health and Health Disparities; CDC; ADA; Merck KGaA; donated materials from Bristol-Myers Squibb; Parke-Davis; and LifeScan Inc. LifeScan Inc.; Health O Meter; Hoechst Marion Roussel, Inc.; Merck-Medco; Managed Care, Inc.; Merck and Co.; Nike Sports Marketing; Slim Fast Foods Co.; and Quaker Oats Co.; McKesson BioServices Corp.; Matthews Media Group; and the Henry M. Jackson Foundation

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
5.3% American Indian, and 4.2% Asian **SEP:** Education: 14.8 ± 3.1, no differences by treatment group		ΔAHEI & ΔWt over 3.2 y F/U, β: -0.597 (0.070), p<0.0001 Caucasian, β: -0.688 (0.110), p<0.0001 African American, β: -0.324 (0.127), p=0.0108 Hispanic, β: -0.856 (0.139), p<0.0001 American Indian, β: -0.103 (0.242), p=0.6716 Asian, β: -0.158 (0.1652), p=0.3408	
Andre, 2020 [82] United Kingdom; BIOBANK Analytic N=21585 **Participant characteristics:** • Baseline differences in meds & comorbidities (p<0.0001) between those w/ & w/o incident T2D **Race and/or Ethnicity:** NR **SEP:** Baseline education level (college or university) differed between those who developed T2D and those who didn't (p<0.0001)- Incident T2D: 51% college or university; non-incident T2D 39% college or university	**Age at Dietary Pattern:** 40-69 y at baseline (mean 56.5 y) literature Mediterranean Diet Score (LitMDS) [Sofi 2014], Positive: Vegetables; Legumes; Fruit and Nuts; Cereals; Fish; Olive Oil. Negative: Meat; Dairy Products. Neutral: Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:** 6.1 y, mean F/U **Risk of Ob/OW:** Path α (litMDS→ overweight) HR: 0.92, 95% CI: 0.91, 0.93 p-trend<0.0001	• **Did not account for:** Age (all T2D models); Race/Ethnicity; Anthropometry at baseline (OW at f/u in mediation analyses) • Diet assessed repeatedly over F/U with 24h-recalls, dietary patterns from 'latter' surveys with stable intakes; 10% of whole association between litMDS & T2D was mediated by the reduced overweight associated with each additional point of the Medi diet score, and 4% was due to direct effect of the litMDS on T2D **Funding**: Joint Programming Initiative (JPI) Healthy Diet for Healthy Life (HDHL); French National Research Agency; Research Council for Biotechnology and Biological Sciences (UK); Ministry of Economy and Competitiveness (Spain)
Angulo, 2021 [83] Mexico; Mexican Teachers' Cohort Analytic N=8967 ΔWt; N=7588 WC	**Age at Dietary Pattern:** 25 to 49 y (mean, 41.4 y) at baseline modified Global Diet Quality Score (GDQS) [Bromage, 2021], Positive: citrus fruits, deep orange fruits, other fruits, dark green	**Follow-up duration or age:** 2 y **Body weight:** Δ GDQS & Δ Wt Largest decrease, β:0.50, 95% CI: 0.19, 0.81	• **Did not account for:** Race/Ethnicity (100% Mexican-Heritage) • Self-reported Wt; Diet change assessed Δ2; Sensitivity analyses showed largest

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Participant characteristics: • Baseline BMI (kg/m2): 26.8.9 ± 4.3 • 63% of sample overweight or obese at baseline • Smokers 5.7%, alcohol drinkers 53.4% • Compared with women with the largest decrease in GDQS, women with the largest increase in GDQS were more likely to be obese and less likely to be in the highest physical activity categories at baseline and were more likely to remain nonsmokers and nondrinkers in 2008 **Race and/or Ethnicity:** NR **SEP**: • Education at f/u: None ~2%, HS or less 7-8%, undergrad degree ~80%, grad degree or above 9-13%; • Marital status, baseline: ~14-16% single, ~9-11% living together, 65% married, ~9% separated, ~1-2% widow • Health insurance, baseline: ~78% public, 17-21% private, ~3% other; • Household assets, baseline: Lowest ~38-46%; Medium ~33-37%; Highest ~21-26%	leafy vegetables, cruciferous vegetables, deep orange vegetables, other vegetables, deep orange tubers, legumes, nuts and seeds, whole grains, liquid oils, fish and shellfish poultry and game meat, low fat dairy, and eggs; Negative: High-fat Dairy; Red meat; Processed meat; Refined grains and baked goods; Sweets and ice cream; SSBs; Juice; White roots and tubers; Purchased deep fried foods alternative Healthy Eating Index (AHEI-2010) [Chiuve, 2012], Positive: Vegetables (not potatoes, French fries); Legumes and Nuts; Fruits; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA; Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans-fat; Sodium; Neutral: Alcohol **Method(s)**: Index/score analysis	Small decrease, β: 0.33, 95% CI: 0.09, 0.57 Ref, β: 0, ref Small increase, β: -0.43, 95% CI: -0.67, -0.20 Largest increase, β: -0.81, 95% CI: -1.11, -0.51 p-trend<0.0001 per-SD, β: -0.28, 95% CI: -0.40, 0.16 per-SD, aAHEI-2010, β: -0.18, 95% CI: -0.31, -0.05, Wald test=0.383 **Waist/Central:** Δ GDQS & WC Δ Largest decrease, β:0.71, 95% CI: 0.09, 1.32 Small decrease, β: 0.32, 95% CI: -0.12, 0.77 Ref, β: 0, ref Small increase, β: -0.49, 95% CI: -0.94, -0.04 Largest increase, β: -1.05, 95% CI: -1.62, -0.48 p-trend<0.0001 per-SD, β: -0.54, 95% CI: -0.78, -0.31 per-SD, aAHEI-2010, β: 0.04, 95% CI: -0.20, -0.30, Wald test=0.006	increases in GDQS scores from only positively-scored foods were associated with less Wt and WC gain; whereas the largest decreases in only postive/healthy foods were not (null); largest decreases in GDQS scores from only negatively-scored foods were associated with more Wt and WC gain **Funding**: FHI Solutions

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Arabshahi, 2017 [84] Australia; Nambour Skin Cancer Study Analytic N=1186 **Participant characteristics:** • ~26-35% OW; ~14-21% Ob; ~40-59% with a medical condition • ~7-13% current smoker, ~23-26% former smoker • Recreational PA (MET-h/wk): ~29-39% none, ~20-27% ≤ 4.3, ~19-24% > 4.3 and ≤ 11.3, ~13-29% > 11.3 • Differences in baseline BMI, smoking status (♂), medical conditions by tertile of meat-and-fat pattern in women and fruit-vegetable pattern in ♀ , and PA in ♀ : In T3, ♂ more likely to be current smokers and less likely to have a medical condition. In T3, ♀ were more likely to engage in recreational PA and have a medical condition **Race and/or Ethnicity:** 99.7% Caucasian descent **SEP**: • Education: ~37-44% ≤grade 12, ~12-17% certificate/diploma, ~32-42% trade/apprenticeship,	**Age at Dietary Pattern:** 25 to 75 y at baseline • "Fruit/vegetable": High Positive loadings for reduced-fat dairy products, fruit, vegetables, beans and legumes, chicken without skin, fish/seafood, organ meats, wholemeal bread and whole grains, breakfast cereal, cereal products, salad dressing (both women and men); and low intakes of discretionary fat, chiken with skin, and white bread and refined grains (women only) • "Meat/fat": High Positive loadings for high-fat dairy products, discretionary fat, hot chips, fried eggs, chicken with skin, meat, processed meat, white bread and refined grains, pizza, and salty snacks (both men and women); and very low factor loadings for reduced-fat dairy products, herbal tea (women only), fruit, beans and legumes, chicken without skin, wholemeal bread and whole grains, and breakfast cereal (men only) **Method(s)**: Factor/Cluster: PCA	**Follow-up duration or age:**15 y **<u>Body weight:</u>** Wt Δ, kg 'Meat and Fat': ♀ T1: 4.1, 95%CI: 1.5, 6.8 T2: 5.0, 95%CI: 2.3, 7.6 T3: 5.2, 95%CI: 2.4, 8.0 P-trend=0.4 'Meat Fat' ♂: T1: 2.3, 95%CI: −2.6, 7.1 T2: 3.3, 95%CI: −1.6, 8.2 T3: 4.8, 95%CI: −0.1, 9.7 P-trend=0.02 'Fruit and vegetable', ♀ : T1: 5.7, 95%CI: 2.4, 9.0 T2: 3.7, 95%CI: 0.4, 6.9 T3: 5.0, 95%CI: 2.0, 8.0 P-trend=0.5 'Fruit and vegetable', ♂: T1: 5.4, 95%CI: 0.3, 10.4 T2: 3.5, 95%CI: −1.5, 8.4 T3: 2.9, 95%CI: −2.0, 7.8 P-trend=0.02	• **<u>Did not account for:</u>** Smoking (men); Medical conditions (women) • Diet assessed only once at baseline - or only baseline diet data was used for analysis **Funding**: National Health and Medical Research Council of Australia; PHRDC

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
~4-12% ≥bachelor or higher, ~29-38% professional occupation.			
Baldwin, 2020 [86] Australia; Australian Longitudinal Study on Women's Health (ALSWH) Analytic N=8161 **Participant characteristics:** • Ov: 32% (34% F/U), Ob: 24% (30% F/U) • General baseline health: Poor: 1.6%; Fair: 12.4%; Good: 39.0%; Excellent/Very Good: 47.1% **Race and/or Ethnicity:** NR **SEP**: • SEIFA, mean (SD): at baseline 995.5 (57.5); at F/U 998.2 (85.5) • ARIA (baseline-f/u) Major cities: 34-38%; Inner/Outer Regional: 62-59%; Remote/Very remote: 4-3% • Ability to manage on current income (baseline): Difficult/Impossible: 39%, f/u 32%; Not too	**Age at Dietary Pattern:** 52.1 +/- 1.5 y, mean at survey 3 (baseline) Austrailian Recommended Food Behavior Score (ARFS) [Collins, 2008], Positive: Vegetables; Fruit; Grains; Protein foods (Nuts, Beans, Soy, Egg; Fish); Dairy (Reduced-fat/Skim milk; Low-fat cheese). Negative: Meat. Neutral: Fats (PUFA, MUFA, Non-Fat); Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:**12 y, mean age ~ 64.3 y **BMI:** 'diet quality got worse', n=2361: Mean BMI, 26.9±5.4 'diet quality stayed the same', n=3077: Mean BMI, 26.5±5.2 'diet quality improved', n=2723: Mean BMI, 26.7±5.2	• **Did not account for:** N/A • Dietary change assessed; Self-reported Wt, Ht; BMI data collected at time 1 only; Fruit and Vegetable Index does not meet the definition of a dietary pattern with only 2 groups • **Funding**: Australian Department of Health
Baratali, 2021 [87] Switzerland; CoLaus|PsyColaus study Analytic N=2542 **Participant characteristics:** • 38% OW; 14% Ob; mean	**Age at Dietary Pattern:** 58.0 +/- 10.4 y at baseline • Mediterranean Diet Score (MDS) [Trichopolou 2003], Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative:	**Follow-up duration or age:**5 y **Body weight:** Wt (kg) AHEI	• **Did not account for:** N/A • Diet assessed once only for multiple DP scores; No adjustment for multiple testing was conducted; Additional analyses by sex showed similar trends but not significant given

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
BMI, baseline: 25.6 ± 4.3; WC, cm, 91 **Race and/or Ethnicity:** Caucasian, data NR **SEP:** • Education: University: 22%; Secondary: 27%; Apprenticeship: 37%; Primary: 14%	Red and Processed Meat; Dairy Products. Neutral: Alcohol • Mediterranean Diet Score (mMDS) modified [Vormund 2015] mMDS, Positive: Vegetables; Salad; Fruit; Nuts; Whole Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. Neutral: Alcohol • Alternative Healthy Eating Index (AHEI) [McCullough 2000] AHEI, Positive: Vegetables (not potatoes, French fries); Fruit; Nuts and Soy Protein; Cereal Fiber; White: Red Meat Ratio; PUFA:SFA; Multi-Vitamin Use. Negative: Trans-UFA. Neutral: Alcohol Factor loadings derived from PCA [Marques-Vidal, 2018] • 'Meat & Fries': Positive: red meat, poultry, processed meat, liver, french fries • 'Fruits & Vegetables': Positive: vegetables, fresh fruit or juice • 'Fatty & Sugary': Positive: hard fats, bakery items, chocolate **Method(s)**: Factor/Cluster; Index/Score Analysis	Q1, 0.57 ± 0.18 Q2, 0.31 ± 0.17 Q3, 0.32 ± 0.18 Q4, 0.57 ± 0.19 per 1-pt, β: 0.017 p-trend=0.393 MDS Q1, 0.42 ± 0.15 Q2, 0.59 ± 0.18 Q3, 0.30 ± 0.20 Q4, 0.46 ± 0.22 per 1-pt, β: 0.005 p-trend=0.799 mMDS Q1, 0.61 ± 0.17 Q2, 0.20 ± 0.15 Q3, 0.61 ± 0.21 Q4, 0.47 ± 0.21 per 1-pt, β: 0.008 p-trend=0.673 'Meat & Fries' Q1, 0.26 ± 0.19 Q2, 0.69 ± 0.18 Q3, 0.45 ± 0.18 Q4, 0.57 ± 0.19 per 1-pt, β: 0.037 p-trend=0.066 'Fruits & Vegetables' Q1, 0.50 ± 0.19 Q2, 0.53 ± 0.18 Q3, 0.20 ± 0.18 Q4, 0.74 ± 0.19 per 1-pt, β: 0.034 p-trend=0.157 'Fatty & Sugary'	a reduced sample size. • **Funding**: GlaxoSmithKline, the Faculty of Biology and Medicine of Lausanne, the Swiss National Science Foundation

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		Q1, 0.81 ± 0.18 Q2, 0.50 ± 0.18 Q3, 0.17 ± 0.18 Q4, 0.49 ± 0.18 per 1-pt, β: –0.026 p-trend=0.198 <u>∆Wt (> 5 kg)</u> AHEI Q1, OR: 1, ref Q2, OR: 0.78, 95% CI: 0.57, 1.08 Q3, OR: 0.71, 95% CI: 0.50, 0.99 Q4, OR: 0.72, 95% CI: 0.51, 1.02 Per 1-pt, OR: 0.99, 95% CI: 0.98, 1.00 p-trend=0.075 MDS Q1, OR: 1, ref Q2, OR: 0.86, 95% CI: 0.64, 1.16 Q3, OR: 0.81, 95% CI: 0.58, 1.12 Q4, OR: 0.55, 95% CI: 0.37, 0.82 Per 1-pt, OR: 0.89, 95% CI: 0.82, 0.96 p-trend=0.005 mMDS Q1, OR: 1, ref Q2, OR: 0.77, 95% CI: 0.57, 1.03 Q3, OR: 0.94, 95% CI: 0.67, 1.33 Q4, OR: 0.63, 95% CI: 0.43, 0.91 Per 1-pt, OR: 0.94, 95% CI: 0.88, 0.99 p-trend=0.038 'Meat & Fries' Q1, OR: 1, ref Q2, OR: 1.38, 95% CI: 0.96, 1.98 Q3, OR: 1.09, 95% CI: 0.75, 1.59 Q4, OR: 1.33, 95% CI: 0.91, 1.92 Per 1-pt, OR: 1.12, 95% CI: 1.01, 1.24 p-trend=0.032	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		'Fruit & vegetables' Q1, OR: 1, ref Q2, OR: 0.87, 95% CI: 0.62, 1.22 Q3, OR: 0.63, 95% CI: 0.44, 0.91 Q4, OR: 1.00, 95% CI: 0.71, 1.41 Per 1-pt, OR: 1.06, 95% CI: 0.97, 1.15 p-trend=0.189 'Fatty & Sugary' Q1, OR: 1, ref Q2, OR: 0.73, 95% CI: 0.52, 1.03 Q3, OR: 0.61, 95% CI: 0.43, 0.87 Q4, OR: 0.94, 95% CI: 0.68, 1.29 Per 1-pt, OR: 0.99, 95% CI: 0.91, 1.08 p-trend=0.851 **BMI:** AHEI & BMI Q1, 0.41 ± 0.06 Q2, 0.31 ± 0.06 Q3, 0.31 ± 0.07 Q4, 0.37 ± 0.07 per 1-pt, β: 0.010 p-trend=0.626 MDS & BMI Q1, 0.35 ± 0.05 Q2, 0.40 ± 0.06 Q3, 0.29 ± 0.07 Q4, 0.34 ± 0.08 per 1-pt, β: –0.001 p-trend=0.942 mMDS & BMI Q1, 0.40 ± 0.06 Q2, 0.27 ± 0.05 Q3, 0.40 ± 0.08 Q4, 0.35 ± 0.07 per 1-pt, β: 0.003	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		p-trend=0.899 'Meat & Fries' & BMI Q1, 0.28 ± 0.07 Q2, 0.43 ± 0.07 Q3, 0.36 ± 0.07 Q4, 0.38 ± 0.07 per 1-pt, β: 0.034 p-trend=0.096 'Fruits & Vegetables' & BMI Q1, 0.37 ± 0.07 Q2, 0.38 ± 0.06 Q3, 0.26 ± 0.07 Q4, 0.44 ± 0.07 per 1-pt, β: 0.031 p-trend=0.147 'Fatty & Sugary' & BMI Q1, 0.47 ± 0.07 Q2, 0.36 ± 0.06 Q3, 0.25 ± 0.07 Q4, 0.36 ± 0.07 per 1-pt, β: –0.028 p-trend=0.163 **Waist/Central:** AHEI & WC (cm) Q1, 0.96 ± 0.25 Q2, 0.32 ± 0.24 Q3, –0.15 ± 0.25 Q4, 0.11 ± 0.26 per 1-pt, β: –0.041 p-trend= 0.044 MDS & WC (cm) Q1, 0.69 ± 0.20 Q2, 0.13 ± 0.25 Q3, –0.03 ± 0.27 Q4, 0.21 ± 0.31	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		per 1-pt, β: –0.015 p-trend= 0.438 mMDS & WC (cm) Q1, 0.82 ± 0.23 Q2, 0.28 ± 0.21 Q3, 0.06 ± 0.29 Q4, –0.09 ± 0.28 per 1-pt, β: –0.025 p-trend=0.214 'Meat & Fries' & WC (cm) Q1, –0.09 ± 0.26 Q2, 0.74 ± 0.25 Q3, 0.30 ± 0.25 Q4, 0.45 ± 0.26 per 1-pt, β: 0.019 p-trend=0.342 'Fruits & Vegetables' & WC (cm) Q1, 1.14 ± 0.26 Q2, 0.43 ± 0.25 Q3, –0.13 ± 0.25 Q4, –0.05 ± 0.26 per 1-pt, β: –0.043 p-trend=0.042 'Fatty & Sugary' & WC (cm) Q1, 0.68 ± 0.25 Q2, 0.55 ± 0.25 Q3, –0.01 ± 0.25 Q4, 0.16 ± 0.25 per 1-pt, β: –0.026 p-trend=0.202 AHEI & Hip-C (cm) Q1, 3.45 ± 0.20 Q2, 2.78 ± 0.20 Q3, 2.67 ± 0.21 Q4, 2.96 ± 0.21	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		per 1-pt, β: –0.005 p-trend=0.803 MDS & Hip-C (cm) Q1, 3.09 ± 0.17 Q2, 2.99 ± 0.21 Q3, 2.49 ± 0.22 Q4, 3.27 ± 0.25 per 1-pt, β: 0.028 p-trend=0.137 mMDS & Hip-C (cm) Q1, 3.06 ± 0.19 Q2, 2.83 ± 0.17 Q3, 3.16 ± 0.24 Q4, 2.9 ± 0.24 per 1-pt, β: 0.038 p-trend=0.049 'Meat & Fries' & Hip-C (cm) Q1, 2.76 ± 0.21 Q2, 3.08 ± 0.21 Q3, 3.27 ± 0.21 Q4, 3.02 ± 0.22 per 1-pt, β: 0.016 p-trend=0.406 'Fruits & Vegetables' & Hip-C (cm) Q1, 3.08 ± 0.22 Q2, 3.32 ± 0.21 Q3, 2.74 ± 0.21 Q4, 2.99 ± 0.21 per 1-pt, β: 0.020 p-trend=0.332 'Fatty & Sugary' & Hip-C (cm) Q1, 3.16 ± 0.21 Q2, 3.17 ± 0.21 Q3, 2.74 ± 0.21 Q4, 3.05 ± 0.21	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		per 1-pt, β: 0.001 p-trend=0.972 AHEI & ΔWC > 5 cm, Q1, OR: 1, ref Q2, OR: 0.64, 95% CI: 0.50, 0.82 Q3, OR: 0.60, 95% CI: 0.46, 0.79 Q4, OR: 0.65, 95% CI: 0.50, 0.85 Per 1-pt, OR: 0.98, 95% CI: 0.97, 0.99 p-trend<0.001 MDS & ΔWC > 5 cm, Q1, OR: 1, ref Q2, OR: 0.75, 95% CI: 0.59, 0.95 Q3, OR: 0.79, 95% CI: 0.61, 1.01 Q4, OR: 0.73, 95% CI: 0.55, 0.97 Per 1-pt, OR: 0.91, 95% CI: 0.86, 0.97 p-trend=0.005 mMDS & ΔWC > 5 cm, Q1, OR: 1, ref Q2, OR: 0.87, 95% CI: 0.69, 1.10 Q3, OR: 0.81, 95% CI: 0.61, 1.07 Q4, OR: 0.57, 95% CI: 0.43, 0.77 Per 1-pt, OR: 0.92, 95% CI: 0.88, 0.97 p-trend=0.001 'Meat & Fries' & ΔWC > 5 cm, Q1, OR: 1, ref Q2, OR: 1.23, 95% CI: 0.94, 1.62 Q3, OR: 1.06, 95% CI: 0.80, 1.39 Q4, OR: 0.98, 95% CI: 0.73, 1.30 Per 1-pt, OR: 1.04, 95% CI: 0.98, 1.09 p-trend=0.201 'Fruit & vegetables' & ΔWC > 5 cm, Q1, OR: 1, ref Q2, OR: 0.83, 95% CI: 0.64, 1.08 Q3, OR: 0.62, 95% CI: 0.47, 0.82 Q4, OR: 0.67, 95% CI: 0.51, 0.89 Per 1-pt, OR: 0.92, 95% CI: 0.86, 0.99; p-trend=0.019	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		'Fatty & Sugary' & ΔWC > 5 cm, Q1, OR: 1, ref Q2, OR: 0.89, 95% CI: 0.68, 1.15 Q3, OR: 0.75, 95% CI: 0.57, 0.98 Q4, OR: 0.84, 95% CI: 0.64, 1.09 Per 1-pt, OR: 0.95, 95% CI: 0.89, 1.02; p-trend=0.180	
Beslay, 2020 [88] France; NutriNet-Sante Analytic N=110,260 Wt 71871 Obesity 55037 Overweight **Participant characteristics:** Mean BMI, baseline: 23.8 **Race and/or Ethnicity:**NR **SEP:** Education (baseline): < HS: 18%; <2 y post-HS: 17%; ≥2 y post-HS: 65%	**Age at Dietary Pattern:** 18 to 73.3 y (mean 43.1 [14.6]) at baseline UPF (Nova food classification system, group 4 [Monteiro, 2019]) : Fruits and Vegetables (UPF, reconstituted); Starchy foods and breakfast cereals (Industrial or flavored with additives); Meat, fish and egg (Processed/Industrial with additives); Dairy products (flavored or artificially sweetened; with additives); Beverages (sugary drinks, energy drinks, artificially sweetened); Sugary products (industrial cookies, cakes, candies with additives); Fats and sauces (dressing, mayo, ketchup, other with additives); Salty snacks (chips, crisps, crackers with additives e.g., oil, salt, maltodextrin, flavors). Nova 1, components NR. **Method(s)**: Index/Score Analysis: UP, Nova	**Follow-up duration or age:** 5 y, median **Risk of Obesity/Overweight:** Overweight (model 3), Q1, HR: 1, ref Q2, HR: 1.06, 95% CI: 0.99, 1.13 Q3, HR: 1.18, 95% CI: 1.10, 1.26 Q4, HR: 1.24, 95% CI: 1.16, 1.33; p-trend<0.001 per 10%, HR: 1.10, 95% CI: 1.08, 1.13, p<0.001 Obesity (model 3), Q1, HR: 1, ref Q2, HR: 1.05, 95% CI: 0.95, 1.17 Q3, HR: 1.11, 95% CI: 1.00, 1.23 Q4, HR: 1.16, 95% CI: 1.05, 1.30; p-trend=0.003 per 10%, HR: 1.10, 95% CI: 1.06, 1.14, p<0.001 **BMI:** BMI Δ (model 2), Q1, ref Q2, β 0.01, 95% CI: 0.004 to 0.02 Q3, β 0.01, 95% CI: 0.01 to 0.02 Q4, β 0.04, 95% CI: 0.04 to 0.05; p-trend<0.001 per 10%, β 0.02, 95% CI: 0.01 to 0.02, p<0.001	**Did not account for:** Race and/or Ethnicity • Self-reported weight, height; • Diet assessed at baseline only with 24 hour-recall **Funding**: Ministère de la Sante´, Sante´ Publique France, Institut National de la Sante´ et de la Recherche Me´dicale (INSERM), Institut National de la Recherche Agronomique (INRAE), Conservatoire National des Arts et Me´tiers (CNAM), and Universite´ Sorbonne Paris Nord
Best, 2023 [89] United Kingdom; UK Women's Cohort Study	**Age at Dietary Pattern:** 35 to 69 y at baseline Mediterranean Diet Score (MDS) [Trichopolou 2003], Positive: Vegetables;	**Follow-up duration or age:**4.1y, mean **Body weight:** MDS & ΔWt (median, IQR) T1, 0.9, 4.5	**Did not account for:** N/A • Self-reported anthropometrics • Diet assessed once only with multiple measures • Association between MDS and

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Analytic N=4162 **Participant characteristics:** **Race and/or Ethnicity:** 99.3% white **SEP:** Education (median) differed b/n groups, p<0.001 • MDS T1 o No formal: 19.3 o O level: 35.7 o A level: 25.3 o Degree+: 19.6 • MDS T2 o No formal: 17.9 o O level: 30.5 o A level: 27.1 o Degree+: 24.5 • MDS T3 o No formal: 16.2 o O level: 24.9 o A level: 29.3 o Degree+29.5	Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol Eat Well Guide (EWG) [Scheelbeek 2020], Positive: Vegetables and Fruit; Fish, oily; Fish, other; Fiber. Negative: Red and Processed Meat; Saturated fat; Sugars, free; Salt, total **Method(s)**: Index/score analysis	T2, 0.9, 4.1 T3, 0.9, 4.1 p-trend=0.40 linear (per tertile), β: 0.03, 95% CI: -0.19, 0.25; p-trend=0.80 per 1-pt, β: 0.16, 95% CI: -0.06, 0.10 p-trend-0.70 EWG & ΔWt (median, IQR) T1, 0.9, 4.0 T2, 0.9, 4.1 T3, 0.9, 4.5 p-trend=0.20 linear (per tertile), β: 0.14, 95% CI: -0.07, 0.36; p-trend=0.20 per 1-pt, β: 0.06, 95% CI: -0.04, 0.17 p-trend=0.23 **Risk of Ob/OW**, in those with BMI<25 at baseline MDS T1, OR: 1, ref T2, OR: 0.86, 95% CI: 0.65, 1.13 T3, OR: 0.91, 95% CI: 0.65, 1.27 Per 1-pt, OR: 0.98, 95% CI: 0.92, 1.04 EWG T1, OR: 1, ref T2, OR: 1.19, 95% CI: 0.91, 1.57 T3, OR: 1.09, 95% CI: 0.77, 1.5 **BMI:** MDS & ΔBMI (median, IQR) T1, 0.4, 1.7 T2, 0.3, 1.6 T3, 0.3, 1.5 p-trend=0.42 EWG & ΔBMI (median, IQR) T1, 0.3, 1.5	ΔWC (linear, per tertile) approaching significance at p=0.05. No adjustment for multiple analyses • Analyses examining MDS & EWG categorically (tertiles) did not adjust for any confounders in the models, but there were no differences in age between the tertiles for MDS & EWG, and no differences in education or smoking (p=0.05 for smoking) for EWG. For MDS, tertiles differed in baseline weight, baseline WC, baseline BMI, baseline abdominal obesity, baseline Ov/Ob, physical activity, education, smoking. For EWG, tertiles differed in baseline weight, baseline WC, baseline BMI, baseline abdominal obesity, baseline Ov/Ob, physical activity **Funding**: none

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		T2, 0.3, 1.6 T3, 0.4, 1.6 p-trend=0.20 **Waist/Central:** MDS & ΔWC (median, IQR) T1, 5.7, 8.3 T2, 5.7, 7.6 T3, 5.7, 7.6 p-trend=0.31 linear (per tertile), β: -0.29, 95% CI: -0.58, -0.01; p-trend=0.05 per 1-pt, β: -0.12, 95% CI: -0.23, -0.02; p-trend=0.02 EWG & ΔWC (median, IQR) T1, 6.3, 8.3 T2, 5.7, 7.6 T3, 5.1, 7.6 p-trend=0.01 linear (per tertile), β: -0.47, 95% CI: -0.75, -0.20; p-trend=0.001 per 1-pt, β: -0.24, 95% CI: -0.38, -0.12; p-trend<0.001 In those with WC <88 cm at baseline MDS & Risk of Abdominal Obesity T1, OR: 1, ref T2, OR: 0.74, 95% CI: 0.61, 0.90 T3, OR: 0.60, 95% CI: 0.46, 0.76 Per 1-pt, OR: 0.90, 95% CI: 0.86, 0.94 EWG & Risk of Abdominal Obesity T1, OR: 1, ref T2, OR: 0.75, 95% CI: 0.62, 0.90 T3, OR: 0.55, 95% CI: 0.43, 0.70 Per 1-pt, OR: 0.84, 95% CI: 0.80, 0.90	
Bouzas, 2020 [91] Spain; PREDIMED Plus	**Age at Dietary Pattern:** ♀ 60 to 75 y; ♂ 55 to 75 y	**Follow-up duration or age:** 1 y **Body weight:**	• **Did not account for:** SEP, Race/Ethnicity (100% Spanish), Physical activity, Smoking

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Analytic N=5695 **Participant characteristics:** • Basal BMI: 32-33; between WLM groups, p<0.001 • Max BMI: 33-36 • High-BP, ~92% • Hyperglycemia: 72-80% • HyperTG: 53-58% • Low HDL: 41-45% • Abdominal Ob: 95-96% **Race and/or Ethnicity for:** NR **SEP**: Education by WLM group: Primary: 48-53%; Secondary: 28-29%; Tertiary: 19-23%;	modified MedDiet [Alvarez-Alvarez, 2019 (modified Schroder, 2011)] Healthful/Unhealthful Provegetarian Food Pattern [Gomez-Donoso, 2019] mMedDiet: Positive: extra virgin olive oil, fruit (including fruit juices), vegetables/garden produce, whole grain cereals and pasta, legumes, fish or shellfish, nuts, chicken, turkey or rabbit, sofritas (dishes made with tomato, onion, leek or garlic), non-caloric artificial sweeteners, wine; Negative: white bread, red meat, hamburgers, or meat products (ham, sausage), butter, margarine, cream, sugary beverages or sugar-sweetened fruit juice, commercial sweets or pastries (not homemade) Provegetarian DP (Proveg.): Positive: Vegetables; Fruits; Legumes; Whole grains; Nuts; Olive oil; Coffee. Negative: Fruit juices; Refined grains; Sugary beverages; Pastries; Dairy; Eggs; Meat; Fish and seafood; Misc. foods, animal fat **Method(s)**: Index/score analysis	mMedDiet & ∆ Wt. mean [SD] Max: 3.4 [3.3] Moderate WL Maintainers (WLM): 3.2 [3.4] Large WLM: 3.1 [3.2] p=0.046 Healthful Proveg. & ∆ Wt, mean [SD] Max: -0.1 [7.8] Moderate WLM: -0.1 [7.7] Large WLM: 0.0 [7.8] p=NS/NR Unhealthful Proveg. & ∆ Wt, mean [SD] Maximum -0.7 [8.3] Moderate WLM: 0.3 [8.5] Large WLM: 0.2 [8.1] p=0.013	• Diet change assessed ∆1y • Reporting unclear for statistical significance within unhealthful provegetarian DP and WLM • Increases in MedDiet adherence and healthy provegetarian DP adherence were reported as similar between groups **Funding**: European Research Council; Fondo de Investigación para la Salud; Especial Action Project; Recercaixa Grant; Consejería de Salud de la Junta de Andalucía; Generalitat Valenciana; Balearic Islands Government; Balearic Islands Health Research Institte; European Regional Development Fund; the European Commission, Fernando Tarongí Bauzà Grant
Bouzas, 2022 [90] Spain; PREDIMED Plus Analytic N=5499 **Participant characteristics:** • All at high risk with BMI 27-40 and/or 3+ criteria for MetSyn. • Basal BMI, mean: T1: 33; T2: 32; T3: 33, p<0.001 • Max BMI, mean: T1: 34; T2: 33; T3: 35; p<0.001 • High-BP, T1: 93%; T2: 91%; T3: 92%; p=0.053	**Age at Dietary Pattern:** ♂ 55 to 75 y ♀ 60 to 75 y modified MEDAS [Alvarez-Alvarez, 2019 (modified Schroder, 2011)] mMEDAS, Positive: Vegetables; Fruit; Legumes; Nuts; Fish; White Meat Over Red Meat; Olive Oil; Olive Oil as Principal Cooking Fat; Wine; Sofritas [pasta/vegetable dishes with Tomato Sauce (tomato, garlic, onion, leek, olive oil)]; Negative: Sweets or Pastries; Red Meat or Sausages; Butter, maragarine; Sugar-Sweetened Beverages	**Follow-up duration or age:**1 y **<u>Body weight:</u>** MEDAS & "DWL" (Ideal-measured Wt), mean change (SD), after 1y F/U DWL >0 kg: ∆2.4 (3.0) DWL-4kg to 0 kg:∆ 3.2 (3.1) DWL <-4kg: ∆ 4.2 (3.3) p=0.052 (time*group)	• **<u>Did not account for:</u>** SEP (NSD in education or marital status), Physical activity (NSD between tertiles; part of outcome) • Diet assessed with validated 143-FFQ at baseline and 1y F/U; Did not directly examine outcome, reported "desired" Wt loss (ideal v. measured) **Funding**: European Research Council, Fondo de Investigación para la Salud (FIS), co-funded by

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
• Hyperglycemia: T1: 77%; T2: 75%; T3: 75%; p=0.436 • HyperTG: T1: 55%; T2: 57%; T3: 56%, p=0.248 • Low HDL: T1: 44%; T2: 43%; T3: 42%, p=0.295 • Abdominal Ob: T1: 96%; T2: 94%; T3: 98%, p<0.001 **Race and/or Ethnicity:** NR **SEP**: • Education Level, T3-T1: Primary: 49-52%; Secondary: 27-29%; Tertiary: 21-23%	**Method(s)**: Index/score analysis		the European Regional Development Fund, Especial Action Project, Consejería de Salud de la Junta de Andalucía, Generalitat Valenciana, SEMERGEN, Balearic Islands Health Research Institute (IDISBA), European Regional Development Fund, European Commission, Fundació La Marató TV3, Fernando Tarongí Bauzà
Brayner, 2021 [92] United Kingdom; BIOBANK Analytic N=16523 (T2D; CVD; Ob); 14927 (WC) **Participant characteristics:** • Excluded those with chronic diseases at baseline; 9.5% w/ family Hx of T2D **Race and/or Ethnicity:** 97.5% White; 2% Mixed; 0.5% Other **SEP:** Townsend deprivation index: Low, 41%; Medium, 34%; High, 25%	**Age at Dietary Pattern:** 40 to 69 y at baseline DP1: Higher intake of nuts, seeds, vegetable dishes, and butter and lower intake of fruit and low-fat yogurt DP2: Higher intake of butter and high-fat cheese and lower intake of nuts and seeds **Method(s)**: RRR: Response variables were %E from SFAs, PUFAs, and MUFAs	**Follow-up duration or age:**6.3 y, mean **Risk of Ob/OW:** DP1 & Ob, T1, ref T2, OR: 1.13, 95% CI: 0.97, 1.30 T3, OR: 1.06, 95% CI: 0.91, 1.22 p-trend=0.44 DP1, per-unit & Ob: OR: 1.08, 95% CI: 0.98, 1.18; p=0.09 DP2 & Ob, T1, ref T2, OR: 1.20, 95% CI: 1.04, 1.39 T3, OR: 1.28, 95% CI: 1.11, 1.50 p-trend=0.001 **BMI:** DP1 & BMI (cont.): B: 0.00, 95% CI: -0.02, 0.03; p=0.83 DP2, per-unit & BMI (cont.): B: 0.07, 95% CI: 0.05, 0.09; p<0.001 **Waist/Central:** DP1 & Abdominal Ob (WC)	**Did not account for:** N/A • Diet assessed repeatedly with 'hybrid' 24h-recall/FFQ; Self-reported DM (did not distinguish T1 v. T2) **Funding**: NR

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		T1, ref T2, OR: 0.95, 95% CI: 0.82, 1.09 T3, OR: 0.96, 95% CI: 0.83, 1.11 p-trend=0.66 DP1, per-unit & Abdominal Ob: OR: 1.05, 95% CI: 0.98, 1.12; p=0.19 DP1, per-unit & WC (cont.): OR: 0.08, 95% CI: -0.03, 0.20; p=0.15 DP2 & Abdominal Ob (WC) T1, ref T2, OR: 1, 95% CI: 0.86, 1.15 T3, OR: 1.22, 95% CI: 1.06, 1.40 p-trend=0.006 DP2, per-unit & Abdominal Ob: OR: 1.07, 95% CI: 1.01, 1.14; p=0.025 DP2, per-unit & WC (cont.): OR: 0.21, 95% CI: 0.12, 0.31; p<0.001	
Canhada, 2019 [97] Brazil; ELSA-Brasil Analytic N=11827 large wt and waist gains 4525 incident ovwt/ob 7056 incident ob among ovwt **Participant characteristics:** • Excluded those with chronic diseases at baseline; Mean BMI, 26.8, WC, cm, 90.6 • 55% Female **Race and/or Ethnicity:** • 16% Black; • 28.1% Brown; • 52% White; • 3% Asian; • 1% Indigenous	**Age at Dietary Pattern:** 35 to 75 y, mean 51 y at baseline Nova "Ultra-processed" [Monteiro, 2019] Nova 4 sub-groups: Bread; Sweets, candies; Sweetened sodas/juices; Salty pastries, chips; Cakes; Processed meat; Pasta and pizzas; Cookies, crackers; Mayo, margarine, cream cheese; Yogurt with additives; Cereal bars; Distilled alcoholic beverages; Soup **Method(s)**: Index/Score Analysis: UP, Nova	**Follow-up duration or age:**3.8 y, mean **Body weight:** Wt, incident large gain UPF per-15%, 1.12, 95% CI: 1.03,1.22 Q1, ref Q2, RR: 1.15, 95% CI: 0.97,1.37 Q3, RR: 1.2, 95% CI: 1.02,1.42 Q4, RR: 1.27, 95% CI: 1.07,1.5 *Stronger association in non-Whites than other skin colour groups **Risk of Ob/OW:** OW/Ob, n=4527, Q1, ref Q2, RR: 1.14, 95% CI: 0.98,1.33 Q3, RR: 1.36, 95% CI: 1.18,1.57 Q4, RR: 1.2, 95% CI: 1.03,1.4 Ob, n=4771, Q1, ref Q2, RR: 1.12, 95% CI: 0.95,1.32 Q3, RR: 1.01, 95% CI: 0.85,1.21	**Did not account for:** TEI • Diet assessed once at baseline only with validated FFQ, but FFQ was not designed for UPF via Nova classification; additional analyses: adjusted further for TEI, F/V intake, excluding sweetened beverages; and tested interactions between sex, race/color, and age **Funding**: Brazilian Ministry of Health (Department of Science and Technology) and Ministry of Science, Technology and Innovation; National Council for Scientific and Technological Development

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
SEP: Median family income, 5x Brazilian minimum wage • Schooling: 54% college, 35% secondary/HS; Elementary 6%, < Elementary 5%		Q4, RR: 1.02, 95% CI: 0.85,1.21 per-15%, 1.06, 95% CI: 0.96,1.17 **Waist/Central:** WC, incident large gain, Q1, ref Q2, RR: 1.11, 95% CI: 0.94,1.33 Q3, RR: 1.23, 95% CI: 1.04,1.46 Q4, RR: 1.33, 95% CI: 1.12,1.58 per-15%, 1.15, 95% CI: 1.06,1.25	
Canhada, 2022 [96] Brazil; ELSA-Brasil Analytic N= 8065 **Participant characteristics:** • 62% never smoked **Race and/or Ethnicity:** 14% Black, 27% Brown, 55% White, 3% Asian, 1% Indigenous **SEP:** Education: 59% college degree; Income: 747-2352 Brazilian reais (P25-P75)	**Age at Dietary Pattern:** 49 y, mean at baseline Nova "Ultra-processed" [Monteiro, 2019], Nova 4 e.g., packaged products such as bread (light, toasted, sweet, whole grain), cheese bread, simple cake, stuffed cake, salty biscuit, sweet biscuit with filling, sweet biscuit without filling, light mayonnaise, mayonnaise, light sweetened yogurt, sweetened yogurt, light cream cheese, cream cheese, margarine/vegetable cream, sausage, hamburger (steak), sliced turkey breast, ham/mortadella/ salami, ready-packaged pizza, instant noodles, baked snacks, fried snacks, afro-Brazilian bean fritter (acarajé), hot dogs, instant soup, creamy ice cream, fruit popsicle, caramel/candy, gelatin, chocolate powder, chocolate bar, pudding, fruit jam/jelly, cereal bar, diet soda, soda, industrialized juice with sugar, industrialized juice without sugar, industrialized juice with sweetener, artificial juice with sugar, artificial juice without sugar, artificial juice with sweetener, distilled alcoholic beverages. **Method(s)**: Index/Score Analysis: UP, Nova	**Follow-up duration or age: ~**8 y **Waist/Central:** Nova 4 700 v. 234 g/d (ref) & WC +0.7cm, p=0.003	**Did not account for:** TEI • Diet assessed once via FFQ • Misclassification to Nova 4 from FFQ likely • Outcomes objectively measured • Indirect outcome of MetS **Funding**: Brazilian Ministry of Health (Department of Science and Technology) and Ministry of Science, Technology and Innovation; National Council for Scientific and Technological Development

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Cespedes Feliciano, 2016 [99] United States; WHI Analytic N=67175 **Participant characteristics:** • 100% female • By diet index, Q4 – Q1: • Mean BMI, ~ 26-29; • Wt kg ~ 67-75; • WC cm ~81-89; • Family Hx DM ~ 29%-33% **Race and/or Ethnicity:** ~ by diet index: ~78-91% White; 4-12% Black; 2-4% Asian; 2-5% Latino; 1-2% Other **SEP:** • 10-14% ≥ College education;	**Age at Dietary Pattern:** 50 to 79 y, mean 63 y, at baseline Alternative HEI (AHEI)-2010 [Chiuve 2012] Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol DASH Score [Fung 2008], Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages; Sodium Healthy Eating Index (HEI-2010) [Guenther 2013], Positive: Total Vegetables; Greens and Beans; Total Fruit; Whole Fruit; Whole Grains; Seafood and Plant Proteins; Total Protein Foods; Dairy; Fatty Acids. Negative: Refined Grains; Added Sugars in "Empty Calories"; Solid Fats in "Empty Calories"; Sodium Alternate Med Diet Score (aMED) [Fung 2005];aMED: Positive: Vegetables (not potatoes); Legumes; Fruit; Nuts; Whole Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. Neutral: Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:**3 y **Adiposity:** ΔAHEI-2010 & Δ trunk fat <10% Δ: 0, ref 10% increase: −195, 95% CI: −327, −62 10% decrease: −14, 95% CI: −163, 135 per 10%: −73, 95% CI:−126, −21 Δ DASH & Δ trunk fat <10% Δ: 0, Ref 10% increase: −130, 95% CI: −249, −10 10% decrease: 77, 95% CI: −42, 195 per 10%: −45, 95% CI: −83, −7 Δ HEI-2010 & Δ trunk fat <10% Δ: 0, Ref 10% increase: −66, 95% CI: −190, 58 10% decrease: 93, 95% CI: −48, 233 per 10%: −63, 95% CI: −111, −15 Δ aMED & Δtrunk fat <10% Δ: 0, Ref 10% increase: 3, 95% CI: −108, 114 10% decrease: 43, 95% CI: −66, 152 per 10%: −7, 95% CI: −32, 18 **Waist/Central:** Mean differences AHEI-2010 & Δ WC Q4: 0, Ref Q3: 0.11, 95% CI: −0.01, 0.24 Q2: 0.29, 95% CI: 0.17, 0.42 Q1: 0.45, 95% CI: 0.32, 0.58 Per 10%: −0.20, 95% CI: −0.24, −0.15 DASH & Δ WC Q4: 0, Ref Q3: 0.10, 95% CI: −0.03, 0.23 Q2: 0.26, 95% CI: 0.14, 0.38 Q1: 0.48, 95% CI: 0.34, 0.62	**Did not account for:** N/A • Dietary change assessed • Results stratified by age suggested younger (<65 y) differed than older (>65y) participants **Funding**: NHLBI

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		Per 10%: −0.14, 95% CI: −0.18, −0.11 HEI-2010 & Δ WC Q4: 0, Ref Q3: 0.15, 95% CI: 0.02, 0.27 Q2: 0.27, 95% CI: 0.15, 0.40 Q1: 0.48, 95% CI: 0.34, 0.61 per 10%: −0.18, 95% CI: −0.22, −0.13 aMED & Δ WC Q4: 0, Ref Q3: 0.20, 95% CI: 0.07, 0.34 Q2: 0.33, 95% CI: 0.21, 0.44 Q1: 0.48, 95% CI: 0.34, 0.62 per 10%: −0.10, 95% CI: −0.12, −0.07 ΔAHEI-2010 & Δ WC <10% Δ: 0, Ref 10% increase: −0.02, 95% CI: −0.15, 0.12 10% decrease: 0.31, 95% CI: 0.16, 0.47 Per 10% increase: −0.10, 95% CI: −0.15, −0.04 Δ DASH & Δ WC <10% Δ: 0, Ref 10% increase: 0.01, 95% CI: −0.11, 0.13 10% decrease: 0.28, 95% CI: 0.16, 0.41 Per 10% increase: −0.07, 95% CI: −0.11, −0.03 Δ HEI-2010 & Δ WC <10% Δ: 0, Ref 10% increase: 0.02, 95% CI: −0.11, 0.15 10% decrease: 0.37, 95% CI: 0.22, 0.52 Per 10% increase: −0.11, 95% CI: −0.16, −0.06 Δ aMED & Δ WC <10% Δ: 0, Ref 10% increase: −0.06, 95% CI: −0.17, 0.05	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		10% decrease: 0.01, 95% CI: −0.10, 0.12 Per 10% increase: −0.02, 95% CI: −0.04, 0.01	
Chaltiel, 2019 [100] France; NutriNet-Sante Analytic N=54089 (All); 44026 (Ob); 32954 (OW) **Participant characteristics:** • 100% Ob/OW at baseline; Mean BMI, 23.9 **Race and/or Ethnicity:** NR **SEP**: • Income: ≤1800/CU, 43%; 1800-2700/CU, 27%; >270 • Occupation: Farmer/self-employed, 2%; Managerial, 23%; Employee, 16%; Student, 6%; Manual worker, 1%; Intermediate, 17%; Retired, 24%; Unemployed, 11% • Education: Primary, 1%; Secondary, 36%; University, 64%	**Age at Dietary Pattern:** 47y (14.1); ≥ 18 y at baseline Programme National Nutrition Sante Guideline Score, updated for 2017 Guidelines - France (PNNS-GS2) [modified Estaquio 2009 by Chaltiel 2019]: Positive: Fruits & vegetables (preferably organic); nuts; legumes (preferably organic); whole grain foods (preferably organic); milk and dairy products. Neutral: breads, cereals, potatoes; meat, poultry, seafood, and eggs Negative: Red meat; processed meat (prefer white ham over other processed meat); fish and seafood; added fat (preferably vegetable fat over animal fat); sugary foods; sweet-tasting beverages; alcohol beverages; salt **Method(s)**: Index/score analysis	**Follow-up duration or age:**6.0 y, median **Risk of Ob/OW:** PNNS-GS2 & Risk of OW, Q1, HR: 1, ref Q2, HR: 0.80, 95% CI: 0.72, 0.87; p-trend<0.001 Q3, HR: 0.75, 95% CI: 0.68, 0.82; p-trend<0.001 Q4, HR: 0.59, 95% CI: 0.54, 0.66; p-trend<0.001 Q5, HR: 0.48, 95% CI: 0.43, 0.54; p-trend<0.001 Per 1-pt, 0.92, 95% CI: 0.91, 0.93; **BMI:** PNNS-GS2 & ΔBMIlog per SD, β: -0.00075, 95% CI: -0.00090, -0.00060; p-trend<0.001	**Did not account for:** N/A • Self-reported Wt, Ht but validated against clinically measured (94%-99% ICC) • PNNS-G1 is multi-component with PA so data were excluded • Components of sPNNS-G2 were NR so data were excluded **Funding**: French Ministry of Health; French Public Health Agency; French National Institute for Health and Medical Research; French National Institute for Agricultural Research; National Conservatory for Arts and Crafts; Paris 13 University
Chen, 2019 [101] Netherlands; Rotterdam Study Analytic N=9633 **Participant characteristics:** • Mean BMI, 26.8; WC, cm, 91.6; FMI, 9.2; BF%, 34.2% **Race and/or Ethnicity:** NR	**Age at Dietary Pattern:** ≥45 y at baseline modified plant-based diet index (mPDI) [Chen, 2019 via Satija, 2016; Martinez-Gonzalez 2014], Positive: Vegetables; Fruits; Nuts; Legumes; Whole grains; Vegetable oils; Tea/coffee; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts; Alcoholic beverages (wine, beer, liquor, eggnog);	**Follow-up duration or age:**7.1 y, median; range 0-25 y **Adiposity:** FMI, Q1, ref Q2, β: -0.59, 95% CI:-0.89, -0.29 Q3, β: -0.83, 95% CI:-1.1, -0.52 Q4, β: -1.0, 95% CI:-1.3, -0.76 Q5, β: -1.5, 95% CI:-1.8, -1.2 p<0.001 BF %, Q1, ref	• **Did not account for:** Race and/or Ethnicity, Anthropometry • Diet assessed at baseline only with validated FFQ • Results were similar with adjustment for baseline health conditions or exclusion of those with Ob/DM/CHD/Cz; exclusion of alcohol;

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
SEP: • Education: Higher, 15%; Intermediate, 28%; Lower, 41%; Primary, 16%	Negative: Low-fat milk; Low-fat yogurt; Full-fat milk; Full-fat yogurt; Cheese; Desserts-Sugary dairy; Unprocessed lean meat; Fish; Eggs; Animal fats; Processed and red meat (beef, pork, meatballs, sate, bacon, liver, processed meats) **Method(s)**: Index/score analysis	Q2, β: -0.94, 95% CI:-1.6, -0.28 Q3, β: -1.7, 95% CI:-2.3, -0.98 Q4, β: -2.0, 95% CI:-2.6, -1.3 Q5, β: -2.9, 95% CI:-3.6, -0.25 p<0.001 **BMI:** BMI, Q1, ref Q2, β: -0.51, 95% CI:-0.77, -0.26 Q3, β: -0.57, 95% CI:-0.84, -0.30 Q4, β: -0.81, 95% CI:-1.1, -0.55 Q5, β: -1.3, 95% CI:-1.6, -0.99 p<0.001 **Waist/Central:** WC, Q1, ref Q2, β: -1.5, 95% CI:-2.1, -0.83 Q3, β: -2.0, 95% CI:-2.7, -1.3 Q4, β: -2.7, 95% CI:-3.4, -2.1 Q5, β: -4.1, 95% CI:-4.8, -3.3 p<0.001	adjustment of baseline diet quality or physical activity; exclusion of less-healthy-plant foods • Moderate attenuation was found with exclusion of healthy-plant foods or eggs/fish/low-fat yogurt **Funding**: Erasmus University Medical Center*
Choi, 2020 [102] United States; Coronary Artery Risk Development in Young Adults (CARDIA) Analytic N=2436 for BMI 2434 for WC 2439 for Wt 2534 for T2D **Participant characteristics:** • Baseline BMI: <median APDQS: Q1, 25.2; Q3, 24.6; Q5, 23.9; >median APDQS: Q1, 23.9; Q3, 23.3; Q5, 23.1 • Baseline WC, cm: <	**Age at Dietary Pattern:** 18 to 30 y at baseline a priori diet quality score, APDQS [Sjitmsa, 2012], Positive: Vegetables-Green; Vegetables-Yellow; Vegetables-Other; Tomatoes; Beans/Legumes; Fruit; Avocado; Nuts, Seeds; Soy Products; Whole Grains; Fish; Lean fish; Poultry; Low-Fat Dairy; Vegetable Oil; Beer, Wine, Liquor; Tea, Coffee. Negative: Fried potatoes; High-fat meat; Processed meats; Organ meats; Fried Fish/Poultry; High-Fat Dairy; Pastries; Sweets; Desserts; Sugar-sweetened soft drinks; Butter; Fried Foods; Salty Snacks; Sauces. Neutral: Potatoes;	**Follow-up duration or age:**30 y **Body weight:** APDQS (Y0) & ΔWt (Y0-Y20): β= -1.65 (0.36); p<0.001 APDQS (Y0) & ΔWt (Y20-Y30): β= -0.61 (0.25); p=0.014 APDQS (Y0) & ΔWt (Y0-Y7): β= -0.91 (0.22); p<0.001 APDQS (Y0) & ΔWt (Y7-Y30): β= -1.34 (0.36); p<0.001 APDQS (Y7) & ΔWt (Y7-Y30): β= -0.92 (0.32); p=0.004 APDQS (Y20) & ΔWt (Y20-Y30): β= -0.20 (0.21); p=0.32	• **Did not account for:** N/A • Diet change assessed ΔY0-7; Y7-30; Y20-Y30; APDQS components NR clearly based on references cited **Funding**: NHLBI; University of Minnesota Twin Cities

* Additional funders for Choi, 2020: Erasmus University Rotterdam; Netherlands Organization for Health Research and Development; Research Institute for Diseases in the Elderly; Netherlands Genomics Initiative; Ministry of Education, Culture and Science; Ministry of Health, Welfare and Sports; European Commission; Municipality of Rotterdam

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
median APDQS: Q1, 80.1; Q3, 77.8; Q5, 76.0; >median APDQS, Q1, 76.1; Q3, 75.5; Q5, 74.5 • Parental Hx DM: <median APDQS Q1, 28.6%; Q3, 31.8%; Q5, 28.1%; > median APDQS Q1, 22.6%; Q3, 18.4%; Q5, 25.0% **Race and/or Ethnicity:** %White, by quantile of 20-y change, • <median Y0 APDQS: Q1, 34.9%; Q3, 31.8%; Q5, 37.4% • >median Y0 APDQS: Q1, 72.2%; Q3, 83.7%; Q5, 83.0% **SEP:** Highest Education, years; by quantile of 20-y change • < median APDQS: Q1, 14.7; Q3, 15.0; Q5, 15.7 • > median APDQS: Q1, 16.5; Q3, 16.8; Q5, 17.0	Fruit Juices; Refined grains; Eggs; Shellfish; Lean meat; Margarine; Chocolate & Diet Soft Drinks; Meal replacements; Pickled foods; Sugar substitutes; Diet drinks **Method(s)**: Index/score analysis	ΔAPDQS (Y0-Y7) & ΔWt (Y0-Y7): β= -0.71 (0.22); p=0.001 ΔAPDQS (Y0-Y7) & ΔWt (Y7-Y30): β= -0.53 (0.36); p=0.14 ΔAPDQS (Y0-Y20) & ΔWt (Y0-Y20): β= -1.14 (0.33); p<0.001 ΔAPDQS (Y0-Y20) & ΔWt (Y20-Y30): β= -0.05 (0.23); p=0.84 **BMI:** APDQS (Y0) & ΔBMI (Y0-Y20): β= -0.65 (0.14); p<0.001 APDQS (Y0) & ΔBMI (Y20-Y30): β= -0.37 (0.11); p<0.001 APDQS (Y0) & ΔBMI (Y0-Y7): β= -0.36 (0.08); p<0.001 APDQS (Y0) & ΔBMI (Y7-Y30): β= -0.53 (0.13); p<0.001 APDQS (Y7) & ΔBMI (Y7-Y30): β= -0.36 (0.11); p=0.001 APDQS (Y20) & ΔBMI (Y20-Y30): β= -0.24 (0.09); p=0.008 ΔAPDQS (Y0-Y7) & ΔBMI (Y0-Y7): β= -0.26 (0.08); p<0.001 ΔAPDQS (Y0-Y7) & ΔBMI (Y7-Y30): β= -0.22 (0.13); p=0.08 ΔAPDQS (Y0-Y20) & ΔBMI (Y0-Y20): β= -0.39 (0.14); p=0.004 ΔAPDQS (Y0-Y20) & ΔBMI (Y20-Y30): β= -0.17 (0.10); p=0.09 **Waist/Central:** APDQ (Y0) & ΔWC (Y0-Y20): β= -1.35 (0.29); p<0.001 APDQS (Y0) & ΔWC (Y20-Y30): β= -0.77 (0.22); p<0.001 APDQS (Y0) & ΔWC (Y0-Y7): β= -1.14 (0.20); p<0.001 APDQS (Y0) & Δ WC (Y7-Y30): β= -0.92 (0.30); p=0.002 APDQS (Y7) & Δ WC (Y7-Y30): β= -0.47 (0.27); p=0.08	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		ΔAPDQS (Y20) & ΔWC (Y20-Y30): β= -0.31 (0.19); p=0.10 ΔAPDQS (Y0-Y7) & ΔWC (Y0-Y7): β= -0.80 (0.20); p<0.001 ΔAPDQS (Y0-Y7) & Δ WC (Y7-Y30): β= -0.09 (0.31); p=0.78 ΔAPDQS (Y0-Y20) & ΔWC (Y0-Y20): β= -0.90 (0.27); p<0.001 ΔAPDQS (Y0-Y20) & ΔWC (Y20-Y30): β= -0.10 (0.21); p=0.64	
Cordova, 2021 [103] Denmark, France, Germany, Greece, Italy, the Netherlands, Norway, Spain, Sweden, and the United Kingdom; EPIC Analytic N=348748 **Participant characteristics:** • OW: 31-38%; Ob:10-14%; BMI <25 48-59% • Previous illness, T2D, CVD, cancer: 7-8% **Race and/or Ethnicity:** NR **SEP:** University degree: Q1, 23%; Q2, 24%; Q3, 26%; Q4, 37%; Q5, 25%	**Age at Dietary Pattern:** 25 to 70 y at baseline Nova "Ultra-processed" [Monteiro, 2019] Nova 4, UPF Q5 v. Q1: Similar rmMED scores betwen quantiles; Higher in (not statistically tested): Dairy; Sugar/confectionary; Cakes/biscuits; Soft drinks; Lower in: Fruit; Legumes; Meat/meat products; Fish; Cereals; Alcoholic drinks; Similar Vegetables; Egg; Potatoes; Added Fat; Coffee Nova 4 w/o alcoholic drinks: e.g., Vegetables and legumes in ultra-processed medium; Potato products; Breads (UPF); Pastries, buns, and cakes; Biscuits; Breakfast cereals; Pizza and focaccia (dough); Pasta (filled); Processed meat (beef, pork and fish); Meat alternatives; Dairy substitute products; Processed cheese; Dairy desserts and drinks (UPF version); Ice cream, ice pops and frozen yogurts; Industrial desserts; Fruit drinks,	**Follow-up duration or age:**5 y, median **<u>Body weight:</u>** Weight gain per SD/d, β: 0.118, 95% CI: 0.085, 0.151 Q1, β: 1, ref Q2, β: −0.009, 95% CI: −0.095, 0.076 Q3, β: 0.101, 95% CI: −0.002, 0.205 Q4, β: 0.193, 95% CI: 0.105, 0.282 Q5, β: 0.352, 95% CI: 0.262, 0.442 p-trend<0.001	• **<u>Did not account for:</u>** Race and/or Ethnicity • Diet assessed at baseline with different validated FFQs for 3rd cohort wave; Outcomes at baseline were measured in some countries and self-reported in others; Residual method was used for energy adjustment • Conducted repeat analyses substituting Nova 1 for Nova 4; Conducted a range of sensitivity tests (Soft drinks as driver; by Sex, by Age, by BMI) **Funding**: Fondation de France; National cohorts supported by individual funders*

*Additional funders of Cordova, 2021: Ligue Contre le Cancer, Institut Gustave-Roussy, Mutuelle Générale de l'Education Nationale, Institut National de la Santé et de la Recherche Médicale (France); German Cancer Aid, German Cancer Research Center Federal Ministry of Education and Research (Germany); Associazione Italiana per la Ricerca sul Cancro-AIRC-Italy and National Research Council (Italy); Dutch Ministry of Public Health,Welfare and Sports , Netherlands Cancer Registry (NKR), LK Research Funds, Dutch Prevention Funds, Dutch ZON (Zorg Onderzoek Nederland),World Cancer Research Fund, Statistics Netherlands (The Netherlands); Health Research Fund (FIS-ISCIII), the Regional Governments of Andalucía, Asturias, Basque Country, Murcia, Navarra, and the Catalan Institute of Oncology (Barceloan), Spain); Cancer Research UK and Medical Research Council (EPIC-Norfolk; EPIC-Oxford))

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
	iced tea and other sweetened beverages; Beverages dry weight; Artificial sweeteners; Sweet snacks; Soft drinks; Packaged salty snacks; Instant and canned soups; ; Margarine; Vegetable spread and products; Alcohol-free versions of alcoholic beverages; Other: Ready meals; Nutrition powders and drinks; Sauces, dressing and gravies **Method(s)**: Index/Score Analysis: UP, Nova		
Cuenca-Garcia, 2014 [105] United States; Aerobics Center Longitudinal Study (ACLS) Analytic N=12449 **Participant characteristics:** • Mean BMI, baseline, 25.8 • DM, 3.1%; HTN, 27.5%; Abnormal ECG, 8.1%; Hypercholesterolemia, 30.5%; Parental Hx CVD, 26.9% • Mean TC, mg/dL, 207.5 • Mean FBG, mg/dL, 99.2 • Mean SBP, mm Hg, 120 • Mean DBP, mm Hg, 80 **Race and/or Ethnicity**: >95% non-Hispanic white **SEP:** predominantly "well educated, middle to upper socioeconomic strata"	**Age at Dietary Pattern:** 20 to 84 y, at baseline Ideal Diet Index (IDI) [Cuenca-Garcia, 2014] Diet Quality Index (DQI) [Patterson, 1994] Mediterranean Diet Score (MDS) [Trichopolou, 2003] IDI, Positive: Vegetables and Fruit; Legumes, Nuts, and Seeds; Whole Grains; Fish. Negative: Processed Meat; Added Sugar; SFA; Sodium DQI, Positive: Vegetables and Fruit; Breads, Cereal, and Legumes; Calcium. Negative: Total Fat; SFA; Cholesterol; Protein; Sodium MDS, Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol • **Method(s)**: Index/score analysis	**Follow-up duration or age:**11.6 y, mean **<u>BMI:</u>** IDI, mean diff (SE) Q1, 26.3 (0.06) Q2, 25.9 (0.06) Q3, 25.5 (0.07) Q4, 24.9 (0.09), p<0.001 MDS, mean diff (SE) Q1, 26.5 (0.07) Q2, 26.1 (0.07) Q3, 25.6 (0.05) Q4, 25 (0.08), p<0.001 DQI, mean diff (SE) Q1, 26.9 (0.07) Q2, 26.2 (0.07) Q3, 25.5 (0.06) Q4, 24.8 (0.07), p<0.001	• **<u>Did not account for:</u>** Anthropometry; SEP (all higher SES but NR) • Diet assessed once from 3-d records **Funding**: NIH; Coca-Cola; Spanish Grants from the Ministry of Economy and Competitiveness
Ericson, 2019 [107] Sweden; Malmo Analytic N=2627, Wt	**Age at Dietary Pattern:** 45 to 74 y at baseline	**Follow-up duration or age:**16.7 y, mean **<u>Body weight:</u>**	• **<u>Did not account for:</u>** Race/Ethnicity (all living in Sweden; speaking Swedish)

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
20487, CVD 20487, T2D **Participant characteristics:** • Excluded those with DM, CVD • mean BMI, baseline: • ♀ Q1, 25.2; Q2, 25; Q3, 25.2; Q4, 25.1; Q5, 25; p=0.01 • ♂ Q1, 26.0; Q2, 26.1; Q3, 26.0; Q4, 26.1; Q5, 26.2;p=0.09 **Race and/or Ethnicity**: NR **SEP**: • High education (>10 yrs), by 'health conscious' quantiles • ♀ Q1, 21.5; Q2, 27.0; Q3, 29.7; Q4, 34.1; Q5, 38.4 , p<0.001 • ♂ Q1, 27.1; Q2, 29.2; Q3, 33.5; Q4, 38.1; Q5, 44.3 , p<0.001	'Health-Conscious': Higher loadings for cottage cheese (women) or cream (men), fibre-rich bread, fruits, vegetables, breakfast cereals, fish and low-fat yoghurt; lower loadings for low-fibre bread, red and processed meat, sugar-sweetened beverages 'Low-Fat Products': Higher loadings for low-fat margarines, low-fat milk, low-fat yoghurt; lower loadings for butter 'Dressing-Vegetables': Higher loadings for dressing/oils, vegetables, poultry, salty snacks, rice/pasta, fried potatoes, cheese; lower loadings for boiled potatoes, jam/sugar **Method(s)**: Factor/Cluster	'Health conscious' ♀ & Wt Δ Q1, β: 1.93 ± 1.26 Q2, β: 2.10 ± 1.27 Q3, β: 2.30 ± 1.25 Q4, β: 1.96 ± 1.26 Q5, ref1.97 ± 1.25 p-trend, quintiles= 0.81 p-trend, cont.=0.89 'Low-fat products' ♀ & Wt Δ Q1, β: 1.77 ± 1.25 Q2, β: 2.45 ± 1.25 Q3, β: 2.07 ± 1.26 Q4, β: 2.12 ± 1.26 Q5, ref2.15 ± 1.25 p-trend, quintiles= 0.68 p-trend, cont.=0.91 'Dressing and vegetables' ♀ & Wt Δ Q1, β: 1.96 ± 1.25 Q2, β: 1.84 ± 1.26 Q3, β: 1.81 ± 1.25 Q4, β: 1.90 ± 1.26 Q5, ref2.46 ± 1.25 p-trend, quintiles= 0.20 p-trend, cont.=0.16 'Health conscious' ♂ & Wt Δ Q1, β: 2.04 ± 1.17 Q2, β: 1.65 ± 1.17 Q3, β: 1.12 ± 1.17 Q4, β: 1.40 ± 1.16 Q5, ref1.11 ± 1.15 p-trend, quintiles= 0.03 p-trend, cont.=0.09 'Low-fat products' ♂ & Wt Δ Q1, β: 1.11 ± 1.18 Q2, β: 1.44 ± 1.16 Q3, β: 1.42 ± 1.16 Q4, β: 1.14 ± 1.17 Q5, ref1.14 ± 1.17 p-trend, quintiles= 0.76 p-trend, cont.=0.78	• Diet assessed once at baseline using validated diet history methods **Funding**: Swedish Research Council, the Region Skåne, the Skåne University Hospital, the Novo Nordic Foundation, the Albert Påhlsson Research Foundation

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		'Dressing and vegetables' ♂ & Wt Δ Q1, β: 1.31 ± 1.18 Q2, β: 1.56 ± 1.17 Q3, β: 1.28 ± 1.16 Q4, β: 1.08 ± 1.16 Q5, ref1.15 ± 1.16 p-trend, quintiles= 0.99 p-trend, cont.=0.93	
Ford, 2017 [109] United States; WHI Analytic N=88805 **Participant characteristics:** • OW 34.1%; Ob class I, 15.3%; Ob class II, 5.5%; Ob class III, 3.4% • WC, cm <88, 66.3%; ≥88, 33.7% **Race and/or Ethnicity**: 84% Non-Hispanic White; 8% Non-Hispanic Black; 4% Hispanic; 3% Other **SEP**: • Education completed: < HS, 21.0%; HS, 36.2%; Some college, 11.5%; BS+, 30.5% • HH Income (annual): <$20K, 14.4%; $20K-$49.9K, 40.2%; $50K-$99.9K, 27.8%; ≥$100K, 10.3%	**Age at Dietary Pattern:** 49 to 81 y, mean 63.6 y, at baseline Low-fat diet: Fruit, 3 serv; Vegetables, 3 serv; Total grains, 5 oz.eq. (1-whole grains; 2-3-non-whole grains) Reduced-carbohydrate diet: Fruit, 1 serv; Vegetables, 1-2 serv.; Total grains, 5 oz.eq. (1-whole grains; 3-4 non-whole grains) Healthy Eating Index (HEI-2010) [Guenther 2013], Positive: Total Vegetables; Greens and Beans; Total Fruit; Whole Fruit; Whole Grains; Seafood and Plant Proteins; Total Protein Foods; Dairy; Fatty Acids. Negative: Refined Grains; Added Sugars in "Empty Calories"; Solid Fats in "Empty Calories"; Sodium (data also reported moderate alcohol) Alternate Med Diet Score (aMED) [Fung 2005], Positive: Vegetables (not potatoes); Legumes; Fruit; Nuts; Whole Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. Neutral: Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:** 6.9 y, mean **Body weight:** Low-fat diet & ≥ 10% Wt gain Q1 (high adherence): OR: 1.43, 95% CI: 1.33, 1.54 Q2: OR: 1.14, 95% CI: 1.06, 1.22 Q3: OR: 1.05, 95% CI: 0.97, 1.13 Q4: OR: 0.99, 95% CI: 0.93, 1.07 Q5 (low adherence): OR: 1, ref P-trend < 0.001 Reduced-carbohydrate diet & ≥ 10% Wt gain Q1 (high adherence): OR:0.71, 95%CI: 0.66, 0.76 Q2: OR: 0.71, 95% CI: 0.67, 0.76 Q3: OR: 0.77, 95% CI: 0.73, 0.82 Q4: OR: 0.84, 95% CI: 0.80, 0.88 Q5 (low adherence): OR: 1, ref P-trend < 0.001 High aMED (Q5) "Mediterranean-style" & ≥ 10% Wt gain Q1 (low adherence): OR: 1, ref Q2: OR: 0.99, 95% CI: 0.94, 1.05 Q3: OR: 1.01, 95% CI: 0.96, 1.07 Q4: OR: 1.00, 95% CI: 0.94, 1.07 Q5 (low adherence): OR: 0.95, 95% CI: 0.88, 1.03 P-trend = 0.513 High HEI-2010 (Q5) "DGA diet" & ≥ 10% Wt gain	• **Did not account for:** Alcohol (HEI-2010) • Diet assessed once at baseline only with FFQ for multiple DPs • Foods consumed not clearly reported for Low-fat and "Reduced-carbohydrate" diets **Funding**: NIH, NHLBI, USDHHS

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		Q1 (low adherence): OR: 1, ref Q2: OR: 1.04, 95% CI: 0.97, 1.11 Q3: OR: 1.07, 95% CI: 1.00, 1.14 Q4: OR: 1.14, 95% CI: 1.07, 1.22 Q5 (low adherence): OR: 1.24, 95% CI: 1.15, 1.33 P-trend < 0.001	
Fung, 2015 [111] United States; NHS I, NHS II, HPFS Analytic N=50603 from NHS; 22973 from HPFS; 72495 from NHS II **Participant characteristics:** • Mean BMI, baseline:NHS, 23.7; HPFS, 24.7; NHS II, 23.0 • Baseline OW%: NHS, 31.0%; HPFS, 46.5%; NHS II, 23.8% **Race and/or Ethnicity**: NR **SEP:** NR employed in medical-field	**Age at Dietary Pattern:** 49 y (mean, NHS I), 36 y (mean, NHS II); 48 y (mean, HPFS) at baseline Alternative HEI (AHEI)-2010 [Chiuve 2012] Alternate Med Diet Score (aMED) [Fung 2009; Fung 2005] DASH Score [Fung 2008] AHEI-2010: Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol aMED: Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol DASH: Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages; Sodium **Method(s)**: Index/score analysis	**Follow-up duration or age:**20 y total, NR **Body weight:** Wt Δ, kg, per SD increase in DP AHEI-2010, pooled NHS, HPFS, NHS-II: -0.47, 95% CI: -0.67, -0.26 aMed, pooled NHS, HPFS, NHS-II: -0.23, 95% CI: -0.30, -0.16 DASH, pooled NHS, HPFS, NHS-II: -0.42, 95% CI: -0.54, -0.29 Mean difference in Wt Δ, kg, pooled NHS, HPFS, NHS-II AHEI-2010, pooled NHS, HPFS, NHS-II Q3: 0, ref Q1: 0.56, 95% CI: 0.39, 0.74 Q2: 0.06, 95% CI: -0.08, 0.20 Q4: -0.12, 95% CI: -0.25, -0.01 Q5: -0.69, 95% CI: -1.06, -0.32 aMed, pooled NHS, HPFS, NHS-II Q3: 0, ref Q1: 0.33, 95% CI: 0.19, 0.48 Q2: 0.13, 95% CI: -0.09, 0.17 Q4: -0.10, 95% CI: -0.17, -0.03 Q5: -0.35, 95% CI: -0.48, -0.21 DASH, pooled Q3: 0, ref Q1: 0.52, 95% CI: 0.37, 0.68 Q2: 0.15, 95% CI: 0.11, 0.19 Q4: -0.14, 95% CI: -0.23, -0.04 Q5: -0.55, 95% CI: -0.73, -0.38	• **Did not account for:** Race/ethnicity, SEP (employed in medical-field), Total E • Self-reported Wt, Ht but validated; • Diet change assessed Δ4y; Results reported by each cohort (ie by sex); stratified by BMI (similar results of higher diet quality scores & less weight gain); by age (<55y compared to those ≥ 55y-65y had less weight gain for each SD increase in diet quality) **Funding**: NIH

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Fung, 2021 [110] United States; NHS II Analytic N=68336 **Participant characteristics:** 100% Female **Race and/or Ethnicity**: NR **SEP:** NR (health professionals)	**Age at Dietary Pattern:** 25 to 42 y at baseline Global Diet Quality Score (GDQS; modified Prime DQ score) [Fung, 2018] GDQS: Positive: Vegetables (dark green leafy); Vegetables (Cruciferous); Vegetables (Deep Orange); Vegetables (Other); Tubers (Deep Orange); Fruit (Citrus); Fruit (Deep Orange); Fruit (Other); Legumes; Nuts and Seeds; Whole Grains; Fish and Shellfish; Poultry and Game; Low-fat Dairy; Eggs; Oils (Liquid). Negative: High-fat Dairy; Red meat; Processed meat; Refined grains and baked goods; Sweets and ice cream; SSBs; Juice; White roots and tubers; Purchased deep fried foods AHEI-2010: Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol MDD-W: Positive: Vegetables (starchy) and Grains; Vegetables (green leafy); Vegetables & Fruit Vit. A; Vegetables (Other); Fruit (Other); Nuts and Seeds; Dairy; Animal flesh; Eggs **Method(s)**: Index/score analysis	**Follow-up duration or age:**16 y **<u>Body weight:</u>** ΔGDQS & ΔWt, 4y F/U <-5 decrease, β: 1.03, 95% CI: 0.94, 1.11 -5 to <-2 decrease, β: 0.47, 95% CI: 0.41, 0.54 -2 to 2 little Δ, β: 1, ref >2 to 5 increase, β: -0.44, 95% CI: -0.50, -0.38 >5 increase, β: -1.13, 95% CI: -1.19, -1.06 per 5-pt: β: -0.77, 95% CI: -0.80, -0.75 **<u>Risk of Ob/OW:</u>** ΔGDQS & Ob, 4y F/U <-5 decrease, RR: 1.32, 95% CI: 1.26, 1.37 -5 to <-2 decrease, RR: 1.13, 95% CI: 1.08, 1.17 -2 to 2 little change, RR: 1, ref >2 to 5 increase, RR: 0.89, 95% CI: 0.86, 0.93 >5 increase, RR: 0.77, 95% CI: 0.74, 0.81 per 5-pt: RR: 0.84, 9	• **<u>Did not account for:</u>** Race/Ethnicity, Anthropometry, SEP (NHS-II) • Self-reported Wt, Ht but validated; Diet change assessed Δ4y Supplemental data not available for AHEI-2010 or MDD-W and GBCO • Additional analyses conducted by age for GDQS **Funding**: FHI Solutions, Bill & Melinda Gates Foundation, NIH
Funtikova, 2014 [112] Spain; n/a Analytic N=1879 **Participant characteristics:** • ~ 50-54% Female • Mean WC, cm: T1, 89.6; T2, 89.5; T3, 89.0; p=0.387	**Age at Dietary Pattern:** 25 to 74 y at baseline Spain modified Mediterranean Diet (mMDS or R-MDS) [Benitez-Arciniega 2011 modified Trichopoulou 2005]	**Follow-up duration or age:**10 y **<u>Waist/Central:</u>** 10-y ΔWC (cm) R-MDS, per-10-pt: -1.65, 95% CI: - 2.84, -0.45 MDS-rec, per-10-pt: - 1.49, 95% CI: -2.85, -0.13	• **<u>Did not account for:</u>** Race/ethnicity (likely all Spanish) • Diet assessed only once at baseline • Did not describe or fully account for missing data **Funding**: Fondo Europeo de

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
• Abdominal Ob: T1, 30.6%; T2, 32.2%; T3, 24.9%; p=0.028 **Race and/or Ethnicity**: NR **SEP:** Education > secondary: T1, 37.5%; T2, 34.8%; T3, 38.1%; p=0.429	Mediterranean diet Score based on Spain dietary recommendations (MDS-rec) [Funtikova, 2014] R-MDS: Positive (tertiles): Vegetables; Fruit; Legumes; Nuts; Cereals; Fish; Olive Oil. Negative: Meat (red meat, poultry, sausages+); Dairy Products. Neutral: Red Wine MDS-rec: Positive (weekly/daily): Vegetables; Fruits; Legumes; Nuts; Cereals; Fish; Olive oil; Negative: Meat (red meat, poultry, sausages+); Dairy products. Neutral: Red Wine **Method(s)**: Index/score analysis	10-y Abdominal Ob (N=1329) R-MDS: 1st: OR 1, ref 2nd: OR 0.73, 95% CI: 0.52, 1.04 3rd: OR 0.79, 95% CI: 0.55, 1.12 P-trend = 0.185 MDS-rec 1st: OR 1, ref 2nd: OR 1.08, 95% CI: 0.76, 1.55 3rd: OR 0.90, 95% CI: 0.64, 1.29 P-trend=0.571	Desarrollo Regional; Spain's Ministerio de Sanidad y Consumo, Instituto de Salud Carlos III FEDER; Red HERACLES; National Program of University Professors Formation; Ministry of Education of Spain; Health Department of the Catalan Government
Glenn, 2021 [116] Spain; PREDIMED-Plus Analytic N=6633 **Participant characteristics:** • 100% OW/Ob + MetSyn 3+: BMI 27-40; ~29% w/ T2D; HTN ~93.5%; Hypercholesteremia ~75%; • 0% CVD; Family Hx CVD ~40%; Family Hx DM ~42% **Race and/or Ethnicity**: 98% Eurpoean descent **SEP:** Highest education: Primary school or less, 47-52%; Complete secondary, 26-31%; University, 21-24%	**Age at Dietary Pattern:** 55 to 75 y at baseline DASH Score [Fung 2008] DASH Score: Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages; Sodium **Method(s)**: Index/score analysis	**Follow-up duration or age:** 6 mo, 1 y **<u>BMI:</u>** DASH & BMI: Q1, HR: 0, ref Q2, HR: -0.19, 95% CI: -0.23, -0.14 Q3, HR: -0.35, 95% CI: -0.40, -0.29 Q4, HR: -0.57, 95% CI: -0.64, -0.52 p-trend<0.001 per-SD, HR: -0.25, 95% CI: -0.28, -0.23, p-trend<0.001 **<u>Waist/Central:</u>** DASH & WC: Q1, HR: 0, ref Q2, HR: -0.45, 95% CI: -0.63, -0.28 Q3, HR: -1.00, 95% CI: -1.20, -0.81 Q4, HR: -1.64, 95% CI: -1.86, -1.43 p-trend<0.001 per-SD, HR: -0.69, 95% CI: -0.76, -0.60, p-trend<0.001	• **<u>Did not account for:</u>** Race/Ethnicity • Diet assessed repeatedly with validated FFQ during 1y F/U; Portfolio diet score data not considered due to examining only nutrients from DASH **Funding**: ISCIII, European Union ERDF/ESF, European Research Council
Gomez-Donoso, 2018 food [117] Spain; SUN Cohort	**Age at Dietary Pattern:** 35 ± 11 y at baseline	**Follow-up duration or age:**9.3 y, median **<u>Body weight:</u>** DOS & ΔWt, g/y	• **<u>Did not account for:</u>** Race/ethnicity (mostly Spanish graduates) • Self-reported Wt; Diet assessed

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Analytic N=11349 **Participant characteristics:** mean BMI ~27 at baseline **Race and/or Ethnicity**: NR **SEP:** All University graduates, ~ 5y mean college-education	Dietary Obesity Prevention Score (DOS) [Gomez-Donso, 2018] DOS, Positive: Vegetables; Fruits; Legumes; Nuts; Yogurt; Fish; Vegetable-to-animal protein ratio. Negative: Red meat; Processed meat; Saturated animal fat; Refined grains; Ultra-processed foods; Sugary beverages; Alcohol: Beer and spirits **Method(s)**: Index/score analysis	Q1, β: 1, ref Q2, β: -120.5, 95% CI: -197.5, -43.5 Q3, β: -81.5, 95% CI: -167.0, 4.0 Q4, β: -149.6, 95% CI: -233.8, -65.5 Q5, β: -230.5, 95% CI: -324.6, -136.4 p<0.001 DOS, rm & ∆Wt g/y Q1, β: 1, ref Q2, β: -64.4, 95% CI: -133.9, 5.1 Q3, β: -62.5, 95% CI: -138.4, 13.5 Q4, β: -108.2, 95% CI: -184.9, -31.7 Q5, β: -193.8, 95% CI: -276.7, -111.0 p<0.001 **Risk of Ob/OW:** DOS, baseline & OW/Ob Q1, HR: 1, ref Q2, HR: 0.84, 95% CI: 0.74, 0.95 Q3, HR: 0.79, 95% CI: 0.68, 0.91 Q4, HR: 0.78, 95% CI: 0.69, 0.90 Q5, HR: 0.63, 95% CI: 0.54, 0.74 p<0.001 DOS, rm & OW/Ob Q1, HR: 1, ref Q2, HR: 0.85, 95% CI: 0.75, 0.96 Q3, HR: 0.80,	repeatedly with validated FFQ; Effects were not modified by sex, age, baseline BMI or PA; Results remained after sensitivity tests with tighter energy limits, over-reporters, missing > 12 FFQ-items, baseline Wt change, f/u of 10y, by age > 41 y **Funding**: Spanish Government-Instituto de Salud Carlos III; European Regional Development Fund; Navarra Regional Government; the University of Navarra
Gómez-Donoso, 2019 a_Proveg [118] Spain; SUN Cohort Analytic N=11554 **Participant characteristics:** mean BMI ~27 at baseline **Race and/or Ethnicity**: NR **SEP:** All University graduates, ~ 5y mean college-education	**Dietary patterns at age(s)**:34.7 +/- 10.8 years y, mean at baseline Provegetarian Food Pattern [Martinez-Gonzalez 2014] Plant-Based Diet Index (PDI) [Satija, 2016] Healthful PDI (hPDI) [Satija, 2016] unhealthful PDI (uPDI), uPDI variant 1 and 2 [Satija, 2016] Pro-vegetarian: Positive: Vegetables; Potatoes; Legumes; Fruit; Nuts; Cereals; Olive Oil. Negative: Fish and Other	**Follow-up duration or age:**10.3 y, median **Body weight:** mean diff. ∆Wt, g/y Provegetarian, baseline Q1, ref Q2, β: -39, 95% CI: -118 to 39 Q3, β: -28, 95% CI: -115 to 58 Q4, β: -98, 95% CI: -181 to -16 Q5, β: -167, 95% CI: -249 to -84 p<0.001	• **Did not account for:** Race/Ethnicity (Spanish), Alcohol • Self-reported Wt; Diet assessed repeatedly over time with validated FFQ for multiple DP; Ancillary analyses indicated more less-healthy plant foods compared to healthier plant foods were associated with higher Ow/Ob but results were NS compared to animal foods;

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
	Seafood; Meats and Meat Products; Eggs; Dairy Products; Animal Fats hPDI: Positive: Vegetables; Fruits; Nuts; Legumes; Whole grains; Vegetable oils; Tea/coffee; Negative: Fruit juices; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts; Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods uPDI: Negative: Whole grains; Fruits; Vegetables; Nuts; Legumes; Vegetable oils; Tea/coffee; Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods; Positive: Fruit juices; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts Unhealthful PDI variant1: Positive: Fruit juices; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts; Negative: Whole grains; Fruits; Vegetables; Nuts; Legumes; Vegetable oils; Tea/coffee; Unhealthful PDI variant 2: Positive: Fruit juices; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts; Negative: Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods; **Method(s)**: Index/score analysis	Provegetarian, repeated measures (rm) Q1, ref Q2, β: -6, 95% CI: -70 to 57 Q3, β: -26, 95% CI: -96 to 45 Q4, β: -65, 95% CI: -133 to 2 Q5, β: -146, 95% CI: -214 to -78 p<0.001 hPDI, baseline Q1, ref Q2, β: -56, 95% CI: -138 to 26 Q3, β: -125, 95% CI: -212 to -38 Q4, β: -117, 95% CI: -200 to -35 Q5, β: -202, 95% CI: -294 to -110 p<0.001 hPDI, rm Q1, ref Q2, β: -73, 95% CI: -139 to -7 Q3, β: -130, 95% CI: -201 to -61 Q4, β: -94, 95% CI: -163 to -26 Q5, β: -200, 95% CI: -275 to -125 p<0.001 uPDI, baseline Q1, ref Q2, β: -19, 95% CI: -101 to 62 Q3, β: 35, 95% CI: -47 to 118 Q4, β: 28, 95% CI: -60 to 116 Q5, β: 22, 95% CI: -70 to 114 p=0.434 uPDI, rm Q1, ref Q2, β (difference): -3, 95% CI: -70 to 64 Q3, β: 28, 95% CI: -39 to 96 Q4, β: 24, 95% CI: -47 to 96 Q5, β: 32, 95% CI: -43 to 108 p=0.324 **Risk of Ob/OW:** Ow/Ob Provegetarian Q1, ref Q2, HR: 0.97, 95% CI: 0.85, 1.09	• Sensitivity analyses showed attenuated results if excluding those with >12 missing FFQ items and when only Obesity was the outcome, slight stronger association if BMI>24.5 were excluded and if f/u truncated to 10y. **Funding**: Spanish Government-Instituto de Salud Carlos III, the European Regional Development Fund; Navarra Regional Government; University of Navara

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		Q3, HR: 0.95, 95% CI: 0.83, 1.09 Q4, HR: 0.93, 95% CI: 0.82, 1.06 Q5, HR: 0.85, 95% CI: 0.75, 0.96 p=0.014 per-2-unit, HR: 0.89, 95% CI: 0.82, 0.97 hPDI Q1, ref Q2, HR: 0.98, 95% CI: 0.86, 1.12	
Gomez-Donoso, 2019 b_Adherence [119] Spain; SUN Cohort Analytic N=11554 **Participant characteristics:** mean BMI ~27 at baseline **Race and/or Ethnicity**: NR **SEP:** All University graduates, ~ 5y mean college-education	**Dietary patterns at age(s)**:35 y mean at baseline Spanish Society of Community Nutrition Food Pyramid (SENC-FP) [Gomez-Donoso 2019] SENC-FP: Recommended daily basis: Cereal grains and byproducts (preferably whole grain); fruits; vegetables; dairy; protein-rich foods (lean meat, fish & shellfish, eggs, legumes, nuts); olive oil; water. Optional, occassional, and moderate basis: Red and processed meats; sweets, salty snacks, spreadable fats; fermented alcoholic beverages **Method(s)**: Index/score analysis	**Follow-up duration or age:** 10.3 y, median **Body weight:** ΔWt/y (g), difference: Q1, 0, ref Q2, -20, 95% CI: -105, 65 Q3, -70, 95% CI: -157, 17 Q4, -122, 95% CI: -211, -34 Q5, -145, 95% CI: -238, -53 p-trend<0.001 ΔWt/y (g), absolute Q1, 449, 95% CI: 387, 512 Q2, 429, 95% CI: 369, 490 Q3, 379, 95% CI: 319, 439 Q4, 327, 95% CI: 266, 386 Q5, 304, 95% CI: 241, 366 **Risk of Ob/OW:** SENC-FP, single Q1, HR: 1, ref Q2, HR: 0.88, 95% CI: 0.78, 1.00 Q3, HR: 0.93, 95% CI: 0.82, 1.06 Q4, HR: 0.93, 95% CI: 0.81, 1.07 Q5, HR: 0.78, 95% CI: 0.67, 0.91 p-trend=0.007 SENC-FP, rm Q1, HR: 1, ref Q2, HR: 0.88, 95 **BMI:** average BMI differed between extreme quintiles (data NR)	• **Did not account for:** Race/Ethnicity • Self-reported Wt, Ht; Diet assessed repeatedly with validated FFQ; No adjustment for multiple testing **Funding**: Spanish Government-Instituto de Salud Carlos III, European Regional Development Fund, Navarra Regional Government, University of Navarra

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Hennein, 2019 [121] United States; Framingham Analytic N=1677 abdominal fat change; 1637 PAT change **Participant characteristics:** • mean BMI ~27.4-27.6 by MDS Q1-Q4 **Race and/or Ethnicity:** mostly European ancestry **SEP:** NR	**Dietary patterns at age(s)**: mean±SD: 51±10 at baseline (range 19 to 92y) Alternate Med Diet Score (aMED) [Fung 2005; modified] Alternative HEI (AHEI)-2010 [Chiuve 2012] aMED: Positive: Vegetables (not potatoes); Legumes; Fruit; Nuts; Whole Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. Neutral: Alcohol AHEI2010: Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:**6y, median **<u>Adiposity:</u>** Δ aMED & Δ VAT, cm3 Q1: 715, 95% CI: 646, 784 Q2: 658, 95% CI: 599, 716 Q3: 631, 95% CI: 557, 704 Q4: 595, 95% CI: 533, 657 per SD: -50, 95% CI: -86, -14; p=0.007 Δ aMED &Δ SAT, cm3 Q1: 563, 95% CI: 486, 639 Q2: 535, 95% CI: 470, 600 Q3: 545, 95% CI: 464, 626 Q4: 442, 95% CI: 373, 510 per SD: -52, 95% CI: -92, -12; p=0.01 Δ aMED & Δ VSR Q1: 0.11, 95% CI: 0.09, 0.13 Q2: 0.10, 95% CI: 0.08, 0.12 Q3: 0.09, 95% CI: 0.07, 0.11 Q4: 0.09, 95% CI: 0.07, 0.11 per SD: -0.01, 95% CI: -0.02, -0.00; p=0.04 Δ aMED & Δ PAT, cm3 Q1: 0.8, 95% CI: -4.1, 5.7 Q2: -0.4, 95% CI: -5.1, 4.3 Q3: -2.7, 95% CI: -7.5, 2.1 Q4: -1.8, 95% CI: -6.5, 2.9 per SD: -1.3, 95% CI: -2.4, -0.1; p=0.04 Δ AHEI-2010 & Δ VAT, cm3 Q1: 699, 95% CI: 632, 766 Q2: 633, 95% CI: 567, 698 Q3: 667, 95% CI: 602, 732 Q4: 571, 95% CI: 504, 638 per SD: -45, 95% CI: -79, -11; p=0.01 Δ AHEI-2010 & Δ SAT, cm3 Q1: 568, 95% CI: 496, 640 Q2: 535, 95% CI: 465, 605 Q3: 543, 95% CI: 473, 612 Q4: 420, 95% CI: 349, 492 per SD: -58, 95% CI: -95, -20; p=0.003	• **<u>Did not account for:</u>** Race/ethnicity: European descendents; SEP • Dietary change assessed; Outcome, i.e. adipose tissue was measured differently at two time-points and there was not adjustment/calibration between two measurements • Sensitivity analysis showed inverse: AHEI & VAT, SAT, PAT **Funding**: NHLBI; NIH; USDA; Affymetrix

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		Δ AHEI-2010 & Δ VSR Q1: 0.11, 95% CI: 0.09, 0.13 Q2: 0.10, 95% CI: 0.08, 0.11 Q3: 0.09, 95% CI: 0.08, 0.11 Q4: 0.09, 95% CI: 0.07, 0.11 per SD: -0.01, 95% CI: -0.02, -0.00; p=0.06 Δ AHEI-2010 & Δ PAT, cm3 Q1: 0.6, 95% CI: -1.5, 2.7 Q2: -2.1, 95% CI: -4.2, 0 Q3: -2.3, 95% CI: -4.4, -0.2 Q4: -5.8, 95% CI: -7.9, -3.7 per SD: -2.3, 95% CI: -3.4, -1.1; p<0.001	
Hodge, 2021 [122] Australia; Melbourne collaborative cohort study (MCCS) Analytic N=18414, BMI 18375, WHR **Participant characteristics:** • 43% OW; 19% Ob at baseline; 33.3% high-WHR **Race and/or Ethnicity:** • 67% Austrailian, New Zealand; • 7% UK; • 27% Southern European **SEP:** • SEIFA quintiles (Q1 lowest): 17%, 21%, 16%, 19%, 27% (those with higher MDS were less disadvantaged)	**Dietary patterns at age(s)**:40 to 69 y at baseline; mean [SD] by AHEI: 54.3 [8.6]; by MDS: 54.3 [8.6] Alternative HEI (AHEI)-2010 [Chiuve 2012] Mediterranean Diet Score (MDS) modified [Hodge 2011] AHEI: Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol MDS: Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; Olive Oil. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:**11.6y, median **<u>BMI:</u>** AHEI & BMI Q1, β: 1, ref Q2, β: -0.22, 95% CI: -0.38, -0.06; p=0.006 Q3, β: -0.12, 95% CI: -0.282, 0.04; p=0.15 Q4, β: 0.232, 95% CI: -0.40, -0.07; p=0.006 Q5, β: -0.51, 95% CI: -0.68, -0.35; p<0.001 Per unit, β: -0.016, 95% CI: -0.022, 0.010; p<0.001 MDS & BMI Score 0-3, β: 1, ref Score 4-6, β: -0.09, 95% CI: -0.21, -0.03; p=0.12 Score 7-9, β: -0.05, 95% CI: -0.23, -0.13; p=0.56 Per unit, β: -0.019, 95% CI: -0.052, 0.013; p=0.25 **<u>Waist/Central:</u>** AHEI & WHR Q1, β: 1, ref	• **<u>Did not account for:</u>** N/A • Diet assessed at baseline only with validated FFQ **Funding**: VicHealth and Cancer Council Victoria; Australian National Health and Medical Research Council; Cancer Council Victoria; Royal Australasian College of Physicians Fellows Career Development Fellowship

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		Q2, β: -0.004, 95% CI: -0.007, -0.002; p=0.001 Q3, β: -0.006, 95% CI: -0.008, -0.003; p<0.001 Q4, β: -0.006, 95% CI: -0.009, -0.003; p<0.001 Q5, β: -0.011, 95% CI: -0.013, -0.008; p<0.001 Per unit, β: -0.00035, 95% CI: -0.00044, -0.00026; p<0.001 MDS & WHR Score 0-3, β: 1, ref Score 4-6, β: -0.003, 95% CI: -0.005, -0.001; p=0.002 Score 7-9, β: -0.004, 95% CI: -0.007, -0.001; p=0.008 Per unit, β: -0.0009, 95% CI: -0.0014, -0.00036; p=0.001	
Huo, 2023 [123] China; China Health and Nutrition Survey (CHNS) Analytic N=10013 **Participant characteristics:** • Most participants with normal weight (differed by quintile) **Race and/or Ethnicity**: NR **SEP:** data NR; Education years differed by hPDI & uPDI quintiles	**Dietary patterns at age(s)**:18+ y at baseline (median age differed by quintile, range 46.1 to 47.8 y Healthful PDI (hPDI)/unhealthful PDI (uPDI) [Satija, 2016] hPDI: Positive: Vegetables; Fruits; Nuts; Legumes; Whole grains; Vegetable oils; Tea/coffee; Negative: Fruit juices; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts; Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods uPDI: Negative: Whole grains; Fruits; Vegetables; Nuts; Legumes; Vegetable oils; Tea/coffee; Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods; Positive: Fruit juices; Sugar-sweetened beverages; Refined grains; Potatoes;	**Follow-up duration or age:**5y, median **<u>Waist/Central:</u>** Abdominal obesity- hPDI Q1, HR: 1, ref Q2, HR: 0.93, 95% CI: 0.83, 1.05 Q3, HR: 0.88, 95% CI: 0.78, 0.99 Q4, HR: 0.79, 95% CI: 0.68, 0.91 Q5, HR: 0.80, 95% CI: 0.70, 0.92 p-trend=0.004 Abdominal obesity- uPDI Q1, HR: 1, ref Q2, HR: 1.16, 95% CI: 1.02, 1.31 Q3, HR: 1.14, 95% CI: 1.02, 1.28 Q4, HR: 1.35, 95% CI: 1.19, 1.54 Q5, HR: 1.36, 95% CI: 1.20, 1.54 p-trend<0.001	• **<u>Did not account for:</u>** Race/Ethnicity (100% Chinese), Anthropometry at baseline • Diet assessed with 3, 24-h recalls; DP from one timepoint; Abdominal obesity was main component affecting outcome; mediation analysis showed BMI mediated 27.8% of the association between hPDI & incident MetS; 29.7% between hPDI & abdominal obesity **Funding**: National Natural Science Foundation of China, National Key R&D Program of China, Science and Technology Resources Open Sharing Platform of the Shaanxi Province

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
	Sweets/desserts **Method(s)**: Index/score analysis		
Jennings, 2020 [125] United Kingdom; European Prospective Investigation into Cancer (EPIC): Norfolk Analytic N=14815 **Participant characteristics:** • Mean BMI, 26.4 • Family Hx osteoporosis, 4.4% **Race and/or Ethnicity**: NR **SEP:** NR	**Dietary patterns at age(s)**:39 to 79 y at baseline Mediterranean Diet Score (MDS) [Trichopolou 2003] Alternate Med Diet Score (aMED) [Fung 2005] MDS: Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol aMED: Positive: Vegetables (not potatoes); Legumes; Fruit; Nuts; Whole Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. Neutral: Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:**17.4 y, mean **<u>Adiposity:</u>** FFM, adjusted for BMI aMED Q1, M: 1.87, 95% CI: 1.86, 1.88 Q2, M: 1.88, 95% CI: 1.87, 1.89 Q3, M: 1.90, 95%CI: 1.89, 1.91 Q4, M: 1.90, 95% CI: 1.89, 1.91 Q5, M: 1.92, 95% CI: 1.91, 1.93 Q5-Q1, M: 0.05, 95% CI: 0.04, 0.06 p<0.01 *Sex-stratified results yielded similar results in each sex MDS Q1, M: 1.88, 95% CI: 1.87, 1.89 Q2, M: 1.89, 95% CI: 1.88, 1.90 Q3, M: 1.90, 95%CI: 1.89, 1.90 Q4, M: 1.89, 95% CI: 1.88, 1.90 Q5, M: 1.91, 95% CI: 1.90, 1.92 Q5-Q1, M: 0.03, 95% CI: 0.01, 0.04 p<0.01 *Sex-stratified results yielded similar results in each sex	• **<u>Did not account for:</u>** Race/Ethnicity, SEP • Diet assessed with7-d diary at one timepoint; FFM data in Supp Table 3; Note that authors report 17y f/u for incidence but also state cross-sectional study **Funding**: Medical Research Council, Cancer Research UK
Johns, 2015 [126] Sweden; Swedish Obese Subjects Study (SOS Analytic N=2037 **Participant characteristics:** • 100% Ob (severe); >34 ♀; >38 ♂ • Mean BMI: ♂, 39.2; ♀, 41.6 **Race and/or Ethnicity**: NR	**Dietary patterns at age(s)**:37 to 60 y at baseline n/a "Energy Dense, High Sat. Fat, Low Fiber": lower in fruit, vegetables, low-fat yogurt, cereal, wholemeal bread, meat alternative, crisp bread, and fish; Higher in chocolate, lower-fiber bread, full-fat spread, cheese, fast food, cake, white bread, candy, fatty meat, full-fat milk, pizza, crisps, soft drink, cookie, semi-skim milk, nuts, oil, hot drink,	**Follow-up duration or age:**10 y **<u>Body weight:</u>** β (SE): 1.71 (0.10), p<0.001 **<u>BMI:</u>** β (SE): 0.60 (0.03), p<0.001 **<u>Waist/Central:</u>** β (SE): 1.49 (0.07), p<0.001	• **<u>Did not account for:</u>** Race/Ethnicity, Anthropometry, SEP (NR in figures but reported in text as adjusted for education) • Diet assessed repeatedly; Wt and Ht measured at each visit **Funding**: UK Medical Research Council

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
SEP: NR	dessert, spirits, beer, jam, potatoes, lean meat, egg, low fat spread, wine, skim milk, juice, full fat yogurt, light meals **Method(s)**: RRR		
Jung, 2022 [127] Korea; Korean Genome and Epidemiology Study (KoGES) Analytic N=6054 **Participant characteristics:** • mean BMI, PDI Q1, 23.4; Q3, 23.5; Q5, 23.5; p=0.07 • WC, cm, Q1, 78.1; Q3, 78.2; Q5, 78.4; p=0.02 **Race and/or Ethnicity**: Korean **SEP:** High school graduate (%), PDI Q1, 54.9%; Q3, 50.9%; Q5, 42.7%; p<0.0001	**Dietary patterns at age(s)**:40 to 69 y at baseline modified plant-based diet index (PDI) [Satija, 2016] PDI: Positive: Vegetables; Fruits; Nuts; Legumes; Whole grains; Pickled Vegetables; Tea/coffee; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts; Negative: Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods hPDI: Positive: Vegetables; Fruits; Nuts; Legumes; Whole grains; Pickled Vegetables; Tea/coffee; Negative: Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts; Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods uPDI: Negative: Whole grains; Fruits; Vegetables; Nuts; Legumes; Pickled Vegetables; Tea/coffee; Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods; Positive: Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts **Method(s)**: Index/score analysis	**Follow-up duration or age:**9 y, median **<u>Waist/Central:</u>** Incident abdominal obesity (WC≥ 90 cm ♂ ; ≥ 85 cm ♀) Baseline PDI Q1, ref HR: 1, 95% CI: Q2, HR: 1.13 (0.97, 1.31) Q3, HR: 0.93 (0.80, 1.08) Q4, HR: 0.97 (0.83, 1.13) Q5, HR: 1.06 (0.92, 1.24) p-trend=0.990 Recent PDI Q2, HR: 1.00 (0.86, 1.16) Q3, HR: 0.94 (0.82, 1.09) Q4, HR: 0.85 (0.73, 0.99) Q5, HR: 0.94 (0.81, 1.10) p-trend=0.119 Cum. Avg. PDI Q2, HR: 0.74 (0.64, 0.87) Q3, HR: 0.79 (0.68, 0.90) Q4, HR: 0.66 (0.56, 0.77) Q5, HR: 0.94 (0.82, 1.08) p-trend=0.379 Baseline hPDI Q1, ref HR: 1, 95% CI: Q2, HR: 1.11 (0.95, 1.29) Q3, HR: 1.09 (0.93, 1.27) Q4, HR: 1.24 (1.06, 1.44) Q5, HR: 1.09 (0.94, 1.27) p-trend=0.110 Recent hPDI Q2, HR: 0.86 (0.74, 1.00)	• **<u>Did not account for:</u>** N/A • Diet assessed repeatedly at baseline and visit 3 (comparable); Results stratified by gender: PDI & WC was NS in men or women; uPDI & WC were positively associated in men and in women, with cumulative average diet slightly stronger (than baseline or recent diet) in both men and women **Funding**: National Research Institute of Health, Korea Centers for Disease Control and Prevention, and the Ministry for Health and Welfare, Republic of Korea

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		Q3, HR: 0.82 (0.71, 0.96) Q4, HR: 0.87 (0.75, 1.01) Q5, HR: 0.97 (0.83, 1.12) p-trend=0.826 Cum. Avg. hPDI Q2, HR: 0.77 (0.66, 0.90) Q3, HR: 0.83 (0.72, 0.97) Q4, HR: 0.86 (0.74, 1.00) Q5, HR: 0.94 (0.81, 1.09) p-trend=0.963 Baseline uPDI Q1, ref HR:1, 95% CI Q2, HR: 1.17 (1.00, 1.37) Q3, HR: 1.34 (1.14, 1.57) Q4, HR: 1.34 (1.14, 1.56) Q5, HR: 1.70 (1.46, 1.98) p<0.001 Recent uPDI Q2, HR: 1.06 (0.91, 1.23) Q3, HR: 1.20 (1.02, 1.41) Q4, HR: 1.37 (1.18, 1.59) Q5, HR: 1.52 (1.30, 1.78) p<0.001 Cum. Avg. uPDI Q2, HR: 1.06 (0.90, 1.24) Q3, HR: 1.11 (0.95, 1.30) Q4, HR: 1.15 (0.98, 1.35) Q5, HR: 1.76 (1.51, 2.06) p<0.001 Results stratified by gender: PDI & WC was NS in men or women; uPDI & WC were positively associated in men and in women, with cumulative average diet slightly stronger (than baseline or recent diet) in both men and women	
Kanerva, 2018 [128] Finland; The Dietary, Lifestyle and Genetic Determinants of	**Dietary patterns at age(s)**:25 to 75 yr Baltic sea diet [Kanerva, 2014]	**Follow-up duration or age:**7 y **Body weight:**Δ Wt (kg): baseline BSDS, -0.045 (0.025), p=0.368	• **Did not account for:** Race/ethnicity (mostly Finnish), SEP • Self-reported Wt, Ht, BM, WC

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Obesity and Metabolic syndrome (DILGOM) Analytic N=3735 **Participant characteristics:** • Mean BMI: ♂ 26.8; ♀ 26.4; • mean WC: ♂ 95.5; ♀ 86.0 cm **Race and/or Ethnicity**: NR **SEP:** Education (low; mid; high) by BSDS quintiles: • Q1: 31.2%; 37.3%; 31.7% • Q3: 27.2%; 34.8%; 38.0% • Q5: 16.8%; 35.5%; 47.7% p<0.001	BSD, Positive: Vegetables (including legumes, not potatoes); Apples/pears/peaches plus berries; Oats/rye bread/porridge; Fatty fish; E% from fat PUFA/SFA & Trans FA; Negative: Red/Processed Meat; Neutral: Total alcohol **Method(s)**: Index/score analysis	Δ BSDS, -0.103 (0.030), p=0.048 Increased BSDS: -0.129 (0.045), p=0.004 Decreased/unchanged BSDS subgroup: -0.075 (0.057), p=0.186 **BMI:** Δ BMI (kg/m2): with baseline BSDS, -0.017 (0.009), p=0.055 Δ BSDS, -0.036 (0.011), p=0.001 Increased BSDS: -0.052 (0.016), p=0.002 Decreased/unchanged BSDS: -0.024 (0.020), p=0.233 **Waist/Central:** Δ WC (cm): with baseline BSDS, -0.026 (0.029), p=0.067 Δ BSDS, -0.059 (0.030), p=0.001 Increased BSDS: -0.089 (0.053), p=0.092 Decreased/unchanged BSDS:-0.055 (0.067), p=0.411	(measured); Diet change assessed over f/u; Did not describe missing data (mentioned complete cases were analysed); Sensitivity analyses (removed those with MI, stroke, T2D, Cx, or pregnancy due to potential for dietary change) shoed similar results **Funding**: Finnish Foundation for Cardiovascular Research; Juho Vainio Foundation
Kang, 2021 [129] United States; MEC Analytic N=53977 **Participant characteristics:** • OW: ♂ 48%; ♀ 31%; • Ob: ♂ 13%; ♀ 12%; • BMI ≥35, ♂ 3%; ♀ 6% **Race and/or Ethnicity**: • African American, ♂ 7%; ♀ 12%; • Native Hawaiian,♂ 8%; ♀ 8%; • Japanese American, ♂ 35%; ♀ 32%; • Latino, ♂ 21%; ♀ 19%; • White, ♂ 29%; ♀ 29% **SEP:** Education:	**Dietary patterns at age(s)**:45 to 70y at baseline Healthy Eating Index (HEI-2015) [Krebs-Smith 2018] Alternative HEI (AHEI)-2010 [Chiuve 2012] Alternate Med Diet Score (aMED) [Fung 2005] DASH Score [Fung 2008] HEI-2015 - Positive: Total Vegetables; Greens and Beans; Total Fruit; Whole Fruit; Whole Grains; Seafood and Plant Proteins; Total Protein Foods; Dairy; PUFA+MUFA/SFA. Negative: Refined Grains; Added Sugars; SFA; Sodium AHEI-2010 - Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened	**Follow-up duration or age:**10 y **Body weight:** ΔWt, 10-y, quintiles HEI-2015, Stable, 1, ref ♂ Most ↓, -0.02, 95% CI: -0.36, 0.33 ♂ Moderate ↓, 0.14, 95% CI: -0.16, 0.44 ♂ Moderate ↑, -0.39, 95% CI: -0.63, -0.14 ♂ Greatest ↑, -0.98, 95% CI: -1.21, -0.75 ♂ per-SD, -0.48, 95% CI: -0.58, -0.38 ♀ Greatest ↓, 0.79, 95% CI: 0.49, 1.10 ♀ Moderate ↓, 0.39, 95% CI: 0.11, 0.67 ♀ Moderate ↑, -0.17, 95% CI: -0.40, 0.06 ♀ Greatest ↑, -0.85, 95% CI: -1.07, -0.63 ♀ per-SD, -0.54, 95% CI: -0.63, -0.45 AHEI-2010, Stable, 1, ref ♂ Greatest ↓, 0.51, 95% CI: 0.18, 0.83 ♂ Moderate ↓, 0.26, 95% CI: -0.03, 0.55 ♂ Moderate ↑, -0.36, 95% CI: -0.60, -0.11 ♂ Greatest ↑, -0.94, 95% CI: -1.18, -0.70	• **Did not account for:** N/A • Self-reported Wt, Ht, BM, WC (measured); Diet change assessed at baseline and 10y f/u • Additional subgroup analyses conducted • **Funding**: NCI; Support Program for Women in Science, Engineering, and Technology through the National Research Foundation of Korea (NRF).

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
• ≤ HS, ♂ 27%; ♀ 34%; • Vocational/Some college, ♂ 31%; ♀ 32%; • ≥Graduated college, ♂ 42%; ♀ 34%	Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol aMED - Positive: Vegetables (not potatoes); Legumes; Fruit; Nuts; Whole Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. Neutral: Alcohol DASH - Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages; Sodium **Method(s)**: Index/score analysis	♂ Per-SD, -0.51, 95% CI: -0.61, -0.41 ♀ Greatest ↓, 0.59, 95% CI: 0.30, 0.89 ♀ Moderate ↓, 0.30, 95% CI: 0.04, 0.57 ♀ Moderate ↑, -0.61, 95% CI: -0.84, -0.38 ♀ Greatest ↑, -0.99, 95% CI: -1.21, -0.76 ♀ per-SD, -0.58, 95% CI: -0.67, -0.49 aMED, Stable, 1, ref ♂ Greatest ↓, 0.41, 95% CI: 0.13, 0.70 ♂ Moderate ↓, 0.44, 95% CI: 0.16, 0.71 ♂ Moderate ↑, -0.23, 95% CI: -0.49, 0.04 ♂ Greatest ↑, -0.55, 95% CI: -0.83, -0.28 ♂ Per-SD, -0.40, 95% CI: -0.51, -0.29 ♀ Greatest ↓, 0.60, 95% CI: 0.34, 0.87 ♀ Moderate ↓, 0.26, 95% CI: 0.01, 0.52 ♀ Moderate ↑,-0.16, 95% CI: -0.41, 0.09 ♀ Greatest ↑, -0.62, 95% CI: -0.87, -0.37 ♀ per-SD, -0.45, 95% CI: -0.55, -0.34 DASH, Stable, 1, ref ♂ Greatest ↓, 1.11, 95% CI: 0.75, 1.47 ♂ Moderate ↓, 0.58, 95% CI: 0.27, 0.89 ♂ Moderate ↑, -0.43, 95% CI: -0.68, -0.19 ♂ Greatest ↑, -1.17, 95% CI: -1.40, -0.93 ♂ Per-SD, -0.68, 95% CI: -0.78, -0.58 ♀ Greatest ↓,1.08, 95% CI: 0.75, 1.41 ♀ Moderate ↓, 0.28, 95% CI: -0.01, 0.57 ♀ Moderate ↑, -0.51, 95% CI: -0.74, -0.28 ♀ Greatest ↑, -1.31, 95% CI: -1.54, -1.09 ♀ per-SD, -0.74, 95% CI: -0.83, -0.64 ∆Wt, 10-y, quartiles HEI-2015, Consistently low, 1, ref ♂ High to low, -0.06, 95% CI: -0.40, 0.27 ♂ Low to high, -0.70, 95% CI: -0.94, -0.46 ♂ Consistently high, -0.53, 95% CI: -0.75, -0.31 ♀ High to low, 0.32, 95% CI: 0.02, 0.62 ♀ Low to high, -0.79, 95% CI: -1.02, -0.57 ♀ Consistently high, -0.29, 95% CI: -0.50, -0.09 AHEI-2010, Consistently low, 1, ref	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		♂ High to low, 0.13, 95% CI: -0.18, 0.43 ♂ Low to high, -0.77, 95% CI: -1.01, -0.52 ♂ Consistently high, -0.45, 95% CI: -0.67, -0.23 ♀ High to low, 0.51, 95% CI: 0.23, 0.80 ♀ Low to high, -0.62, 95% CI: -0.85, -0.39 ♀ Consistently high, -0.25, 95% CI: -0.46, -0.04 aMED, Consistently low, 1, ref ♂ High to low, 0.03, 95% CI: -0.27, 0.34 ♂ Low to high, -0.44, 95% CI: -0.73, -0.15 ♂ Consistently high, -0.44, 95% CI: -0.70, -0.19 ♀ High to low, 0.32, 95% CI: 0.04, 0.61 ♀ Low to high, -0.39, 95% CI: -0.66, -0.12 ♀ Consistently high, -0.16, 95% CI: -0.39, 0.08 DASH, Consistently low, 1, ref ♂ High to low, 0.36, 95% CI: 0.03, 0.69 ♂ Low to high, -0.82, 95% CI: -1.08, -0.57 ♂ Consistently high, -0.70, 95% CI: -0.93, -0.48 ♀ High to low, 1.04, 95% CI: 0.73, 1.35 ♀ Low to high, -0.51, 95% CI: -0.75, -0.26 ♀ Consistently high, -0.26, 95% CI: -0.48, -0.04	
Khoury, 2022 [130] Spain; PREDIMED Plus Analytic N=5921 **Participant characteristics:** • 48% female; 100% Ov/Ob, BMI 27-40 with ≥ 3 MetS criteria • Mean WC, cm: ♂ 111; ♀ 104 • Mean BMI, 32.4 **Race and/or Ethnicity**: NR	**Dietary patterns at age(s)**:65y, mean at baseline Nutrient Profiling System of the British Food Standards Agency (modified version) (FSAm-NPS) score [Julia, 2014] mFSAm-NPS, Positive: Total sugar; Saturated fats; Sodium; Energy; Negative: Vegetables, Fruits, Legumes, Nuts; Fibres and proteins; Rapeseed oil; Walnut oil; Olive Oil **Method(s)**: Index/score analysis	**Follow-up duration or age:**1 y **BMI:** mFSAm-NPS & BMIΔ T1, ref β, 95% CI T2, β: 0.27 (0.18, 0.36) T3, β: 0.51 (0.41, 0.60); p-trend<0.001 Continuous, β: 0.11 (0.09, 0.13) **Waist/Central:** mFSAm-NPS & WCΔ T1, ref β, 95% CI T2, β: 0.73 (0.42, 1.03) T3, β: 1.19 (0.89, 1.50); p-trend<0.001	• **Did not account for:** Race/Ethnicity (100% Spanish) • Diet change assessed Δ1y from validated FFQ **Funding**: Spanish Institutions for funding scientific biomedical research, CIBER Fisiopatología dela Obesidad y Nutrición (CIBEROBN) and Instituto de Salud Carlos III (ISCIII)

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		Continuous, β: 0.28 (0.22, 0.35)	
SEP: • 77% married, 10% widowed, 12.5% single, divorced, separated, religious; • Education: 29% secondary (high-school), 22% University			
Kim, 2020 [131] Korea; Korean Genome and Epidemiology Study (KoGES) Analytic N=5646 **Participant characteristics:** • PDI quintile range, mean BMI: 23.7-24; WC: 79.3-81 **Race and/or Ethnicity**: NR, Korean **SEP:** Education, ≤6 y; 7-12y; >12y by quintile PDI: • Q1, 18.8%; 21.9%; 59.3% • Q2, 25.2%; 23.6%; 51.2% • Q3, 29.5%; 21.8%; 48.7% • Q4, 29.6%; 24.6%; 45.7% • Q5, 35.8%; 25.2%; 39.0%	**Dietary patterns at age(s)**:40 to 69 y at baseline Provegetarian Food Pattern [Martinez-Gonzalez 2014] Plant-Based Diet Index (PDI) [Satija, 2016] Healthful PDI (hPDI) [Satija, 2016] unhealthful PDI (uPDI) [Satija, 2016] Pro-vegetarian: Positive: Vegetables; Potatoes; Legumes; Fruit; Nuts; Cereals; (no data on olive oil). Negative: Fish and Other Seafood; Meats and Meat Products; Eggs; Dairy Products; Animal Fats mPDI: Positive: Vegetables; Fruits and Fruit Juices; Nuts; Legumes; Whole grains; Tea/coffee; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts; Salty foods; Negative: Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods mhPDI: Positive: Vegetables; Fruits and Fruit Juices; Nuts; Legumes; Whole grains; Tea/coffee; Negative: Salty foods; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts; Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods	**Follow-up duration or age:**8 y, median **<u>Waist/Central:</u>** PDI Q1, ref Q2, HR: 0.99, 95% CI: 0.86, 1.13 Q3, HR: 0.98, 95% CI: 0.84, 1.14 Q4, HR: 0.96, 95% CI: 0.84, 1.11 Q5, HR: 0.95, 95% CI: 0.82, 1.09 p=0.41 hPDI Q1, ref Q2, HR: 1.01, 95% CI: 0.87, 1.17 Q3, HR: 1.04, 95% CI: 0.91, 1.19 Q4, HR: 0.97, 95% CI: 0.83, 1.13 Q5, HR: 1.04, 95% CI: 0.89, 1.20 p=0.87 uPDI Q1, ref Q2, HR: 1.01, 95% CI: 0.87, 1.16 Q3, HR: 1.26, 95% CI: 1.10, 1.45 Q4, HR: 1.14, 95% CI: 0.98, 1.34 Q5, HR: 1.46, 95% CI: 1.25, 1.71 p=<0.001 Pro-vegetarian Q1, ref Q2, HR: 0.90 , 95% CI: 0.78, 1.03 Q3, HR: 0.97, 95% CI: 0.83, 1.13 Q4, HR: 0.93, 95% CI: 0.81, 1.08 Q5, HR: 0.99, 95% CI: 0.84, 1.15	• **<u>Did not account for:</u>** Race/Ethnicity (100% Korean) • Diet assessed at baseline and visit 3 (f/U); DP from cumulative average (or baseline if missing/MetS) • Sensitivity analyses excluding those who developed CVD or DM in f/u did not substantially change results; No data on vegetable or olive oils in this population **Funding**: Ministry of Education, Science, and Technology, National Research Foundation of Korea, National Research Institute of Health, Korea Centers for Disease Control and Prevention, and the Ministry for Health and Welfare, Republic of Korea

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
	muPDI: Negative: Whole grains; Fruits and Fruit Juices; Vegetables; Nuts; Legumes; Tea/coffee; Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods; Salty foods; Positive: Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts **Method(s)**: Index/score analysis	p=0.92	
Konieczna, 2019 [133] Spain; PREDIMED Analytic N=5801 **Participant characteristics:** • 100% high risk of CVD (either T2D or 3+ major risk factors at baseline) • DM: MAO, ♂ 60%; ♀ 56%; MHO, ♂ 20%; ♀ 7%; MANO, ♂ 65%; ♀ 59%; MHNO, ♂ 43%; ♀ 19% between groups, p<0.001 **Race and/or Ethnicity**: NR **SEP:** Education (higher; secondary; primary; missing) • MAO, 11%; 21%; 67%; 1% • MHO, 12%; 19%; 69%; 0.5% • MANO, 14%; 21%; 64%; 1% • MHNO, 13%; 23%; 63%;	**Dietary patterns at age(s)**: 55 to 80 y at baseline, mean ~ 66y Mediterranean Diet Adherence Screener (MEDAS) [Schroder 2011] MEDAS, Positive: Vegetables; Dishes with Tomato Sauce (tomato, garlic, onion, leek, olive oil); Pulses; Fruit; Nuts; Fish; White Meat Over Red Meat; Olive Oil; Olive Oil as Principal Cooking Fat; Red Wine. Negative: Commercial Pastries; Red Meat or Sausages; Animal fat; Sugar-Sweetened Beverages **Method(s)**: Index/score analysis	**Follow-up duration or age:**5 y **<u>Risk of Ob/OW:</u>** Ob reversion MAO -> MANO ♂ + ♀, HR 0.98, 95% CI: 0.89, 1.08 MHO -> MHNO ♂ + ♀, HR 1.04, 95% CI: 0.86, 1.26 Risk of Ob MANO -> MAO, ♂ + ♀, HR 0.97, 95% CI: 0.84, 1.11 MHNO -> MHO, ♂ + ♀, HR 0.82, 95% CI: 0.70, 0.95	• **<u>Did not account for:</u>** Race/ethnicity (Spanish) • Did not directly examine outcome; Analyzed by metabolic phenotypes; Stratification by sex showed significant inverse relationship of MEDAS with OB in ♀ **Funding**: CIBER de Fisiopatología de la Obesidad y Nutrici on and Instituto de Salud Carlos III, Spanish Ministry of Economy, Industry and Competitiveness and European; Social Funds (ESF), the Fundaci on Instituto de Investigaci on Sanitaria Illes Balears
Konieczna, 2021 [132] Spain; PREDIMED Plus	**Dietary patterns at age(s)**:55 to 75 y at baseline Nova "Ultra-processed" [Monteiro, 2019]	**Follow-up duration or age:**1 y **<u>Adiposity:</u>** Visceral fat	• **<u>Did not account for:</u>** Race/Ethnicity (100% Spanish) • Diet assessed at baseline, 3mo, 12mo with validated FFQ;

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Analytic N=1485 **Participant characteristics:** • 100% MetSyn, 3+ criteria: 75% Ob; 93% abdominal Ob; 22% T2D; 26% Depression • mean BMI, 32.5; WC, 107.3cm; LM 56.%; FM 40.4%; Visceral fat, 2305g **Race and/or Ethnicity**: White, elderly Spanish, data NR **SEP:** Higher education, 21.6%	Nova 4 sub-groups: "Dairy products; Processed meat; Pre-prepared dishes; Snacks and fast-foods; Sweets; Non-alcoholic beverages; Alcoholic beverages **Method(s)**: Index/Score Analysis: UP, Nova	per-10%, β: 0.09, 95% CI: 0.05, 0.13; p<0.0001 T1, ref T2, β: 0.05, 95% CI: 0.00, 0.10 T3, β: 0.13, 95% CI: 0.07, 0.19; p<0.0001 Android-to-gynoid fat ratio per-10%, β: 0.05, 95% CI: 0.00, 0.09; p=0.031 T1, ref T2, β: 0.05, 95% CI: 0.00, 0.10 T3, β: 0.11, 95% CI: 0.05, 0.16; p=0.003 Total fat mass per-10%, β: 0.09, 95% CI: 0.06, 0.13; p<0.0001 T1, ref T2, β: 0.09, 95% CI: 0.05, 0.13 T3, β: 0.15, 95% CI: 0.11, 0.19; p<0.0001	• Sensitivity analyses: diet quality factors, adherence to ER-MedDiet; mediation analyses: extent to which nutritional variables and overall adiposity parameters might be responsible for the association between concurrent changes in UPF consumption and regional fat deposition; modification by age, T2D prevalence, smoking status, sedentary behavior, Ob; WC **Funding**: European Research Council
Li, 2015 BJN [134] Sweden; Swedish Women's Lifestyle and Health cohort Analytic N=27544 for BW; 20674 for WC **Participant characteristics:** • 100% Female • median BMI 23.0; WC 75 cm **Race and/or Ethnicity**: NR **SEP**: Education: ≤10 y, 27.8%; 11-13 y, 39.3%; ≥14 y, 33.0%	**Dietary patterns at age(s)**: 29 to 49 y; 40y median at baseline Mediterranean Diet Score (MDS) [Trichopolou 2003; cited by Couto 2013] Healthy Nordic Food Index (HNFI) [Olsen 2011; whole grain v. rye bread as cited by Roswall, 2015] MDS: Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish/seafood; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol NDS: Positive: Cabbage; Root Vegetables; Apples and Pears; Whole grain Bread; Oatmeal; Fish **Method(s)**: Index/score analysis	**Follow-up duration or age:**12 y **<u>Body weight:</u>** MDS & Δ BW, kg per 1-pt increase: β 0.03, 95% CI: -0.03, 0.09; p=0.19 0-3: 0, ref 4-5: 0.14, 95% CI: -0.04, 0.32; p=015 6-9: 0.14, 95% CI: -0.08, 0.36; p=0.20 NDS & Δ BW, kg per 1-pt: 0.04, 95% CI: -0.02, 0.10; p=0.19 0-1: 0, ref 2-3: 0.11, 95% CI: -0.11, 0.33; p=0.34 4-6: 0.18, 95% CI: -0.06, 0.42; p=0.15 **<u>Waist/Central:</u>** ΔWC, adjusted ΔBW MDS & ΔWC per 1-pt: 0.02, 95% CI: -0.06, 0.10; p=0.56 0-3: 0, ref 4-5: 0.11, 95% CI: -0.16, 0.38; p=0.40 6-9: -0.01, 95% CI: -0.32, 0.30; p=0.94	• **<u>Did not account for:</u>** Race/ethnicity (Swedish) • Diet assessed only once at baseline **Funding**: Swedish Cancer Society and the Swedish Research Council; Karolinska Institutet Distinguished Professor Award

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		NDS per 1-pt: 0.06, 95% CI: -0.02, 0.14; p=0.16 0-1: 0, ref 2-3: 0.13, 95% CI: -0.18, 0.44; p=0.42 4-6: 0.21, 95% CI: -0.14, 0.56; p=0.23	
Li, 2016 DP [135] China; Analytic N=1028 **Participant characteristics:** • 100% Female • mean BMI, Low, 22.3; Middle, 22.3; High, 22.5, p=0.30 • Excluded those w Hx CVD **Race and/or Ethnicity**: NR **SEP:** Education (≥college): Low, 76.6%; Middle, 76.1%; High, 75.8%; p=0.96	**Dietary patterns at age(s)**:~39 to 48 y "Vegetable": melon vegetables, starchy tubers, root vegetables, leafy and flowering vegetables, fungi and algae, lotus root, allium vegetables, fruits, fish, coarse cereals, tea, soybean, nuts, wheat, and dairy products "Meat": red meat, rice, poultry, and eggs "Animal offal/dessert/alcohol": animal offal, fish, shellfish and mollusc, condiments, convenience foods and desserts, alcohol and beverages, poultry, and red meat **Method(s)**: Factor/Cluster: PCA	**Follow-up duration or age:**3 y **BMI:** Δ BMIz over 3 y 'Vegetable' T1: 0.05, 95% CI: 0.01, 0.10 T2: 0.04, 95% CI: 0.01, 0.08 T3: 0.03, 95% CI: –0.01, 0.08 P-trend=0.51 'Meat' T1: 0.02, 95% CI: –0.03, 0.06 T2: 0.09, 95% CI: 0.05, 0.13 T3: 0.02, 95% CI: –0.02, 0.07 P-trend=0.85 'ADA' T1: 0.01, 95% CI: –0.04, 0.05 T2: 0.05, 95% CI: 0.01, 0.09 T3: 0.07, 95% CI: 0.03, 0.11 P-trend=0.06	• **Did not account for:** Physical activity • Diet from validated FFQ assessed in 2014, when outcomes were assessed (retrospective design) • Excluded men due to small sample • **Funding**: National Science and Technology Support Program
Li, 2021 [136] China; China Nutrition and Health Survey Analytic N=12451 **Participant characteristics:** • By UPF intake: None; 1-19g/d; 20-49 g/d; ≥50 g/d • mean BMI: 22.7; 22.8; 23.2; 23.0; p<0.001 • Mean WC: 78.9; 79.3; 80.4; 80.9, p<0.001 • OW/Ob: 21.7%; 24.1%; 26.9%; 26.2%; p<0.001	**Dietary patterns at age(s)**:> 20 y (mean 43.7 y) at baseline Nova "Ultra-processed" [Monteiro, 2019] Nova 4 main sources: Instant pork-mince steam bun; Bread; Instant noodle; Cookies; Cake; Instant pork-mince dumpling; Sausage; Liquor; Soybean paste; Packaged snacks **Method(s)**: Index/Score Analysis: UP, Nova	**Follow-up duration or age:**12 y total, NR **Risk of Ob/OW:** 0 g/d, HR: 1, ref 1-19 g/d, HR: 1.45, 95% CI: 1.26, 1.65 20-49 g/d, HR: 1.34, 95% CI: 1.15, 1.57 ≥50 g/d, HR: 1.45, 95% CI: 1.21, 1.74 p<0.001 Other factors associated with overweight/obesity were age, education, urbanization (strongest), smoking, and phys **Waist/Central:** 0 g/d, HR: 1, ref 1-19 g/d, HR: 1.54, 95% CI: 1.38, 1.72	• **Did not account for:** Race/Ethnicity (100% Chinese); Anthropometry • Diet assessed repeatedly with 3, 24h-recalls; Food-processing status discussed and based on consensus e.g., 'fruit or milk drinks' were UPF if containing sweeteners, preservatives, or other additives' Interactions between UPF & Ow/Ob by age, education, urbanization (strongest), smoking, and physical activity were explored but not significant

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
• Central obesity; 24.9%; 27.4%; 28.2%; 26.9%; p=0.070 • DM (in 2009): 9.2%; 19.4%; 13.4%; 11.1%; p=0.16 • HTN: 14.7%; 18.8%; 15.4%; 19.2%; p<0.001 **Race and/or Ethnicity**: NR **SEP:** Income (Low, Medium, High UPF intake, g/d): • None: 31.5%; 33.2%; 35.3% • 1-19: 24.7%; 33.7%; 41.6% • 20-49: 19.8%; 30.8%; 49.4% • ≥50: 21.4%; 31.6%; 47.0%; p<0.001		20-49 g/d, HR: 1.35, 95% CI: 1.19, 1.54 ≥50 g/d, HR: 1.50, 95% CI: 1.29, 1.74 p<0.001 Other factors associated with overweight/obesity were age, education, urbanization (strongest), smoking, and physical activity, but there were no significant interactions	• **Funding**: None
Li, 2022 [137] Japan; Aichi Workers' Cohort Study Analytic N=2944 **Participant characteristics:** • 48% female • Mean BMI, 22-22.7, p<0.0001; • WC, cm: 77.2-79.7, p<0.0001 **Race and/or Ethnicity, SEP**: 100% Japanese government employees, data NR **SEP:** 22% higher education;	**Dietary patterns at age(s)**:30 to 59 y at baseline n/a Healthy Dietary Pattern (HDP): Positive loadings (in order) for: Green vegetables, not specified; Green leafy vegetables; Dark-yellow vegetables; Tomatoes; Cooking oil; Other fruits; Mushroom; Potatoes; Soy products; Seaweed; Citrus fruits; Oily fish; Pickles; Fish products; Lean fish; Seafood other than fish; Dairy products; Salty fish; Millet; Nuts; Confectioneries; Sweeteners; Egg; Processed meats; Chicken; Bread; Mayonnaise and margarine; Miso soup; Whole-fat milk; Pasta; Low-fat milk;	**Follow-up duration or age:**5 y, median **<u>Waist/Central:</u>** HDP & WC Q1, HR: 1, ref Q2, HR: 1.10, 95% CI: 0.82, 1.47; p=0.54 Q3, HR: 1.11, 95% CI: 0.82, 1.51; p=0.48 Q4, HR: 1.04, 95% CI: 0.76, 1.43; p=0.79 p-trend=0.75 UHDP & WC Q1, HR: 1, ref Q2, HR: 1.37, 95% CI: 1.00, 1.86; p=0.0496 Q3, HR: 1.61, 95% CI: 1.17, 2.21; p=0.003	• **<u>Did not account for:</u>** Race/ethnicity • Diet change assessed ∆1,2, 3-5y from validated FFQ; Effect modification by sex NS for CVD and T2D outcomes • **Funding**: MEXT/JSPS KAKENHI; Ministry of Health Labour and Welfare; Japan Atherosclerosis Prevention Fund; Uehara Memorial Fund; Noguchi Memorial Research Institute

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
76% married	Noodles; Corn oil; Liver; Negative loadings for: Pork; Beef; Rice Unhealthy Dietary Pattern (UHDP): Positive loadings (in order) for: Tomatoes; Bread; Dark-yellow; Sweeteners; Green leafy vegetables; Green vegetables, not specified; Millet; Mushroom; Vegetables, not specified; Potatoes; Seaweed; Other fruits; Citrus fruits; Confectioneries; Whole-fat milk; Pasta; Soy products; Oily fish; Corn oil; Dairy products; Egg; Chicken; Cooking oil; Mayonnaise and margarine; Low-fat milk; Lean fish; Miso soup; Salty fish; Nuts; Fish products; Pork; Processed meats; Seafood other than fish; Rice; Pickles **Method(s)**: RRR	Q4, HR: 1.93, 95% CI: 1.42, 2.62; p<0.0001	
Lim, 2021 [138] Singapore; Singapore Multi-Ethnic Cohort (MEC) Analytic N=3064 **Participant characteristics:** • Mean BMI: Chinese 22.8; Malay 26.2; Indian: 25.8 **Race and/or Ethnicity**: 52% Chinese; 23% Malay; 25% Indian **SEP:** Education (Primary or <; Secondary; > Secondary) • Chinese: 18%; 38%; 45% • Malay: 23%; 48%; 29% • Indian: 25%; 36%; 40%	**Dietary patterns at age(s)**: 21 to 65 y at baseline DASH [Fung, 2008], Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages AHEI-2010 [Chiuve, 2012], Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice. Neutral: Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:** 6.0 y, mean **Body weight:** ΔWt DASH, per 5pt, β:-0.34, 95% CI: -0.55, -0.13 Q1, β:1, ref Q2, β:-0.42, 95% CI: -0.86, 0.02 Q3, β:-0.46, 95% CI: -0.93, 0.00 Q4, β:-0.59, 95% CI: -1.11, -0.07 AHEI-2010, per 10pt, β: -0.35, 95% CI: -0.60, -0.10 Q1, β:1, ref Q2, β:-0.24, 95% CI: -0.71, 0.24 Q3, β:-0.15, 95% CI: -0.64, 0.35 Q4, β:-0.67, 95% CI: -1.23, -0.10 **Waist/Central:** WC DASH, per 5pt, β:-0.35, 95% CI: -0.65, -0.04, p=0.027	• **Did not account for:** N/A • Diet change assessed over f/u; NS additional analyses by ethnicity, sex, or BMI • **Funding**: National Medical Research Council, Biomedical Research Council, Ministry of Health, Singapore, National University of Singapore and National University Health System, Singapore

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		AHEI-2010, per 10pt, β: -0.40, 95% CI: -0.74, -0.06, p=0.021	
Liu, 2022 [140] China; Guizhou Population Health Cohort Study (GPHCS) Analytic N=5742 **Participant characteristics:** • Mean BMI at baseline, 22.35; HTN 25.4%; DM 8.2% **Race and/or Ethnicity**: 60.2% Han Chinese **SEP:** Education: ≥9 y, 62.8%; <9 y, 37.2%	**Dietary patterns at age(s)**:~ 45 y (average) 'High-salt and high-oil': high factor load of fermented bean curd, bean paste, pickles, and oil ''Western'': high factor load of legumes, meat, fruits, milk, eggs, fish, and potatoes. ''Grain-vegetable': high factor load of grains and vegetables. ''Junk food': high factor load of beverages, desserts, and fried food **Method(s)**: Factor/Cluster	**Follow-up duration or age:** 6 to 8 y post-baseline (40,524.15 person-years) **Risk of Ob/OW:** 'High-salt and high-oil' & Ob Q1, HR: 1, ref Q2, HR: 0.91, 95% CI: 0.70, 1.18 Q3, HR: 0.97, 95% CI: 0.74, 1.27 Q4, HR: 0.90, 95% CI: 0.69, 1.19 p=0.577 'Western' & Ob Q1, 1, ref Q2, 0.95, 95% CI: 0.71, 1.26 Q3, 1.33, 95% CI: 1.01, 1.75 Q4, 1.21, 95% CI:	• **Did not account for:** N/A • Diet assessed at baseline only by FFQ • **Funding**: Guizhou Province Science; Technology Support Program
Liu, 2023 [141] United Kingdom; BIOBANK Analytic N=27429 **Participant characteristics:** • Participants with a higher sulfur microbial diet score tended to have a higher BMI, exercise less frequently, and have a lower prevalence of binge drinking compared with those with lower adherence • Mean BMI 25.0 • Sensitivity analyses including those with CVD or cancer at baseline yielded similar direction of results for Ob/abdominal	**Dietary patterns at age(s)**:55.3y, mean (37 to 73 y) Sulfur Microbial Diet, Positive: processed meats, bacon, hot dogs; liquor (vodka, gin); low-calorie cola, other low-energy carbonated beverages Negative: beer; apple juice or cider, orange juice, grapefruit juice, other fruit juice; legumes (string beans, peas or lima beans, beans or lentils, tofu or soybeans, alfalfa sprouts); other vegetables (celery, mushrooms, green pepper, corn, mixed vegetables, eggplant, summer squash); chocolate bars or pieces, candy bars, cookies, brownies, doughnuts, cake, pie, sweet roll, coffee cake, pastries **Method(s)**: RRR: Score analysis	**Follow-up duration or age:**8.1y, mean **Risk of Ob/OW:** Ob Q1, HR: 1.00, ref Q2, HR: 1.15, 95% CI: 0.98, 1.35 Q3, HR: 1.25, 95% CI: 1.07, 1.46 Q4, HR: 1.44, 95% CI: 1.24, 1.67 p-trend<0.001 Per 1-SD, HR: 1.13, 95% CI: 1.07, 1.18 **Adiposity:** ≥5% BF% increase Q1, HR: 1.00, ref Q2, HR: 1.03, 95% CI: 0.93, 1.13 Q3, HR: 1.12, 95% CI: 1.02, 1.24 Q4, HR: 1.27, 95% CI: 1.16, 1.40 p-trend<0.001 Per 1-SD, HR: 1.08, 95% CI: 1.05, 1.12 **BMI:** ≥5% BMI increase Q1, HR: 1.00, ref Q2, HR: 1.04, 95% CI: 0.97, 1.13 Q3, HR: 1.06, 95% CI: 0.98, 1.15	• **Did not account for:** N/A • Diet assessed at five times with 24-h recalls and DP from cumulative average; Sensitivity analyses with further adjustment for HTN at baseline/DM at baseline/ vitamin or mineral supplement/sedentary time/'Western' dietary score; excluding extreme lower BMI/ extreme energy intake/missing covariate data/untypical diet/<2, 24-h recalls; including those with CCD or cancer at baseline • **Funding**: Central Universities of China, National Natural Science Foundation of China

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
obesity **Race and/or Ethnicity:** 97.1% white, 2.6% non-white **SEP:** Participants with a higher sulfur microbial diet score tended to be less educated & higher HH income • HH Income: 9.8% <18K; 20.4% 18K-30.9K; 27.8% 31K-51.9K; 26.6% 52K-100K; 7.6% >100K • Education: 51.8% college or uni degree; 9.4% vocational qualifications;		Q4, HR: 1.13, 95% CI: 1.04, 1.22 p-trend=0.003 Per 1-SD, HR: 1.04, 95% CI: 1.01, 1.07 **Waist/Central:** Abdominal Ob. Q1, HR: 1.00, ref Q2, HR: 1.07, 95% CI: 0.96, 1.19 Q3, HR: 1.17, 95% CI: 1.05, 1.30 Q4, HR: 1.17, 95% CI: 1.05, 1.30 p-trend=0.002 Per 1-SD, HR: 1.05, 95% CI: 1.02, 1.09 ≥5% WC increase Q1, HR: 1.00, ref Q2, HR: 1.04, 95% CI: 0.98, 1.11 Q2, HR: 1.06, 95% CI: 1.00, 1.12 Q4, HR: 1.09, 95% CI: 1.03, 1.16 p-trend=0.006 Per 1-SD, HR: 1.02, 95% CI: 1.00, 1.05	
Livingstone, 2022 Assoc. [143] United Kingdom; BIOBANK Analytic N=17478 **Participant characteristics:** • OW/Ob: 58.3%; mean baseline, BMI: 26.3; FM kg 22.8; Trunk FM kg 12.8; LM, kg: 53.7 **Race and/or Ethnicity:** 100% White British **SEP:** • Townsend Deprivation Index: Least, 25.8%; 2nd least, 24.2%; Mid, 20.6%; 2nd most, 17.6%; Most, 11.8%	**Dietary patterns at age(s)**:40 to 69 y at baseline Recommended Food Behavior Score, modified RFS [Kant 2004] (modified scoring), Positive: Tomatoes; Broccoli; Spinach; Mustard, Turnip, Collard Greens; Carrots or Mixed Vegetables and Carrots; Green Salad; Sweet Potatoes; Baked or Boiled Potatoes; Dried Beans; All fruits (Apples or Applesauce; Oranges; Grapefruits; Cantaloupe; Orange or Grapefruit Juice; Grapefruit; Other Fruit Juices; Whole grains (cooked cereals such as oatmeal); High-Fiber Cereals; Dark Breads (whole wheat, rye, pumpernickel), Corn Tortillas and Breads; Fish (baked or broiled); Lean Meats/Poultry and Alternates (baked or broiled chicken or turkey; dry beans; nuts; Low-fat or non-fat Dairy (skim,	**Follow-up duration or age:**5.38 y, mean **BMI:** RFS in ♂ + ♀ trunk FM, β: -0.29, 95% CI: -0.33, -0.25; p<0.001; non-linear p=0.005 total LM, β: -0.10, 95% CI: -0.14, -0.06; p<0.001 total FM, β: -0.49, 95% CI: -0.56, -0.42; p<0.001; sex p-interaction<0.001; non-linear p=0.010 HDS in ♂ + ♀ total FM, β: -0.38, 95% CI: -0.45, -0.32; p<0.001; non-linear p=0.019 trunk FM, β: -0.23, 95% CI: -0.27, -0.19; p<0.001; non-linear p=0.005 total LM, β: -0.07, 95% CI: -0.11, -0.03; p<0.001 MDS in ♂ + ♀ trunk FM, β: -0.22, 95% CI: -0.26, -0.18; p<0.001 total FM, β: -0.38, 95% CI: -0.44, -0.32; p<0.001	• **Did not account for:** N/A • Diet assessed at five times with 24-h recalls and "usual baseline" DP based on average; Sex-stratified results all very similar effect size and direction to the pooled results • **Funding**: National Health and Medical Research Council Emerging Leadership Fellowship; Lister Prize Fellowship; Deakin University Faculty of Health Research Capacity Building Grant Scheme

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
	1%, 2% milk); Removal of Chicken Skin or Fat on Red Meat Healthy Diet Score (HDS) adapted [Maynard 2005] (modified scoring) Positive: Vegetables and Fruit; Pulses and Nuts; Fish; Dietary Fiber; Calcium. Negative: Red and Meat Products; Total Sugars; SFA; Cholesterol. Neutral: PUFA; Carbohydrates; Protein Mediterranean Diet Score (MDS) [Trichopolou 2003] Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol **Method(s)**: Index/score analysis	total LM, β: -0.07, 95% CI: -0.11, -0.04; p<0.001	
Livingstone, 2022 DP [142] United Kingdom; BIOBANK Analytic N=11735 **Participant characteristics:** • Mean BMI, 24.6; WC, cm, 83; • BF%, 27.1 **Race and/or Ethnicity:** 100% White British **SEP:** • Education: College or university degree, 54.6%; A/AS levels, 13.3%; O levels, GCSE/CSEs, 19.8%; Professional qualifications, 8.5%; None/prefer not to answer, 3.8%	**Dietary patterns at age(s)**:40 to 69 y at baseline DP1: higher intake of buns, cakes and pastries, confectionary and sweet biscuits; negatively associated with consumption of fruits, vegetables and low-fat yoghurt DP2: higher intake of fruits, vegetables and buns, cakes and pastries; lower intake of butter, high-fat cheese and eggs and egg dishes DP3: higher butter, high-fat cheese and vegetables intake; lower intake of beer and cider, wine and pasta and rice **Method(s)**: RRR: Response variables were discretionary foods and beverages [%E]; SFA [%E]; fiber density [g/MJ]	**Follow-up duration or age:**6.3 y, mean **Risk of Ob/OW:** Risk of Ob DP1, HR: 1.09, 95% CI: 0.99,1.19 DP2, HR: 1.04, 95% CI: 0.95,1.14 DP3, HR: 0.96, 95% CI: 0.86,1.06 **Adiposity:** High BF % DP1, HR: 1.03, 95% CI: 0.98,1.08 DP2, HR: 0.99, 95% CI: 0.94,1.04 DP3, HR: 0.97, 95% CI: 0.92,1.02 **Waist/Central:** Central Ob (WC) DP1, HR: 1.08, 95% CI: 1.03,1.14 DP2, HR: 0.99, 95% CI: 0.94,1.05 DP3, HR: 0.92, 95% CI: 0.87,0.98	• **Did not account for:** N/A • Diet assessed at five times with 24-h recalls and "usual baseline" DP based on average from ≥ 2 • **Funding**: Select authors funded by National Health and Medical Research Council Emerging Leadership Fellowship; Lister Prize Fellowship

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
• Townsend Deprivation Index: Least 24%, 2nd least 24%, Mid 20%, 2nd Most 18%, Most 14%			
Maskarinec, 2017 [147] United States; Multiethnic Cohort Analytic N=1861; 1804 BMI **Participant characteristics:** • Mean at baseline: BMI 26.1; BF kg, 25.5; VAT area, cm2, 168; Trunk fat, kg, 13.5; muscle mass index, 7.5; • NAFLD, 33.4%; High VAT, 52.9 **Race and/or Ethnicity:** 22% White, 17% African American, 16% Native American, 23% Japanese American, 21% Latino **SEP:** NR	**Dietary patterns at age(s)**: 45 to 75 y, mean 48 y at entry (~20 y f/u) Healthy Eating Index (HEI-2010) [Guenther 2013], Positive: Total Vegetables; Greens and Beans; Total Fruit; Whole Fruit; Whole Grains; Seafood and Plant Proteins; Total Protein Foods; Dairy; Fatty Acids. Negative: Refined Grains; Added Sugars in "Empty Calories"; Solid Fats in "Empty Calories"; Sodium Alternative HEI (AHEI)-2010 [Chiuve 2012] Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol Alternate Med Diet Score (aMED) [Fung 2005], Positive: Vegetables (not potatoes); Legumes; Fruit; Nuts; Whole Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. Neutral: Alcohol DASH Score [Fung 2008], Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages; Sodium **Method(s)**: Index/score analysis	**Follow-up duration or age:** 20.9 y, mean F/U (age ~ 69y) **<u>Adiposity:</u>** <u>BF, kg</u> HEI-2010 T1: 25.7, 95% CI: 25.1, 26.3 T2: 25.7, 95% CI: 25.1, 26.3 T3: 24.8, 95% CI: 24.2, 25.5 per unit: -0.05, 95% CI: -0.09, -0.01 AHEI-2010 T1: 26.3, 95% CI: 25.7, 26.9 T2: 25.4, 95% CI: 24.8, 26.0 T3: 24.6, 95% CI: 24.0, 25.2 per unit: -0.08, 95% CI: -0.12, -0.04 aMED T1: 26.0, 95% CI: 25.4, 26.6 T2: 25.7, 95% CI: 24.9, 26.5 T3: 24.7, 95% CI: 24.2, 25.3 per unit: -0.07, 95% CI: -0.12, -0.02 DASH T1: 26.1, 95% CI: 25.5, 26.7 T2: 25.4, 95% CI: 24.8, 26.0 T3: 24.7, 95% CI: 24.1, 25.4 per unit: -0.09, 95% CI: -0.14, -0.05 Trunk fat, kg HEI-2010 T1: 13.6, 95% CI: 13.5, 13.8 T2: 13.5, 95% CI: 13.4, 13.6 T3: 13.4, 95% CI: 13.3, 13.5 per unit: -0.02, 95% CI: -0.04, -0.01 AHEI-2010 T1: 13.6, 95% CI: 13.4, 13.7 T2: 13.5, 95% CI: 13.4, 13.6 T3: 13.4, 95% CI: 13.3, 13.5	• **<u>Did not account for:</u>** N/A • Dietary change assesed; n/a • **Funding**: NIH

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		per unit: -0.02, 95% CI: -0.03, -0.01 aMED T1: 13.6, 95% CI: 13.5, 13.7 T2: 13.5, 95% CI: 13.3, 13.6 T3: 13.4, 95% CI: 13.3, 13.5 per unit: -0.02, 95% CI: -0.04, -0.01 DASH T1: 13.6, 95% CI: 13.7, 13.8 T2: 13.5, 95% CI: 13.4, 13.6 T3: 13.3, 95% CI: 13.1, 13.4 per unit: -0.04, 95% CI: -0.06, -0.03 <u>Trunk/leg fat ratio</u> HEI-2010 T1: 1.62, 95% CI: 1.58, 1.65 T2: 1.57, 95% CI: 1.54, 1.60 T3: 1.55, 95% CI: 1.52, 1.58 per unit: -0.05, 95% CI: -0.10, -0.01 AHEI-2010 T1: 1.60, 95% CI: 1.57, 1.63 T2: 1.58, 95% CI: 1.54, 1.61 T3: 1.56, 95% CI: 1.53, 1.59 per unit: -0.05, 95% CI: -0.09, -0.01 aMED T1: 1.60, 95% CI: 1.57, 1.63 T2: 1.57, 95% CI: 1.53, 1.61 T3: 1.57, 95% CI: 1.54, 1.60 per unit: -0.03, 95% CI: -0.08, -0.01 DASH T1: 1.64, 95% CI: 1.61, 1.67 T2: 1.55, 95% CI: 1.52, 1.59 T3: 1.53, 95% CI: 1.50, 1.57 per unit: -0.12, 95% CI: -0.17, -0.07 VAT area, m2 HEI-2010 T1: 175, 95% CI: 171, 180 T2: 169, 95% CI: 164, 173 T3: 161, 95% CI: 157, 166 per unit: -0.06, 95% CI: -0.09, -0.03 AHEI-2010 T1: 172, 95% CI: 167, 177	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		T2: 170, 95% CI: 166, 178 T3: 163, 95% CI: 159, 165 per unit: -0.07, 95% CI: -0.10, -0.03 aMED T1: 173, 95% CI: 169, 178 T2: 170, 95% CI: 164, 176 T3: 163, 95% CI: 159, 168 per unit: -0.05, 95% CI: -0.08, -0.01 DASH T1: 179, 95% CI: 174, 183 T2: 165, 95% CI: 161, 170 T3: 160, 95% CI: 155, 165 per unit: -0.11, 95% CI: -0.14, -0.07 VAT/SAT ratio HEI-2010 T1: 0.86, 95% CI: 0.83, 0.89 T2: 0.83, 95% CI: 0.80, 0.86 T3: 0.78, 95% CI: 0.75, 0.81 per unit: -0.05, 95% CI: -0.09, -0.01 AHEI-2010 T1: 0.85, 95% CI: 0.82, 0.88 T2: 0.83, 95% CI: 0.80, 0.86 T3: 0.80, 95% CI: 0.77, 0.83 per unit: -0.06, 95% CI: -0.10, -0.03 aMED T1: 0.84, 95% CI: 0.81, 0.87 T2: 0.83, 95% CI: 0.79, 0.87 T3: 0.81, 95% CI: 0.78, 0.83 per unit: -0.04, 95% CI: -0.08, -0.01 DASH T1: 0.89, 95% CI: 0.86, 0.92 T2: 0.79, 95% CI: 0.76, 0.82 T3: 0.79, 95% CI: 0.75, 0.82 per unit: -0.11, 95% CI: -0.15, -0.07 % Hepatic fat HEI-2010 T1: 6.3, 95% CI: 5.9, 6.6 T2: 5.6, 95% CI: 5.2, 5.9 T3: 5.3, 95% CI: 4.9, 5.6 per unit: -0.10, 95% CI: -0.15, -0.05	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		AHEI-2010 T1: 6.1, 95% CI: 5.7, 6.4 T2: 6.1, 95% CI: 5.7, 6.4 T3: 5.0, 95% CI: 4.6, 5.3 per unit: -0.11, 95% CI: -0.16, -0.07 aMED T1: 6.0, 95% CI: 5.6, 6.3 T2: 6.0, 95% CI: 5.6, 6.4 T3: 5.3, 95% CI: 4.9, 5.6 per unit: -0.08, 95% CI: -0.13, -0.02 DASH T1: 6.5, 95% CI: 6.2, 6.9 T2: 5.4, 95% CI: 5.0, 5.7 T3: 5.0, 95% CI: 4.7, 5.4 per unit: -0.14, 95% CI: -0.19, -0.09 % Hepatic fat by Δ HEI-2010 Low/low: 6.2%, 95% CI: 5.8%, 6.5% Low/high: 5.9%, 95% CI: 5.4%, 6.4% High/high: 4.8%, 95% CI: 4.5%, 5.2% Risk of high VAT (≥150 cm2) HEI-2010 T1: OR 1, ref T2: OR 0.68, 95% CI: 0.49, 0.92 T3: OR 0.48, 95% CI: 0.35, 0.66 AHEI-2010 T1: OR 1, ref T2: OR 0.82, 95% CI: 0.60, 1.11 T3: OR 0.62, 95% CI: 0.46, 0.85 aMED T1: OR 1, ref T2: OR 1.02, 95% CI: 0.72, 1.44 T3: OR 0.65, 95% CI: 0.47, 0.90 DASH T1: OR 1, ref T2: OR 0.46, 95% CI: 0.34, 0.63 T3: OR 0.41, 95% CI: 0.30, 0.58 Risk of high VAT (≥150 cm2) by Δ HEI-2010 Low/low: OR 1, ref Low/high: OR 0.72, 95% CI: 0.49, 1.05	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		High/low: OR 0.66, 95% CI: 0.45, 0.98 High/high: OR 0.52, 95% CI: 0.38, 0.71 **BMI:** mean BMI HEI-2010 T1: 28.1, 95% CI: 27.7, 28.5 T2: 28.1, 95% CI: 27.7, 28.5 T3: 27.6, 95% CI: 27.2, 27.9 per unit: -0.06, 95% CI: -0.11, -0.01 AHEI-2010 T1: 28.4, 95% CI: 28.0, 28.8 T2: 28.0, 95% CI: 27.6, 28.3 T3: 27.4, 95% CI: 27.1, 27.8 per unit: -0.09, 95% CI: -0.13, -0.04 aMED T1: 28.2, 95% CI: 27.9, 28.6 T2: 28.0, 95% CI: 27.5, 28.6 T3: 27.6, 95% CI: 27.2, 27.9 per unit: -0.08, 95% CI: -0.13, -0.03 DASH T1: 28.4, 95% CI: 28.0, 28.7 T2: 27.8, 95% CI: 27.5, 28.2 T3: 27.5, 95% CI: 27.1, 27.9 per unit: -0.09, 95% CI: -0.16, -0.06	
Maskarinec, 2020 [146] United States; Adiposity Phenotype Study (APS) subset of the Multiethnic Cohort (MEC) Analytic N=1861 **Participant characteristics:** • Mean at baseline: BMI 26.1; BF kg, 25.5; VAT area, cm2, 168; Trunk fat, kg, 13.5 • NAFLD, 33%; High VAT, 53% **Race and/or Ethnicity:** 22%	**Dietary patterns at age(s)**:48.5y, mean (45 to 75y at enrollment) Healthy Eating Index (HEI-2010) [Guenther 2013], Positive: Total Vegetables; Greens and Beans; Total Fruit; Whole Fruit; Whole Grains; Seafood and Plant Proteins; Total Protein Foods; Dairy; Fatty Acids. Negative: Refined Grains; Added Sugars in "Empty Calories"; Solid Fats in "Empty Calories"; Sodium **Method(s)**: Index/score analysis	**Follow-up duration or age:**♂20.8 y, mean ♀21.0 y, mean **Adiposity:** High VAT Risk ♂ Low/Low, OR: 1, ref ♂ Low/High, OR: 0.77, 95% CI: 0.45, 1.33 ♂ High/Low, OR: 0.81, 95% CI: 0.43, 1.54 ♂ High/High, OR: 0.84, 95% CI: 0.52, 1.37 ♀ Low/Low, OR: 1, ref ♀ Low/High, OR: 0.53, 95% CI: 0.31, 0.92 ♀ High/Low, OR: 0.52, 95% CI: 0.32, 0.87 ♀ High/High, OR: 0.39, 95% CI: 0.26, 0.59 BF ♂ T1 (31-61), M: 23.7, 95% CI: 22.9, 24.4 ♂ T2 (61-71), M: 23.1, 95% CI: 22.3, 23.9 ♂ T3 (71-92), M: 22.3, 95% CI: 21.4, 23.2	• **Did not account for:** SEP, Anthropometry, Smoking • Diet assessed repeatedly: at baseline (cohort entry) and F/U (clinic visit) with FFQ was "calibrated" not validated • **Funding**: NIH

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
White, 17% African American, 16% Native American, 23% Japanese American, 21% Latino **SEP:** NR		♂ β: -0.039; p=0.09 ♀ T1 (31-61), M: 28.7, 95% CI: 27.7, 29.7 ♀ T2 (61-71), M: 27.9, 95% CI: 27.0, 28.8 ♀ T3 (71-92), M: 26.9, 95% CI: 26.1, 27.7 ♀ β: -0.072; p=0.005; p-intx=0.57 HEI-2010 & Trunk Fat ♂ T1 (31-61), M: 13.0, 95% CI: 12.9, 13.1 ♂ T2 (61-71), M: 12.8, 95% CI: 12.7, 13.0 ♂ T3 (71-92), M: 12.7, 95% CI: 12.5, 12.9 ♂ β: -0.007; p=0.07 ♀ T1 (31-61), M: 14.3, 95% CI: 14.1, 14.5 ♀ T2 (61-71), M: 14.2, 95% CI: 14.0, 14.4 ♀ T3 (71-92), M: 13.9, 95% CI: 13.7, 14.1 ♀ β: -0.015; p=0.005; p-intx=0.50 VAT ♂ T1 (31-61), M: 206, 95% CI: 199, 212 ♂ T2 (61-71), M: 205, 95% CI: 197, 212 ♂ T3 (71-92), M: 192, 95% CI: 184, 200 ♂ β: -0.415; p=0.04 ♀ T1 (31-61), M: 145, 95% CI: 139, 151 ♀ T2 (61-71), M: 136, 95% CI: 131, 141 ♀ T3 (71-92), M: 126, 95% CI: 122, 131 ♀ β: -0.654; p<0.0001; p-intx=0.60 VAT/SAT Ratio ♂ T1 (31-61), M: 1.14, 95% CI: 1.09, 1.19 ♂ T2 (61-71), M: 1.12, 95% CI: 1.07, 1.18 ♂ T3 (71-92), M: 1.05, 95% CI: 0.98, 1.11 ♂ β: -0.003; p=0.09 ♀ T1 (31-61), M: 0.59, 95% CI: 0.57, 0.62 ♀ T2 (61-71), M: 0.55, 95% CI: 0.52, 0.57 ♀ T3 (71-92), M: 0.50, 95% CI: 0.48, 0.53 ♀ β: -0.003; p<0.0001; p-intx=0.95 % Liver Fat ♂ T1 (31-61), M: 6.13, 95% CI: 5.70, 6.56 ♂ T2 (61-71), M: 5.46, 95% CI: 4.99, 5.93 ♂ T3 (71-92), M: 5.11, 95% CI: 4.58, 5.65 ♂ β: -0.047; p=0.0005 ♀ T1 (31-61), M: 6.62, 95% CI: 6.03, 7.20 ♀ T2 (61-71), M: 5.69, 95% CI: 5.17, 6.20 ♀ T3 (71-92), M: 5.22, 95% CI: 4.74, 5.70	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		♀ β: -0.052; p=0.0006; p-intx=0.61 **<u>BMI:</u>** BMI ♂ T1 (31-61), M: 28.2, 95% CI: 27.7, 28.6 ♂ T2 (61-71), M: 27.8, 95% CI: 27.3, 28.3 ♂ T3 (71-92), M: 27.4, 95% CI: 26.9, 28.0 ♂ β: -0.023; p=0.11 ♀ T1 (31-61), M: 29.0, 95% CI: 28.4, 29.6 ♀ T2 (61-71), M: 28.1, 95% CI: 27.5, 28.6 ♀ T3 (71-92), M: 27.4, 95% CI: 26.8, 27.9 ♀ β: -0.063; p=0.0001; p-intx=0.10	
Mattei, 2017 [148] United States; Boston Puerto Rican Health Study Analytic N=1137 for AHEI, 1140 for AHA-DS, 1189 for DASH, 1194 for HEI, 1194 for MeDS **Participant characteristics:** • Ob: ~47-57%; Diabetes: ~32-42%; CVD: ~15-26%; HTN: ~62-74% • Current smoker: ~14-42% • Physical activity score: ~31-32 • Q5 v. Q1 AHA-DS had higher PA • Q5 v. Q1 DASH more nonsmoke • Q5 v. Q1 HEI had more nonsmokers, Diabetes, CVD, Ob • Q5 v. Q1 MDS had higher Diabetes %. **Race and/or Ethnicity:** 100% Peurto Rican	**Dietary patterns at age(s)**:45 to 75 y AHA Diet Score (AHA-DS) [Bhupathiraju 2011, Positive: Vegetables and Fruit; Variety; Whole Grains; Fish; Negative: SFA; Total fats; Trans Fat; Cholesterol; Added Sugars; Sodium; Neutral: Alcohol Alternative HEI (AHEI)-2010 [Chiuve 2012], Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol Healthy Eating Index (HEI-2005) [Guenther 2008], Positive: Total Vegetables; Dark Green/Orange Vegetables, Legumes; Total Fruit; Whole Fruit; Whole Grains; Total Grains; Meat and Beans; Milk, Yogurt, Cheese, and Soy Beverages; Healthy Oils. Negative: SFA; Solid fats, Alcohol, and Added Sugars; Sodium Mediterranean Diet Score (MDS) [Trichopoulou 2003], Positive: Vegetables; Legumes (and beans); Fruit (and Orange	**Follow-up duration or age:** 2 y **<u>BMI:</u>** BMI, by baseline diet z-score AHA-DS: -0.17 (0.08), p=0.033 DASH: -0.07 (0.08), p=0.39 HEI-2005: -0.04 (0.08), p=0.63 MDS:-0.23 (0.08), p=0.005 AHEI-2010: -0.16 (0.08), p=0.039 **<u>Waist/Central:</u>** WC, by baseline diet z-score AHA-DS: -0.09 (0.28), p=0.75 DASH: 0.05 (0.27), p=0.87 HEI-2005: -0.16 (0.28), p=0.56 MDS:-0.52 (0.26), p=0.048 AHEI-2010: -0.26 (0.27), p=0.33 2y WHR, by baseline diet z-score AHA-DS: -0.00002 (0.002), p=0.99 DASH: -0.001 (0.002), p=0.75 HEI-2005: -0.002 (0.002), p=0.44 MDS: -0.002 (0.002), p=0.22 AHEI-2010: -0.001 (0.002), p=0.67	• **<u>Did not account for:</u>** N/A • DP from validated-FFQ at baseline • **Funding**: NIH, NHLBI, NIA

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
SEP: • IPR: ~1.09-1.77 (Q5 v. Q1 AHA-DS had higher IPR) • Psychological acculturation score: ~17.1-19.5 measured with a 10-item scale • Education > 8th grade: ~50-64% • Married/with partner: ~24-37%	juice), Nuts; Whole grains (oatmeal); Fish (traditional); MUFA/SFA (corn oil). Negative: Red and Processed Meat; Dairy Products (Whole Milk). Neutral: Alcohol (Beer) DASH diet modfied [modified Fung, 2008] Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Total dairy; Negative: Red and Processed Meat; Sweetened beverages; Sodium **Method(s)**: Index/score analysis		
Mendonca, 2016 [149] Spain; SUN Cohort Analytic N=8451 **Participant characteristics:** • BMI: ~22 kg/m2; Weight: ~62-63 kg • Smoking status: ~20-24% current smoker, ~25-26% former smoker • PA: ~22-23 MET-h/wk; TV time: ~1.5-1.6 h/d • Q4 v. Q1 UPF: highest BMI, more likely current smokers, and more TV time **Race and/or Ethnicity:** NR **SEP:** Education: ~77-79% graduated university, ~16-19% master or doctoral; Marital status: ~45-48% single, ~46-50% married	**Dietary patterns at age(s)**:37.6 [11.0] y Nova "Ultra-processed" [Monteiro, 2019] Nova 4 main sources: Processed meat; Cookies; Pastries; Breakfast cereals; SSBs; Fruit drinks in bottles; Margarine; Chocolate **Method(s)**: Index/Score Analysis: UP, Nova	**Follow-up duration or age:**8.9 y median **<u>Risk of Ob/OW:</u>** Risk of Ob/OW Q1: HR 1, ref Q2: HR 1.15, 95%CI: 1.01, 1.32 Q3: HR 1.24, 95%CI: 1.09, 1.43 Q4: HR 1.26, 95%CI: 1.10, 1.45	• **<u>Did not account for:</u>** Alcohol (Differed at baseline but not adjusted; unclear if included); Race/ethnicity (Spanish) • DP from validated-FFQ at baseline but FFQ was not designed for UPF **Funding**: Carlos III Health Institute and the European Regional Development Fund, regional government of Navarra, and University of Navarra

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Mirmiran, 2015 [152] Iran; Tehran Lipid and Glucose study Analytic N=1123 for high WC, **Participant characteristics:** • BMI: ~26-27 kg/m2 • Smokers: ~12-17%; PA: ~26-37% < 126 Met-min/wk, ~32-27% 126-610 Met-min/wk, ~31-37% > 610 Met-min/wk • T3 v. T1 MDS had higher BMI at baseline. T3 v. T1 Sofi-MDS score more PA at baseline. **Race and/or Ethnicity:** NR (Iranian) **SEP:** NR (district 13 residents)	**Dietary patterns at age(s)**:18 to 74 y modified Mediterranean Diet Score (mMDS) [Trichopoulou 2003] literature Mediterranean Diet Score (LitMDS) [Sofi 2014] mMDS: Positive: Vegetables; Legumes; Fruit; Cereals; Fish; MUFA+PUFA/SFA. Negative: Red and Processed Meat; Dairy Products. (Removed alcohol) LitMDS (Sofi-MDS): Positive: Vegetables; Legumes; Fruit and Nuts; Cereals; Fish and seafood; Olive Oil. Negative: Red and Processed Meat; Dairy Products. (Removed alcohol) **Method(s)**: Index/score analysis	**Follow-up duration or age:**3 y **<u>Waist/Central:</u>** High WC (≥ 90 cm for both sexes) MDS; T1: OR 1, ref T2: OR 0.86, 95% CI: 0.54, 1.38 T3: OR 0.74, 95% CI: 0.48, 1.13; P-trend=0.56 Sofi-MDS; T1: OR 1, ref T2: OR 1.07, 95% CI: 0.71, 1.62 T3: OR 0.84, 95% CI: 0.52, 1.33; P-trend=0.82	• **<u>Did not account for:</u>** SEP • DP from validated-FFQ at baseline • **Funding**: Research institute of endocrine sciences, Shahid Beheshti university of medical sciences
Mirmiran, 2017 [151] Iran; Tehran Lipid and Glucose Study Analytic N=2259 **Participant characteristics:** By those w/ v. w/o CVD • BMI (kg/m2): 28.4±4.4 v. 26.5±4.8 • WC (cm): 97.2±10.1 v. CVD: 88.0±13.2 • DM: 14% v. 4% • HTN: 44% v. 8% • Smoking:: 26% v. 23% (NS) • Family Hx premature CVD: 12% v. 9% (NS)	**Dietary patterns at age(s)**:≥19 y 'Western': High loadings for: Salty snacsks; Fast and processed foods; Mayonnaise; Soft drinks; Confectioneries; Vegetable oils; Red meats (higher than 'Traditional'); Lower than 'Traditional': White meats: fish/poultry; zWhole grains; Eggs; Potato 'Traditional': High loadings for Whole Grains; Vegetables; Fruit (fresh and dried); Low-fat Dairy; High-fat Dairy; Nuts and Seeds; Legumes; White meats; Red meats (lower than 'Western'); Eggs (lower than 'Western'); Hydrogenated oils; Fish (higher than 'Western')	**Follow-up duration or age:**4.7 y mean ± 1.4 y **<u>Waist/Central:</u>** 'Western' β: -0.33, 95% CI: -0.19, 0.86 'Traditional' β: -0.21, 95% CI: -0.74, 0.31	• **<u>Did not account for:</u>** SEP; Race/Ethnicity (100% Iranian) • Stability of DP over time tested after 8y but diet assessed with validated FFQ at baseline; Abstract reports n=2284; Text reports n=2259 • **Funding**: National Research Council of the Islamic Republic of Iran; Research Institute for Endocrine Sciences of Shahid Beheshti University of Medical Sciences; Student Research Committee, Shahid Beheshti University of Medical Sciences

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Race and/or Ethnicity: NR (Iranian) **SEP:** district 13 residents	**Method(s)**: Factor/Cluster		
Mirmiran, 2023 [150] Iran; Tehran Lipid and Glucose Study Analytic N=1299 **Participant characteristics:** • 61% OW/Ob; • ~80% non-smokers **Race and/or Ethnicity:** NR (Iranian) **SEP:** Most with 12y+ education	**Dietary pattern age(s)**: 29 to 49 y Nova "Ultra-processed" [Monteiro, 2019], Nova 4, 9 sub-groups: Dairy products (ice cream, chocolate milk); Processed meat (sausages, burgers, hot dogs); Pizza; Cakes and biscuits; Candies and chocolates; Mayonnaise, margarine and hydrogenated oils; Soft drinks (carbonated soft drinks); Salty snacks (potato chips and pufak); Creamy cheese **Method(s)**: Index/Score analysis	**Follow-up duration or age:** ~6 y **Waist/Central:** ‘	• **Did not account for:** Race/Ethnicity (Iranian); Physical activity; Alcohol and Smoking (but most were non-users) • Diet assessed once via FFQ; Misclassification to Nova 4 from FFQ likely • Outcomes objectively measured • Indirect outcome of 'metabolically unhealthy phenotype' stratified by baseline weight status • **Funding**: Shahid Beheshti University of Medical Sciences
Olstad, 2017 [154] Australia; The Resilience for Eating and Activity Despite Inequality study (READI) Analytic N=1242 **Participant characteristics:** • 25.6% OW, 19.2% Ob; 55.2% normal/under weight; BMI, mean (SD): 25.8 (5.7) • Smoking: 52.5% never, 27.2% former, 20.3% current • PA (h/wk), mean (SD): 24.9 (21.8) **Race and/or Ethnicity:** NR	**Dietary patterns age(s)**:18 to 46 y adapted Austrailian Dietary Guidelines Index (aADGI) [McNaughton, 2008] aADGI, Postive: Vegetables; Fruits; Legumes; Cereals (breads, rice, pasta, and noodles); Whole Grain Cereals; Lean Meat/Meat alternatives; Low- or reduced fat Dairy; Water more than other fluids; Negative: SFA; Total fat; Added Sugars; Extra foods; Neutral: Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:**5 y **BMI:** Δ BMI Per unit (fixed effects): -0.014, 95% CI: -0.021, -0.007 Per unit (mixed model): -0.012, 95% CI: -0.019, -0.005	• **Did not account for:** Race/ethnicity; Total E • DP from FFQ at baseline; Overall findings unchanged in complete case analyses **Funding**: Australian National Health and Medical Research Council; Canadian Institutes of Health Research; NHMRC; Canadian • Cancer Society Research Institute; National Health & Medical Research Council Principal Research

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
SEP: 100% most disadvantaged neighbourhoods (59.7% rural, 40.3% urban) • Education: 23.2% <HS, 46.6% HS/trade/diploma, 30.1% > HS • Marital status: 71.9% living with partner, 28.1% not living with partner			
Otto, 2015 [155] United States; Multi-Ethnic Study of Atherosclerosis (MESA) Analytic N=2505 **Participant characteristics:** • 40% OW; 29% Ob **Race and/or Ethnicity:** 43% White 25% Black; 11.5% Chinese; 21% Hispanic **SEP:** Some college: ~60-70% of baseline cohort	**Dietary patterns at age(s)**:62y, mean [45 to 84y] Alternative Healthy Eating Index (AHEI) [McCullough 2000]: Positive: Vegetables (not potatoes, French fries); Fruit; Nuts and Soy Protein; Cereal Fiber; White: Red Meat Ratio; PUFA:SFA; Multi-Vitamin Use. Negative: Trans fat. Neutral: Alcohol alternate DASH Score [Appel, 1997]: Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy; Negative: Red and Processed Meat; Total fat (higher MUFA/PUFA, lower SF); Sweetened beverages; Sodium a Priori score [Sjitmsa, 2012]: Positive: Vegetables-Green; Vegetables-Yellow; Vegetables-Other; Tomatoes; Beans/Legumes; Fruit; Avocado; Nuts, Seeds; Soy Products; Whole Grains; Fish, fatty not fried; Fish, lean not fried; Poultry; Low-Fat Dairy; Beer, Wine, Liquor; Tea, Coffee. Negative: Fried potatoes; High-fat meat; Processed meat; Fried Fish; Fried Poultry; Whole-Fat Dairy; Butter; Candy;	**Follow-up duration or age:**5y **<u>Waist/Central:</u>** mean Δ DASH & WC Q1: 1.9, 95% CI: 1.4,2.4 Q2: 1.9, 95% CI: 1.3,2.4 Q3: 1.7, 95% CI: 1.2,2.2 Q4: 1.4, 95% CI: 0.7,2.0 Q5: 1.3, 95% CI: 0.6,2.0 p-trend=0.09 AHEI &WC Q1: 1.7, 95% CI: 1.1,2.2 Q2: 1.7, 95% CI: 1.2,2.3 Q3: 1.8, 95% CI: 1.2,2.3 Q4: 1.5, 95% CI: 0.9,2.1 Q5: 1.6, 95% CI: 1.0,2.2 p-trend=0.67 APDQS & WC Q1: 1.6, 95% CI: 1.0,2.1 Q2: 1.9, 95% CI: 1.4,2.5 Q3: 1.8, 95% CI: 1.2,2.3 Q4: 1.7, 95% CI: 1.1,2.2 Q5: 1.3, 95% CI: 0.7,2.0 p-trend=0.50 <u>By race/ethnicity,</u> mean Δ White	• **<u>Did not account for:</u>** N/A • Diet assessed at baseline with validated FFQ; Imputed missing FFQ data • **Funding**: NHLBI

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
	Soft drinks; Bakery Desserts; Salty Snacks. Neutral: Potatoes; Fruit Juices; Refined grains; Eggs; Shellfish; Margarine; Chocolate & Diet Soft Drinks; Meal replacements; Pickled foods; Soups, Sugar substitutes **Method(s)**: Index/score analysis	DASH Q1: 1.5, 95% CI: 0.7,2.3 Q2: 1.0, 95% CI: 0.1,2.0 Q3: 1.9, 95% CI: 1.1,2.8 Q4: 1.7, 95% CI: 0.9,2.6 Q5: 1.4, 95% CI: 0.5,2.3 p-trend=0.81 AHEI Q1: 1.7, 95% CI: 0.9,2.6 Q2: 1.7, 95% CI: 0.8,2.6 Q3: 1.4, 95% CI: 0.6,2.2 Q4: 1.4, 95% CI: 0.4,2.3 Q5: 1.5, 95% CI: 0.5,2.4 p-trend=0.61 APDQS Q1: 1.3, 95% CI: 0.3,2.2 Q2: 1.6, 95% CI: 0.5,2.6 Q3: 1.9, 95% CI: 1.0,2.8 Q4: 1.6, 95% CI: 0.8,2.5 Q5: 1.4, 95% CI: 0.5,2.2 p-trend=0.94 Black DASH Q1: 1.9, 95% CI: 0.5,3.8 Q2: 2.2, 95% CI: 0.8,3.6 Q3: 0.9, 95% CI: -0.5,2.2 Q4: 1.4, 95% CI: -0.2,3.0 Q5: -0.1* , 95% CI: -1.7,1.5 p-trend=0.06 AHEI Q1: 0.2, 95% CI: -1.1,1.4 Q2: 2.1, 95% CI: 0.7,3.5 Q3: 2.1, 95% CI: 0.8,3.3 Q4: 1.9, 95% CI: 0.7,3.1 Q5: 1.0, 95% CI: -0.2,2.3 p-trend=0.52 APDQS Q1: 1.3, 95% CI: 0.3,2.2 Q2: 2.0, 95% CI: 0.7,3.3	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		Q3: 1.6, 95% CI: 0.2,3.0 Q4: 1.5, 95% CI: -0.1,3.0 Q5: 0.2, 95% CI: -1.5,1.9 p-trend=0.60 Hispanic DASH Q1: 2.7, 95% CI: 1.8,3.6 Q2: 3, 95% CI: 1.8,4.1 Q3: 2.1, 95% CI: 1.1,3.1 Q4: 0.5, 95% CI: -0.9,1.8 Q5: 2.1, 95% CI: 0.6,3.6 p-trend=0.06 AHEI Q1: 2.9, 95% CI: 2.0,3.9 Q2: 1.8, 95% CI: 0.8,2.8 Q3: 2.3, 95% CI: 1.4,3.2 Q4: 0.8, 95% CI: -0.5,2.2 Q5: 2.1, 95% CI: 0.4,3.9 p-trend=0.12 APDQS Q1: 2.6, 95% CI: 1.6,3.6 Q2: 2.3, 95% CI: 1.5,3.2 Q3: 1.6, 95% CI: 0.5,2.7 Q4: 1.7, 95% CI: 0.4,3.1 Q5: 2.5, 95% CI: 0.9,4.1 p-trend=0.56 Chinese DASH Q1: 2.0, 95% CI: 0.9,3.0 Q2: 1.6, 95% CI: 0.6,2.6 Q3: 1.5, 95% CI: 0.5,2.5 Q4: 1.3, 95% CI: -0.1,2.7 Q5: 2.3, 95% CI: 0,4.5 p-trend=0.81 AHEI Q1: 1.9, 95% CI: 0.6,3.3 Q2: 1.5, 95% CI: 0.4,2.6 Q3: 1.3, 95% CI: 0.2,2.5	

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		Q4: 2.3, 95% CI: 1.2,3.3 Q5: 1.3, 95% CI: 0.1,2.6 p-trend=0.79 APDQS Q1: 2.8, 95% CI: 0.9,4.8 Q2: 1.3, 95% CI: 0.1,2.6 Q3: 1.7, 95% CI: 0.8,2.7 Q4: 1.9, 95% CI: 1.0,2.8 Q5: 1.0, 95% CI: -0.4,2.4 p-trend=0.42	
Perala, 2017 [158] Finland; Helsinki Birth Cohort Analytic N=1072 **Participant characteristics:** • BMI: Women: ~26.3-27.4 kg/m2; Men: ~27.1-27.4 kg/m2 • Smokers: Women: ~47-72% never, ~17-24% former, ~11-29% current; Men: ~15-38% never, ~44-52% former, ~11-31% current • Leisure-time PA: Women: ~1881-2205 MET (h/y); Men: ~1657-2270 MET (h/y) • Participants with higher NDS were less often smokers; physically more active; more years of education **Race and/or Ethnicity:** NR **SEP:** Education: Women: ~33-52% ≤ 9 y, ~12-22% 10-12 y, ~36-49% ≥13 years; Men: ~29-	**Dietary patterns at age(s)**:~61y at baseline Baltic sea diet [Kanerva, 2014] BSD, Positive: Vegetables (including legumes, not potatoes); Apples/pears/peaches plus berries; Oats/rye bread/porridge; Fatty fish; E% from fat PUFA/SFA & Trans FA; Negative: Red/Processed Meat; Neutral: Total alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:**10 y **<u>Adiposity:</u>** LM, kg In ♀ : Q1: 45.8 (4.4) Q2: 46.4 (4.9) Q3: 46.2 (4.4) Q4: 46.2 (4.8) per unit: 0.06, 95% CI: -0.04, 0.16; p=0.22 In ♂: Q1: 62.5 (7.1) Q2: 63.2 (5.8) Q3: 63.7 (5.8) Q4: 63.8 (6.7) per unit: 0.11, 95% CI: -0.04, 0.26; p=0.16	• **<u>Did not account for:</u>** Race/ethnicity (Helsinki birth cohort) • DP from validated-FFQ at baseline **Funding**: British Heart Foundation;Finska Läkaresällskapet; Samfundet Folkhälsan; Juho Vainio Foundation; Signe and Ane Gyllenberg Foundation; The Diabetes Research Foundation; Finnish Foundation for Cardiovascular Research and EU H2020-PHC-2014-DynaHealth; Emil Aaltonen Foundation and Yrjö • Jahnsson Foundation; the Academy of Finland

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
40% ≤ 9 y, ~12-19% 10-12 y, ~44-55% ≥13 y			
Pribisalić, 2021 [160] Croatia; 10,001 Dalmatians Study Analytic N=1342 **Participant characteristics:** **Race and/or Ethnicity:** NR **SEP:** Years of Schooling (median (IQR)): 11.00 (4.00), Island of Vis; 12.00 (3.00), Island of Korcula; 12.00 (4.00), City of Split • Subjective material status (median (IQR)): 3.00 (0.00), Island of Vis; 3.00 (1.00), Island of Korcula; 3.00 (1.00), City of Split	**Dietary patterns at age(s)**:18 to 98 y at baseline Mediterranean Diet Serving Score (MDSS) [Monteagudo, 2015], Positive: Vegetables, fruit, olive oil, cereals, nuts, dairy products, wine. Negative: red meat and sweets, potatoes, legumes, eggs, fish, white meat **Method(s)**: Index/score analysis	**Follow-up duration or age:**12 y **BMI:** MDSS at baseline & ∆BMI, β: -0.11, 95% CI: -0.14, -0.07, p=0.001 ∆MDSS & ∆BMI, β: -0.04, 95% CI: -0.07, 0.00, p=0.041	• **Did not account for:** N/A • Diet assessed repeatedly by 55-item, validated FFQ at baseline and F/; Isolated population from Adriatic islands • **Funding**: Medical Research Council (UK); the European Commission Framework 6 project EUROSPAN; the European Commission Framework 7 project BBMRI-LPC; the Republic of Croatia Ministry of Science, Education and Sports research grant; the Croatian Science Foundation; the Croatian National Center of Research Excellence in Personalized Healthcare; the Center of Competence in Molecular Diagnostics
Rauber, 2021 [161] United Kingdom; BIOBANK Analytic N=22659 **Participant characteristics:** • 52% Female; • BMI, mean: ~26.5-27 kg/m2 (SD ~4.2-4.6) • Obesity: ~18-22% • WC, mean: ~87.9-89.2 cm (SD ~12.7-13.1) • Abdominal obesity: ~23-27% • Mean % body fat: ~30.1-30.5% (SD ~8.1-8.6) • PA: ~15-18% low, ~36-	**Dietary patterns at age(s)**:40 to 69 y at baseline Nova "Ultra-processed" [Monteiro, 2019] Nova 4 main sources: Snacks, desserts (33%, confectionary, pastries, packaged salty snacks); Breads (21%, bagel, buns, rolls); Ready-to-heat meals (16% frozen or shelf-stable); Beverages (15%, milk-based, soft and fruit drinks, fruit juices, alcoholic, coffee); Spreads, sauces, other (9% e.g., margarine, gravies); Cereals breakfast (6% sweetened oat/cornflake cereals)	**Follow-up duration or age:**5.6 y for Ob or high WC, 5.8 y for ≥ 5% BMI or WC increases, 1.8 y for ≥ 5% BF increase **Risk of Ob/OW:** Ob Q1, HR: 1, ref Q2 , HR: 1.50, 95% CI: 0.87, 2.58 Q3 , HR: 1.03, 95% CI: 0.58, 1.83 Q4 , HR: 1.79, 95% CI: 1.06, 3.03; p=0.068 per 10%, HR: 1.10, 95% CI: 0.99, 1.22 **Adiposity:** ≥ 5% BF increase Q1, HR: 1, ref Q2 , HR: 1.05, 95% CI: 0.96, 1.16 Q3 , HR: 1.05, 95% CI: 0.95, 1.16	• **Did not account for:** Race/Ethnicity • Diet assessed with 24h recall • **Funding**: Fundação de Amparo à Pes quisa do Estado de São Paulo (FAPESP)

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
37% moderate, ~31-37% high, ~12-15% missing • Smoking: ~56-65% never, ~30-38% previous, ~5-6% current • Q4 v. Q1 more likely to never smoke; lower PA; higher BMI and WC **Race and/or Ethnicity:** NR; Participants from across England, Scotland, and Wales **SEP:** Deprivation index: 20% Q1, 20% Q2, 20% Q3, 20% Q4, 20% Q5; Q4 v.Q1 more likely to live in most deprived area	**Method(s)**: Index/Score Analysis: UP, Nova	Q4 , HR: 1.14, 95% CI: 1.03, 1.25; p<0.001 per 10%, HR: 1.03, 95% CI: 1.01, 1.05 **BMI:** ≥ 5% BMI increase Q1, HR: 1, ref Q2 , HR: 1.07, 95% CI: 0.98, 1.18 Q3 , HR: 1.07, 95% CI: 0.97, 1.17 Q4 , HR: 1.31, 95% CI: 1.20, 1.43; p<0.001 **Waist/Central:** high WC Q1, HR: 1, ref Q2 , HR: 1.17, 95% CI: 1.03, 1.34 Q3 , HR: 1.21, 95% CI: 1.06, 1.38 Q4 , HR: 1.30, 95% CI: 1.14, 1.48; p<0.001 per 10%, HR: 1.06, 95% CI: 1.03, 1.08 ≥ 5% WC increase Q1, HR: 1, ref Q2 , HR: 1.13, 95% CI: 1.05, 1.22 Q3 , HR: 1.18, 95% CI: 1.10, 1.27 Q4 , HR: 1.35, 95% CI: 1.25, 1.45; p=0.014 per 10%, HR: 1.06, 95% CI: 1.05, 1.08	
Riboldi, 2022 [163] Brazil; ELSA-Brasil Analytic N=9909 **Participant characteristics:** • 56% female • BMI, kg/m2: 25.8, 23.3-28.6 • WC, cm: Men: 92.9, 86.2-100.0; Women: 84.3, 77.4-92.4 • WHR: Men 0.94, 0.89-0.98; Women 0.83, 0.79-0.88 **Race and/or Ethnicity:**	**Dietary patterns at age(s)**:35 to 74 y at baseline (median 50 y) Inflammatory Food Index (IFI) [Roboldi, 2022], Positive: Hot dogs; Processed meat; Red meat; Pork; Seafood; Diet soda; Soda; Coffee with sugar; Juice (artificial with sugar); Juice (artificial without sugar); Beer; Negative:Butter; Nuts; Wine; Pizza; Chicken meat; Fruits; Whole-grain cereal **Method(s)**: Index/score analysis	**Follow-up duration or age:**3.7 y **Body weight:** Wt gain ≥ 90 %ile T1, OR: 1, ref T2, OR: 1.14, 95% CI: 0.95, 1.37 T3, OR: 1.30, 95% CI: 1.03, 1.55; p-trend<0.001 cont., OR: 1.12, 95% CI: 1.04, 1.21	• **Did not account for:** N/A • Secondary analyses adjusted for baseline WC instead of BMI, dieting between visits, or removing alcohol produced similar results • **Funding**: Ministry of Health (Department of Science and Technology), Ministry of Science and Technology (Financier of Studies and Projects and National Research Council)

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
14.42% Black, 27.7% Brown, 54.5% White **SEP:** NR			
Roswall, 2014 [164] Multiple: Denmark, Germany, Italy, Netherlands, United Kingdom; European Prospective Investigation into Cancer and Nutrition Analytic N=11048 risk of Wt gain; 6548 WC, Wt Δ **Participant characteristics:** • BMI: 26.4 kg/m2 ± 4.2 • WC: 87.5cm ± 12.7 • Smoking status: 43.3% never, 34.4% former, 22.3% current • PA: 16.0% inactive, 31.2% moderately inactive, 23.4% moderately active, 25.4% active, 4.0% unknown **Race and/or Ethnicity:** NR **SEP**: Education: 0.2% none, 23.7% primary, 34.76% technical, 15.7% secondary, 22.7% university, 3.0% unknown	**Dietary patterns at age(s)**:48 y, mean at baseline relative Mediterranean Diet Score (rMED) [Buckland 2009], Positive: Vegetables (not potatoes); Legumes; Fruit, Nuts, and Seeds (not juice); Whole Grains, Refined Flour, Pasta, Rice, Bread, Grains; Fish; Olive Oil. Negative: Total and Processed Meat. Neutral: Alcohol Healthy Nordic Food Index (HNFI) [Olsen 2011], Positive: Cabbage; Root Vegetables; Apples and Pears; Dark Bread; Fish (Excluded Oatmeal) **Method(s)**: Index/score analysis	**Follow-up duration or age:**6.8 y median **<u>Body weight:</u>** Δ Wt (kg/y): MDS: -0.002 95% CI: -0.009, 0.005 NDS: -0.006 95% CI: -0.02, 0.008 Risk of Wt gain: MDS, OR: 0.98 95% CI: 0.96, 1.00 NDS, OR: 0.98 95% CI: 0.93, 1.02 **<u>Waist/Central:</u>** Δ WC (cm/y): MDS: -0.01 95% CI: -0.02, -0.001 NDS: -0.008 95% CI: -0.03, 0.010 Δ WC (BMI adjusted) (cm/y) MDS: -0.008 95% CI: -0.015, -0.001 NDS: -0.01 95% CI: -0.03, 0.003	• **<u>Did not account for:</u>** Race/ethnicity (meta-analyzed for heterogeneity) • DP from validated-FFQs at baseline that were country-specific • **Funding**: Danish Council for Strategic Research; European Community
Rudakoff, 2022 [165] Brazil Analytic N=1021 **Participant characteristics:** **Race and/or Ethnicity:** 62% "White", 6% "Black", 31%	**Dietary patterns at age(s)**:41 y, Nova "Ultra-processed" [Monteiro, 2019], Nova 4: Sugar-sweetened beverages; Savory snacks; Dairy products; Candies; Cold meats; Cake; UP Bread; Crackers; Instant noodles; Snacks; Mayonnaise; Granola; Margarine; Distilled drinks	**Follow-up duration or age:**6 months UPF % grams • **<u>BMI</u>**, β: 0.02, 95% CI: 0.00, 0.04; p= 0.135 • FMI, β: 0.02, 95% CI: 0.00, 0.04; p= 0.022	• **<u>Did not account for:</u>** Anthropometry; Race and/or ethnicity • Diet assessed once via FFQ; Misclassification possible due to UPF intake based on FFQ • Outcomes objectively measured

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
"Brown", 1% "Yellow/Oriental" **SEP:** Income, $R Min. Wage (MW): <5, 34%; 5-9.9 31%; >9.9 27%	**Method(s)**: Index/score analysis	• BF%, β: 0.04, 95% CI: 0.00, 0.08; p= 0.012 • Android FM, β: 0.003, 95% CI: −0.001, 0.008; p= 0.512 • Gynoid FM, β: 0.006, 95% CI: −0.002, 0.01; p= 0.147 • Android/gynoid ratio, β: 0.0001, 95% CI: −0.0004, 0.0006; p= 0.617	• **Funding**: Coordination for the Improvement of Higher Education Personnel-Brazil, the National Council for Scientific and Technological Development; Research Support Foundation of the State of São Paulo; Teaching, Research, and Assistance Support Foundation
San-Cristobal, 2017 [166] Multiple European countries (7); Food4Me Analytic N=1263 **Participant characteristics:** • 57% Female • BMI (kg/m2): 25.4 ± 4.7 • WC (m): 0.859 ± 0.136 • Smoking status: 61.8% never, 26.4% former, 11.8% smoker • PA factor (AU): 1.521 ± 0.104 • Additional markers reported (e.g., glucose, total cholesterol) • Q3 v. Q1 MDS had lower mean BMIs, WC, and TC and greater PA **Race and/or Ethnicity:** 96.9% Caucasian **SEP:** NR	**Dietary patterns at age(s)**:41 y, mean at baseline Mediterranean Diet Adherence Screener (MEDAS) [Estruch, 2013; Papadaki, 2018], Positive: Vegetables; Fruit; Legumes; Nuts; Fish; White Meat Over Red Meat; Olive Oil; Olive Oil as Principal Cooking Fat; Wine; Sofritas [pasta/vegetable dishes with Tomato Sauce (tomato, garlic, onion, leek, olive oil)]; Negative: Sweets or Pastries; Red Meat or Sausages; Butter, maragarine; Sugar-Sweetened Beverages **Method(s)**: Index/score analysis	**Follow-up duration or age:**6 months **BMI:** BMI, -0.217±0.044 v.-0.397±0.052; p=0.011 **Waist/Central:** WC, -0.009±0.002 v.-0.015±0.002; p=0.01	• **Did not account for:** Anthropometry; SEP (text says occupation but NR in results table legend) • Self-reported Wt, Ht; Baseline differences in anthropometry (BMI; WC) between groups not accounted for • **Funding**: European Commission under the Food, Agriculture, Fisheries and Biotechnology Theme of the 7th Framework Programme for Research and Technological Development
Satija, 2019 [167] United States; NHS I, NHS II, HPFS Analytic N=46790, NHSI 59217, NHSII	**Dietary patterns at age(s)**:52 y, mean NHSI 37 y, mean NHSII	**Follow-up duration or age:**20 y total, every 4y **Body weight:**Δ Wt, lb PDI, ♀ + ♂	• **Did not account for:** Ethnicity and SES adjusted in additional analyses • Self-reported Wt, Ht; Diet assessed repeatedly every 4y

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
20975, HPFS **Participant characteristics:** • Weight, lb: NHS: 148 ± 29; NHS2: 147 ± 33, HPFS: 179 ± 25 • BMI (kg/m2): NHS: 25 ± 4.5; NHS2: 25 ± 5.3; HPFS: 25 ± 3.1 • BMI category: NHS: 60% <25, 28% ≥25-<30, 12% ≥30; NHS2: 66% <25, 20% ≥25-<13, 12% ≥30; HPFS: 48% <25, 44% ≥25-<30, 7.6% ≥30 • Smoking: NHS: 46% never, 25% past, 19% current; NHS2: 66% never, 23% past, 12% current; HPFS: 51% never, 40% past, 9.1% current • PA (MET/wk): NHS: 14 ± 21; NHS2: 21 ± 27; HPFS: 22 ± 30 **Race and/or Ethnicity:** Caucasian **SEP:** NR (employees in medical field)	50 y, mean HPFS Plant-Based Diet Index (PDI) [Satija, 2016] Positive: Vegetables; Fruits; Nuts; Legumes; Whole grains; Vegetable oils; Tea/coffee; Fruit juices; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts; Negative: Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods Healthful PDI (hPDI), Positive: Vegetables; Fruits; Nuts; Legumes; Whole grains; Vegetable oils; Tea/coffee; Negative: Fruit juices; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts; Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods unhealthful PDI (uPDI), Negative: Whole grains; Fruits; Vegetables; Nuts; Legumes; Vegetable oils; Tea/coffee; Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods; Positive: Fruit juices; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts **Method(s)**: Index/score analysis	Q1: 0.01, 95% CI: -0.09, 0.11 Q2: -0.02, 95% CI: -0.11, 0.07 Q3: 0, ref Q4: -0.04, 95% CI: -0.13, 0.06 Q5: -0.19, 95% CI: -0.29, -0.10 per-SD: -0.09, 95% CI: -0.12, -0.05 hPDI, ♀ + ♂ Q1: 1.86, 95% CI: 1.76, 1.96 Q2: 0.58, 95% CI: 0.49, 0.67 Q3: 0, ref Q4: -0.79, 95% CI: -0.88, 0.70 Q5: -2.21, 95% CI: -2.31, -2.11 per-SD: -1.50, 95% CI: -1.53, -1.46 uPDI, ♀ + ♂ Q1: -1.18, 95% CI: -1.28, -1.08 Q2: -0.34, 95% CI: -0.43, -0.24 Q3: 0, ref Q4: 0.36, 95% CI: 0.27, 0.46 Q5: 1.01, 95% CI: 0.91, 1.11 per-SD: 0.79, 95% CI: 0.75, 0.82 Results also reported stratified by sex/cohort	with FFQ; Similar results shown after further adjustment of SEP and ethnicity: PDI: -0.08 lb, 95% CI: -0.11, -0.04 lb; hPDI: -1.51 lb, 95% CI: -1.54, -1.47 lb; in uPDI: 0.79 lb, 95% CI: 0.75, 0.82 lb; Magnitude stronger among Caucasians, low-CHO consumers, younger, less-active, and OW/Ob participants • **Funding**: NIH, AHA
Shakeri, 2019 [168] Iran; Tehran Lipid/Glucose Analytic N=2216 **Participant characteristics:** • Baseline BMI: 25.9 ± 4.1 • By Q1-Q4 EDIP score • Current smoker: ~9-11%	**Dietary patterns at age(s)**:40.4y, mean at baseline Empirical dietary inflammatory pattern (EDIP): Anti-inflammatory groups: tea, coffee, dark yellow vegetables (carrots, or squash), leafy green vegetables (cabbage, spinach, or lettuce), snacks (cracker, or	**Follow-up duration or age:**6.2 y **<u>Waist/Central:</u>** High WC (≥ 95cm ♂ and ♀) Q1: OR 1, ref Q2: OR 1.27, 95% CI: 0.94, 1.71 Q3: OR 1.29, 95% CI: 0.95, 1.76 Q4: OR 1.43, 95% CI: 1.03, 1.97	• **<u>Did not account for:</u>** Race/Ethnicity (Iranian), Alcohol (excluded for religious regions) • Diet assessed only once at baseline • **Funding**: Research Institute for Endocrine Science, Shahid

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
• PA (MET/h/wk): ~19-21 (SD: ~30-32) • WC (cm): ~88-98 (SD: ~10-11) • Q4 v. Q1 EDIP had lower SBP, higher current smokers and HDL-C (P < 0.05). NSD in BMI, WC, DBP, FBG, TG, or PA level. **Race and/or Ethnicity:** NR (Iranian) **SEP:** NR	potato chips), fruit juice (apple juice, cantaloupe juice, orange juice, or other fruit juice), pizza. Pro-inflammatory groups: processed meat (sausage), red meat (beef, or lamb), organ meat (beef, calf, or chicken liver), other fish (canned tuna, or fish), other vegetables (mixed vegetables, green pepper, cooked mushroom, eggplant, zucchini, or cucumber), refined grains (white bread, biscuit, white rice, pasta, or vermicelli), high-energy and low energy beverages (cola with sugar, carbonated beverages with sugar, fruit punch drinks), and tomatoes **Method(s)**: Index/score analysis	P-trend=0.046	Beheshti University of Medical Sciences
Steffen, 2014 [170] United States; CARDIA Analytic N=4713 **Participant characteristics:** • BMI (kg/m2): ~25 • WC (cm): ~76-78; Current smoking status: ~29-32%; PA score: ~361-463 • Q5 v. Q1 MDS more PA, lower WC, higher HDL; other risk factors similar **Race and/or Ethnicity:** ~50% Black; 50% White **SEP:** ~45-70% of participants had above HS education; Q5 v. Q1 MDS more highly educated	**Dietary patterns at age(s)**:18 to 30 y modified Mediterranean Diet Score (mMDS) [Steffan, 2014 modified Trichopoulou 2005], Positive: Vegetables; Legumes; Fruit; Fruit and Vegetable Juice; Nuts; Whole Grain products; MUFA+PUFA/SFA; Fish; Coffee and tea. Negative: Red and Processed Meat; Dairy Products; Sugar-sweetend and diet beverages; Refined Grains; Snack foods; Fried vegetables; Sauces. Neutral: Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:**25 y **<u>Waist/Central:</u>** Abdominal obesity (WC > 88cm ♀ , WC > 102 cm) 1: 59.4% 2: 40.2% 3: 40.5% 4: 41.7% 5: 41.9% P-trend < 0.001	• **<u>Did not account for:</u>** Physical activity • Did not directly examine outcome • **Funding**: NIH; NHLBI;
Sweetman, 2023 [171] United Kingdom; BIOBANK	**Dietary patterns at age(s)**:57y ♀ and 55y ♂, mean; 40 to 69 y at baseline	**Follow-up duration or age:**8.1y, mean Mean Δ **aSMM (Appendicular Skeletal Muscle Mass**) ♀ Q1: -0.60, 95% CI: -0.63, -0.57	• **<u>Did not account for:</u>** Alcohol • Diet assessed with at least 2, 24h recalls

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Analytic N=101046 **Participant characteristics:** • **Health status:** NR **Race and/or Ethnicity:** All "white" (excluded non-white individuals) **SEP:** • Townsend deprivation index, mean -1.71; 20% 1 (least deprived); 20% 2; 21% 3, 20% 4, 19% 5 (most deprived) • Education: 52% higher degree; 32% any degree; 10% vocational; 6% none	Dietary Pattern (DP): Positive: chocolate and confectionery, butter and other animal fat spreads (primarily butter), and low-fiber bread. Negative: fresh fruit, vegetables, and high-fiber breakfast cereals. **Method(s)**: RRR	♀ Q2: -0.57, 95% CI: -0.60, -0.54 ♀ Q3: -0.50, 95% CI: -0.53, -0.46 ♀ Q4: -0.53, 95% CI: -0.57, -0.49 ♀ Q5: -0.41, 95% CI: -0.46, -0.36 ♂ Q1: -1.31, 95% CI: -1.39, -1.24 ♂ Q2: -1.26, 95% CI: -1.32, -1.19 ♂ Q3: -1.23, 95% CI: -1.29, -1.16 ♂ Q4: -1.17, 95% CI: -1.23, -1.11 ♂ Q5: -1.05, 95% CI: -1.10, -1.00 **FM** ♀ Q1: -0.26, 95% CI: -0.42, -0.11 ♀ Q2: 0.08, 95% CI: -0.07, 0.24 ♀ Q3: 0.33, 95% CI: 0.16, 0.50 ♀ Q4: 0.52, 95% CI: 0.33, 0.71 ♀ Q5: 1.11, 95% CI: 0.88, 1.35 ♂ Q1: -0.09, 95% CI: -0.28, 0.10 ♂ Q2: 0.41, 95% CI: 0.23, 0.58 ♂ Q3: 0.56, 95% CI: 0.40, 0.72 ♂ Q4: 0.88, 95% CI: 0.74, 1.03 ♂Q5: 1.26, 95% CI: 1.12, 1.39 **BMI:** ♀ Q1: -0.30, 95% CI: -0.38, -0.22 ♀ Q2: -0.16, 95% CI: -0.24, -0.08 ♀ Q3: -0.07, 95% CI: -0.15, 0.01 ♀ Q4: 0.02, 95% CI: -0.06, 0.11 ♀ Q5: 0.24, 95% CI: 0.16, 0.33 ♂ Q1: -0.37, 95% CI: -0.44, -0.30 ♂ Q2: -0.24, 95% CI: -0.31, -0.17 ♂ Q3: -0.11, 95% CI: -0.18, -0.04 ♂ Q4: -0.09, 95% CI: -0.15, -0.02 ♂ Q5: 0.17, 95% CI: 0.10, 0.24 **Waist/Central:** ♀ Q1: 0.27, 95% CI: -0.02, 0.57 ♀ Q2: 0.39, 95% CI: 0.10, 0.67 ♀ Q3: 0.62, 95% CI: 0.33, 0.91 ♀ Q4: 1.15, 95% CI: 0.86, 1.45 ♀ Q5: 1.94, 95% CI: 1.63, 2.25 ♂ Q1: -1.06, 95% CI: -1.34, -0.78 ♂ Q2: -0.74, 95% CI: -1.02, -0.46	• **Funding**: Wellcome Trust, Medical Research Council, Department of Health, Scottish government, Northwest Regional Development Agency, Welsh assemby government, British Heart Foundation

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
		♂ Q3: -0.04, 95% CI: -0.31, 0.24 ♂ Q4: 0.09, 95% CI: -0.19, 0.37 ♂ Q5: 0.93, 95% CI: 0.63, 1.22	
Tabung, 2019 [172] United States; NHS, HPFS Analytic N=87440 (54397 ♀; 33043 ♂) **Participant characteristics:** • NHS: OW 30.1%, Ob 14.2%; HPFS: OW 45.2%; Ob 8.9% • Wt, kg: NHS: 68.0 ± 13.2; HPFS: 81.2 ± 11.8 • BMI, mean: NHS: 25.4 ± 4.7; HPFS: 25.5 ± 3.2 • PA, MET/wk: NHS: 14.3 ± 21.9; HPFS: 20.5 ± 28.3 • Smoking: NHS: 44.2% never, 34.1% past, 21.6% current; HPFS: 45.2% never, 44.0% past, 10.8% current **Race and/or Ethnicity:** NR **SEP:** NR (health professionals) **Selection**: Excluded those >65 y at baseline, with diseases (Cx; DM; CVD;Neurodegenerative; Gastric; CKD; Lupus) at baseline, implausible/extreme/missing diet or anthropometric data.	**Dietary patterns at age(s)**:57.1y ♀, 54.7y ♂, mean (30 to 65 y) Empirical dietary inflammatory pattern (EDIP) [Tabung, 2016]: Anti-inflammatory group: tea, coffee, dark yellow vegetables (carrots, or squash), leafy green vegetables (cabbage, spinach, or lettuce), snacks (cracker, or potato chips), fruit juice (apple juice, cantaloupe juice, orange juice, or other fruit juice), pizza; Pro-inflammatory group: processed meat (sausage), red meat (beef, or lamb), organ meat (beef, calf, or chicken liver), other fish (canned tuna, or fish), other vegetables (mixed vegetables, green pepper, cooked mushroom, eggplant, zucchini, or cucumber), refined grains (white bread, biscuit, white rice, pasta, or vermicelli), high-energy and low energy beverages (cola with sugar, carbonated beverages with sugar, fruit punch drinks), and tomatoes Empirical dietary index for hyperinsulinemia (EDIH) [Tabung, 2016], Positive: Red meat; Processed meat; Poultry; Tomatoes; French fries, Fish (other than dark-meat fish); Low-fat dairy; Eggs; High-energy beverages (cola and other carbonated beverages with sugar, fruit drinks); Low-energy beverages; Margarine; Cream soups; Negative: Green leafy vegetables; Whole fruit; High-fat dairy products; Coffee; Wine	**Follow-up duration or age:**24 y **<u>Body weight:</u>** **EDIH & Wt** Δ ♀ Q1, HR: -0.65, 95% CI: -0.73, -0.57 ♀ Q2, HR: -0.29, 95% CI: -0.37, -0.22 ♀ Q3, HR: 0, ref ♀ Q4, HR: 0.14, 95% CI: 0.06, 0.21 ♀ Q5, HR: 0.43, 95% CI: 0.36, 0.51 ♀ per-SD, HR: 0.40, 95% CI: 0.38, 0.43 ♀ p-trend<0.0001 ♂ Q1, HR: -0.60, 95% CI: -0.71, -0.49 ♂ Q2, HR: -0.25, 95% CI: -0.36, -0.14 ♂ Q3, HR: 0, ref ♂ Q4, HR: 0.15, 95% CI: 0.05, 0.26 ♂ Q5, HR: 0.49, 95% CI: 0.38, 0.59 ♂ per-SD, HR: 0.37, 95% CI: 0.34, 0.41 ♂ p-trend<0.0001 **EDIP & Wt** Δ ♀ Q1, HR:-0.29, 95% CI: -0.37, -0.21 ♀ Q2, HR: -0.18, 95% CI: -0.25, -0.10 ♀ Q3, HR: 0, ref ♀ Q4, HR: 0.02, 95% CI: -0.10, 0.06 ♀ Q5, HR: 0.15, 95% CI: 0.07, 0.23 ♀ per-SD, HR: 0.15, 95% CI: 0.13, 0.18 ♀ p-trend<0.0001 ♂ Q1, HR:-0.19, 95% CI: -0.27, -0.07 ♂ Q2, HR: 0.08, 95% CI: -0.19, 0.03 ♂ Q3, HR: 0, ref ♂ Q4, HR: 0.07, 95% CI: -0.04, 0.18 ♂ Q5, HR: 0.22, 95% CI: 0.11, 0.33 ♂ per-SD, HR: 0.14, 95% CI: 0.10, 0.19 ♂ p-trend<0.0001	• **<u>Did not account for:</u>** Race/Ethnicity, SEP • Self-reported Wt, Ht; Diet assessed repeatedly every 4y with FFQ; Subgroup analyses by BMI, PA, Smoking, Age < or ≥ 55y; baseline EDIP/EDIH, Postmenopausal & PNH ever v. never; Premenopausal • **Funding**: NR?

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
	Method(s): Index/score analysis	Results were similar with or without adjusting for energy intake; Stronger associations observed in ♀ with OW/Ob (≥25), younger (< 55 y), less physically active, never smokers, and premenopausal (no difference in post-menopausal & PMH)	
Tobias, 2016 [173] United States; NHS II participants w/ GDM Analytic N=3397 **Participant characteristics:** • 100% women with Hx of GDM but free of CVD, cancer, and T2D • 27.5% OW, 23.3% Ob • Wt, kg: 71.5, SD: 17.6 • BMI, kg/m2: 26.6 SD: 6.2 • PA (MET hr per wk): 17.3, 23.7 • Smoking status: 66.4% never, 23.1% past, 10.3% current • Family Hx of diabetes: 33.4% **Race and/or Ethnicity:** 92.4% Caucasian **SEP:** NR (health professionals)	**Dietary patterns at age(s)**:38.6y, mean at baseline Alternative HEI (AHEI)-2010 [Chiuve 2012]: Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol Alternate Med Diet Score (aMED) [Fung 2005]: Positive: Vegetables (not potatoes); Legumes; Fruit; Nuts; Whole Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. Neutral: Alcohol DASH Score [Fung 2008]: Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages; Sodium **Method(s)**: Index/score analysis	**Follow-up duration or age:** 20 y total, every 4y; until Dx of T2D or other chronic disease **Body weight:** Wt gain, kg aHEI-2010, per-SD: -1.24, 95% CI: -1.42, -1.06 Q1: 3.27 Q2: 2.48 Q3: 1.62 Q4: 1.30 Q5: 0, ref AMED, per-SD: -0.55, 95% CI: -0.71, -0.39 Q1: 2.56 Q2: 2.12 Q3: 1.73 Q4: 1.47 Q5: 0.94 DASH, per-SD: -0.84, 95% CI: -1.02, -0.67 Q1: 2.75 Q2: 2.12 Q3: 2.08 Q4: 1.42 Q5: 0.64 All P-trends < 0.001	• **Did not account for:** Race/ethnicity (92% Caucasian), SEP (nurses) • Self-reported Wt, Ht but highly correlated with measured-subset; Diet assessed repeatedly every 4y with FFQ • **Funding**: NIH; ADA
Um, 2023 [176] United States; CPS-3	**Dietary patterns at age(s)**:55.6y, mean (30 to 65 y at baseline)	**Follow-up duration or age:** 2y **Body weight:**	• **Did not account for:** N/A • Self-reported Wt at both times • Changes in diet quality

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Analytic N=2335 **Participant characteristics:** • mean BMI in 2018 & 2020: 27.5 **Race and/or Ethnicity:** Majority non-Latino white (76%) • White: 76%; Latino/a: 13%; Asian/Pacific Islander: 4%; Black: 3%; American Indian/Alaskan Native: 2%; Other/missing: 2% • Change in diet quality did not differ by racial/ethnic group **SEP:** Majority college-educated or higher (78%) • Less than 5% reported food insecurity • Change in diet quality score did not differ by education or income	Diet quality (score not named) [Um, 2023] DQ score: Positive: Vegetables, fruits, whole grains. Negative: refined grains, red and processed meat, sugar-sweetened beverages, diet beverages, fruit juices (higher score indicates higher diet quality) **Method(s)**: Index/score analysis	ΔDQ & Gain ≥4.5 kg: -0.40, p-trend=0.01 ΔDQ & Gain 2.25 to <4.5 kg: -0.18, p-trend=0.20 ΔDQ & Lost or gain <2.25 kg: 0.11, p-trend=0.21 ΔDQ & Lost or gain: 2.25 to <4.5 kg: 0.66, p-trend<0.0001 ΔDQ & Lost ≥4.5 kg: 1.04, p-trend<0.0001 Between weight categories, p-trend<0.0001	assessed during COVID so may be less generalizable • Wt Δ categories based on IQR (−2.25 to +2.25 kg) and 10th and 90th percentiles (−4.5 and +4.5 kg). • **Funding**: American Cancer Society
Vinke, 2020 [178] Netherlands; Lifelines Cohort Analytic N=85618 **Participant characteristics:** • Wt, kg: 76.3 ± 12.1 • BMI, kg/m2: 24.6 ± 2.7 • Smoking: 21.1% current, 30.6% former, 48.3% never • PA LC-MPVA, min/wk: 205, 75-385 (median, 25th-75th %ile)	**Dietary patterns at age(s)**:18 to 93 y Lifelines Diet score (LLDS) [Vinke, 2018] LLDS, Positive: Vegetables; Fruit; Legumes and Nuts; Whole Grains; Fish; Oils (and soft margarines); Unsweetened Dairy; Tea; Coffee; Negative: Red and processed meats; Sugar-sweetened beverages; Butter (and hard margarine) **Method(s)**: Index/score analysis	**Follow-up duration or age:**44 mo median (25th-75th percentile: 35-51 mo) **<u>Body weight:</u>** ♂ Wt Δ Q1, β: 0.154, 95% CI: 0.104, 0.204 Q2, β: 0.106, 95% CI: 0.058, 0.154 Q3, β: 0.092, 95% CI: 0.043, 0.142 Q4, β: 0.023, 95% CI: −0.026, 0.072 Q5, ref ♀ Wt Δ Q1, β: 0.118, 95% CI: 0.071, 0.164	• **<u>Did not account for:</u>** Race/Ethnicity (100% Dutch) • Diet assessed once at baseline with 110-FFQ • **Funding**: Dutch Ministry of Health,Welfare and Sport, Dutch Ministry of Economic Affairs, University Medical Center Groningen; University of Groningen; Northern Provinces of the Netherlands

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Race and/or Ethnicity: 99% White, East/West European ethnicity **SEP:** Education level: 26.0% low, 41.0% moderate, 33.0% high (Lower in older age groups/women).		Q2, β: 0.074, 95% CI: 0.034, 0.114 Q3, β: 0.06, 95% CI: 0.020, 0.099 Q4, β: 0.013, 95% CI: −0.024, 0.049 Q5, ref	
Wang, 2018 BMJ [179] United States; NHS, HPFS Analytic N=14046 (8828, NHS; 5218, HPFS) **Participant characteristics:** • Free from diabetes, cancer, and CVD at baseline • BMI, kg/m2: NHS: ~25-26 (SD: ~5); HPFS: ~26 (SD ~3-4) • Wt, kg: NHS: ~68-69 (SD: ~13-14); HPFS: ~81-82 (SD: ~12-13) • PA (MET-h/wk): NHS: ~13-15 (SD: ~16-22); HPFS: ~18-22 (SD: ~21-28) • Current smoker: NHS: ~14-19%, HPFS: ~8-9% **Race and/or Ethnicity:** European ancestry **SEP:** NR (health professionals)	**Dietary patterns at age(s)**:~54 y, mean across DQ in NHS ~55 y, mean across DQ in HPFS Alternative HEI (AHEI)-2010 [Chiuve 2012], Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol DASH Score [Fung 2008], Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages; Sodium Alternate Mediterranean Diet Score (AMED) [Fung, 2005], AMED: Positive: Vegetables; Legumes; Fruit, Nuts; Whole grains; Fish; MUFA/SFA. Negative: Red and Processed Meat; Neutral: Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:**20 y **Body weight:** Δ AHEI-2010, per SD & Δ Wt ♀ : -0.43 (0.03) ♂ : -0.37 (0.03) ♀ + ♂: -0.40 (0.02) Δ DASH, per SD & Δ Wt ♀ : -0.44 (0.03) ♂ : -0.39 (0.03) ♀ + ♂: -0.42 (0.02) Δ aMED, per SD & Δ Wt ♀ : -0.12 (0.03) ♂ : -0.15 (0.03) ♀ + ♂: -0.14 (0.02) **BMI:** Δ AHEI-2010, per SD & Δ BMI ♀ : -0.17 (0.01); ♂: -0.12 (0.01) ♀ + ♂: -0.15 (0.01) Δ DASH, per SD & Δ BMI ♀: -0.17 (0.01); ♂ : -0.13 (0.01) ♀ + ♂: -0.15 (0.01) Δ AMED, per SD & Δ BMI ♀ : -0.05 (0.01); ♂ : -0.05 (0.01) ♀ + ♂: -0.05 (0.01)	• **Did not account for:** Race/ethnicity (European-descent); SEP (although nurses/physicians) • Self-reported Wt, Ht used to calculate BMI but validated against measured subset and captured change in BMI over multiple assessments; Results in Supplemental Tables C and D • Sensitivity analysis: Similar results in those < 65 y and non-smokers (AHEI-2010, DASH, and AMED scores were inversely related to BMI change) • **Funding**: NIH; NHLBI; NIDDK; National Eye Institue; National Human Genome Research Institute; National Natural Science Foundation of China; AHA
Winkvist, 2017 [180] Sweden; Västerbotten Intervention Programme	**Dietary patterns at age(s)**:45y, mean at baseline Healthy Diet Score [Nettleton, 2013]	**Follow-up duration or age:**10 y (±1y) **BMI:** ♀ HDS & BMI: -0.42 (0.06)	• **Did not account for:** Race/ethnicity (Swedish), Alcohol, Total energy • Diet change assessed Δ10y

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
Analytic N=15995 **Participant characteristics:** • Wt, kg: ♀ 68.8 ± 12.4; Men: 83.8 ± 11.9 • BMI, kg/m2: ♀ 25.1 ± 4.3; ♂: 26.1 ± 3.3 • PA: ♀ 17.2% inactive, 34% moderately inactive, 28% moderately active, 21% active; ♂: 19% inactive, 33% moderately inactive, 29% moderately active, 20% active • Smoking: ♀ 22% smoker, 32% ex, 47% never; ♂: 18% smoker, 32% ex, 50% never • TC, TG, and BP also reported **Race and/or Ethnicity:** NR; All living in Västerbotten County northern Sweden **SEP:** Education: 64.8% ≤ secondary school, 35.2% academic education	HDS, Positive: Vegetables (not potatoes); Fruit (not juices); Whole Grains; Fish. Negative: Red and Processed Meat; Sweets and desserts; Sugar-sweetened beverages; Fried Potatoes **Method(s)**: Index/score analysis	♂ HDS & BMI: -0.31 (0.05)	with validated FFQ; Sensitivity analysis: similar results from adjusting baseline BMI for TC, TG and SBPs (data not shown) • Attenuated association when adjusting for 10y ΔBMI of HDS on TC (p=0.24), TG (p=0.074) and SBP (p=0.35) in women • **Funding**: Swedish Council for Working Life and Social Research; the Swedish Cancer Society; the Swedish Research Council; the Wallenberg Foundation; and the Västerbotten County Council, Sweden
Xu, 2021 [181] Australia; 45 and Up Study Analytic N=69990 **Participant characteristics:** • CVD, 16%; Ob 27%; OW 38%; **Race and/or Ethnicity:** NR **SEP:** Low: 31%, Medium 34%,	**Dietary patterns at age(s)**:≥ 50 y (77% 51-70y; 23% >70y) at baseline Score based on Asutrailan Dietary Guidelines (not named) [Xu, 2021] ADG score: Positive: Vegetables; Fruit; Grains; Meat, lean; Poultry; Seafood; Dairy. Negative > 10 standard drinks/wk	**Follow-up duration or age:**6y **<u>Risk of Ob/OW:</u>** Healthy (ADG score < mean) & risk of Ob, IRR: 1, ref Unhealthy (ADG score > mean) & risk of Ob, IRR: 1.10, 95% CI: 1.02, 1.18	• **<u>Did not account for:</u>** Race/Ethnicity or Anthropometry at baseline • Self-reported Wt, Ht • **Funding**: University of Technology Sydney

Study Characteristics	Intervention/exposure and comparator	Results	Methodological considerations
High 35% via SEIFA; Education, Low: 32%, Med. 42%, High 26%; Marital status: Married/Partner 78%; Single/Divorced/Separated 14%; Widowed 7%	**Method(s)**: Index/score analysis		
Yang, 2022 [182] United States; NHS II Analytic N=54062 **Participant characteristics:** • 5.3% of total sample w/ Hx of GDM • Family Hx of DM: ~35-51% **Race and/or Ethnicity:** ~ 98% White **SEP:** ~ 95% married	**Dietary patterns at age(s)**:40 y at baseline Alternative HEI (AHEI)-2010 [Chiuve 2012] AHEI-2010, Positive: Vegetables (not potatoes, French fries); Fruit; Legumes and Nuts; Whole Grains; Long-Chain Fats (EPA + DHA); PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol **Method(s)**: Index/score analysis	**Follow-up duration or age:**13.4 y (mean) **Body weight:** 4y ∆AHEI & ∆Wt in mean kg No hx of GDM Low to high: -1.19, 95% CI: -1.41, -0.96 Low to medium: 0.55, 95% CI: 0.45, 0.66 Medium to high: 0.21, 95% CI: 0.12, 0.31 Stay high: 1.02, 95% CI: 0.98, 1.07 Stay medium: 1.41, 95% CI: 1.35, 1.48 Stay low: 1.73, 95% CI: 1.68, 1.79 Medium to low: 2.34, 95% CI: 2.24, 2.44 High to medium: 2.13, 95% CI: 2.04, 2.23 High to low: 3.41, 95% CI: 3.16, 3.66 p<0.001 Hx of GDM Low to high: -2.97, 95% CI: -4.34, -1.60 Low to medium: -0.43, 95% CI: -1.00, 0.14 Medium to high:-0.07, 95% CI: -0.57, 0.42 Stay high: 0.68, 95% CI: 0.44, 0.93 Stay medium: 1.04, 95% CI: 0.68, 1.39 Stay low: 1.78, 95% CI: 1.51, 2.05 Medium to low: 2.49, 95% CI: 2.00, 2.99 High to medium: 2.17, 95% CI: 1.70, 2.63 High to low: 4.01, 95% CI: 2.78, 5.23 p<0.001 p-heterogeneity=0.04	• **Did not account for:** N/A • Self-reported Wt and Height but highly correlated with measured-subset; • Diet assessed repeatedly every 4y with FFQ; Sensitivity analyses by BMI ≥25, Hx of GDM • **Funding**: NIH, PhD program in Population Health Sciences at Harvard University, ADA

[a] Abbreviations: BF, Body fat (total unless specified as trunk, gynoid, android, etc.);BF%, Body fat percentage; DM, Diabetes (T1, T2); FFM, Fat-free mass; FFMI, Fat-free mass index; FM, Fat mass (total, unless specified as trunk, gynoid, android, etc.); FMI, Fat mass index; F/U, Follow-up; GDM, gestational diabetes mellitus; Hip-C, hip circumference; HS, high school; HTN, hypertension; Hx, History; ITT, intent-to-treat; N/A, Not applicable; NR, not reported; NS, not statistically significant Ob, Obesity; OW, Overweight; PA, Physical activity; PP, per-protocol SEP/SES, Socioeconomic position/status; T2D, Type 2 Diabetes; TC, total cholesterol; TG, triglyceride; Tx, Treatment; WC, waist circumference [a] WHR, waist-hip ratio; Wt, Body weight

Table 17. Risk of bias for observational studies examining the relationship between dietary patterns consumed by adults and older adults and body composition and risk of obesity[a]

Article	Confounding	Exposure classification	Participant Selection	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Agnoli, 2018[77]	High	Low	Some concerns	Low	High	Some concerns	High	High
Aljadani, 2020 [79]	Some concerns	Low	Low	Low	Low	High	High	High
Aljadani, 2020[78]	High	Low	Some concerns	Low	High	High	High	Very high
Allaire, 2020[80]	Low	Low	Low	Some concerns	Low	Low	Some concerns	Some concerns
Andre, 2020[82]	High	Some concerns	Low	Low	Low	Low	Low	Some concerns
Angulo, 2021[83]	Some concerns	Low	Some concerns	Low	Some concerns	High	Some concerns	High
Arabshahi, 2017[84]	High	Some concerns	Some concerns	Low	Some concerns	Low	Some concerns	High
Baldwin, 2020[86]	High	Low	Low	Low	Very High	High	Low	High
Baratali, 2021[87]	Low	Low	Some concerns	Low	High	Low	High	High
Beslay, 2020[88]	Low	Low	Some concerns	Low	Some concerns	High	Low	High
Best 2023[89]	Low	Low	Low	Low	Some concerns	High	Some concerns	High
Bouzas, 2020[91]	High	Low	Low	Some concerns	High	Low	High	High
Bouzas, 2022[90]	Some concerns	Some concerns	Some concerns	Some concerns	Some concerns	High	Some concerns	High
Brayner, 2021[92]	Low	Low	Some concerns	Low	Some concerns	Some concerns	Some concerns	High
Canhada, 2019[97]	Some concerns	Some concerns	Some concerns	Low	Some concerns	Low	Low	Some concerns
Canhada, 2022[96]	Low	High	Some concerns	Low	Some concerns	Low	High	High
Cespedes Feliciano, 2016[99]	Low	Low	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns
Chaltiel, 2019[100]	Low	Low	Low	Low	Low	Some concerns	Some concerns	Some concerns

Article	Confounding	Exposure classification	Participant Selection	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Chen, 2019 [101]	High	Some concerns	Some concerns	Low	Some concerns	Some concerns	High	High
Choi, 2020[102]	High	Low	Low	Low	High	Low	Some concerns	High
Cordova, 2021[103]	Low	Some concerns	Some concerns	Low	Some concerns	Very High	Some concerns	High
Cuenca-Garcia, 2014[105]	High	Some concerns	Some concerns	Low	High	Low	Some concerns	High
Ericson, 2019[107]	Some concerns	Low	Some concerns	Low	Some concerns	Low	Some concerns	High
Ford, 2017[109]	Low	Some concerns	Low	Low	Some concerns	High	High	High
Fung, 2015[111]	High	Some concerns	Some concerns	Low	Some concerns	High	Some concerns	High
Fung, 2021[110]	High	Low	Low	Low	Low	High	Low	High
Funtikova, 2014[112]	Low	Low	Low	Low	Some concerns	Low	Low	Some concerns
Glenn, 2021[116]	Some concerns	Low	Low	High	Low	Low	High	High
Gomez-Donoso, 2018[117]	Some concerns	Low	Some concerns	Low	Some concerns	High	Low	High
Gomez-Donoso, 2019[118]	Some concerns	Low	Low	Low	Some concerns	High	High	High
Gomez-Donoso, 2019[119]	Some concerns	Low	Some concerns	Low	Some concerns	High	High	High
Hennein, 2019[121]	High	Low	Low	Low	Low	Some concerns	Some concerns	High
Hodge, 2021[122]	Low	Some concerns	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns
Huo 2023[123]	High	Some concerns	Low	Low	Low	High	Some concerns	High
Jennings, 2020[125]	High	Low	Low	Low	High	Low	Some concerns	High
Johns, 2015[126]	Very high	Low	High	High	Some concerns	Low	Some concerns	Very high
Jung, 2022[127]	Low	Low	Some concerns	Low	Some concerns	Low	High	High
Kanerva, 2018[128]	Low	Low	Low	Low	Some concerns	High	Some concerns	High
Kang, 2021[129]	Low	Low	Low	Low	High	High	High	High

Article	Confounding	Exposure classification	Participant Selection	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Khoury, 2022[130]	Low	Low	Some concerns	Some concerns	Some concerns	Low	Some concerns	High
Kim, 2020[131]	Low	Low	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns
Konieczna, 2019[133]	Low	Low	Some concerns	Some concerns	Some concerns	Low	High	High
Konieczna, 2021 UP[132]	Low	Some concerns	Some concerns	Some concerns	Some concerns	Low	Some concerns	High
Li, 2015[134]	Low	Low	Low	Low	Low	Very high	Some concerns	Very high
Li, 2016[135]	Some concerns	Low	Some concerns	Low	High	Low	Some concerns	High
Li, 20 UP[136]	High	Some concerns	Some concerns	Low	Some concerns	Low	Some concerns	High
Li, 2022[137]	Some concerns	Low	Low	Low	Low	Some concerns	Low	Some concerns
Lim, 2021[138]	Low	Low	Some concerns	Low	High	Low	High	High
Liu, 2022[140]	Low	Low	Some concerns	Low	Some concerns	Low	Low	Some concerns
Liu, 2023[141]	Low	Low	Some concerns	Low	Some concerns	Low	High	High
Livingstone, 2022[143]	Low	Low	Some concerns	Low	Very High	Low	High	Very High
Livingstone, 2022[142]	Low	Low	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns
Maskarinec, 2017[147]	Low	Low	Low	Low	Some concerns	Low	Some concerns	Some concerns
Maskarinec, 2020[146]	Very high	Low	Low	Low	Some concerns	Low	Some concerns	Very high
Mattei, 2017[148]	Low	Low	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns
Mendonca, 2016[149]	Some concerns	High	Some concerns	Low	Low	Very high	Some concerns	Very high
Mirmiran, 2015[152]	Some concerns	Some concerns	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns
Mirmiran, 2017[151]	Some concerns	Low	Some concerns	Low	Some concerns	Low	Some concerns	High
Mirmiran, 2023[150]	High	High	Some concerns	Low	High	Low	Some concerns	High
Olstad, 2017[154]	Low	Low	Low	Low	Low	Very high	Low	Very high

Article	Confounding	Exposure classification	Participant Selection	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Otto, 2015[155]	High	Low	Low	Low	Some concerns	Low	Low	High
Perala, 2017[158]	Low	Low	Low	Low	Low	Low	Low	Low
Pribisalić, 2021[160]	Low	Low	Some concerns	Low	High	Some concerns	High	High
Rauber, 2021[161]	Some concerns	Some concerns	Low	Low	High	Low	Some concerns	High
Riboldi, 2022[163]	Low	Low	High	Low	High	Low	Some concerns	High
Roswall, 2014[164]	Low	Low	Low	Low	Low	High	Some concerns	High
Rudakoff, 2022[165]	High	High	Some concerns	Low	Some concerns	Low	Some concerns	High
San-Cristobal[166]	High	Low	Low	High	Low	High	Low	High
Satija, 2019[167]	Low	Low	Some concerns	Low	Some concerns	High	Some concerns	High
Shakeri, 2019[168]	Some concerns	Low	Low	Low	Low	Low	Some concerns	Some concerns
Steffen, 2014[170]	High	Low	Low	Low	Low	Low	Some concerns	High
Sweetman, 2023[171]	High	Low	Some concerns	Low	Some concerns	Low	High	High
Tabung, 2019[172]	Some Concerns	Low	Some Concerns	Low	Some concerns	Some concerns	Some concerns	High
Tobias, 2016[173]	Some concerns	Low	Low	Low	Low	High	Some concerns	High
Um, 2023[176]	Low	Some concerns	Low	Low	Low	High	Some Concerns	High
Vinke, 2020[178]	Some concerns	Low	Some concerns	Low	Some concerns	High	Low	High
Wang, 2018[179]	Some concerns	Low	Low	Low	Low	High	Low	High
Winkvist, 2017[180]	Some concerns	Low	Low	Low	Low	Low	Low	Some concerns
Xu, 2021[181]	High	Some concerns	Low	Low	Some concerns	High	Some concerns	High
Yang, 2022[182]	Low	Low	Some concerns	High	Low	High	High	High

Dietary patterns during pregnancy

Twenty-five articles met the inclusion criteria examining the relationship between dietary patterns consumed during pregnancy and adequacy of total gestational weight gain (GWG). The included articles were published between January 2000 and May 2023 and came from three randomized controlled trials,[183-185] 20 prospective cohort studies (21 articles) [186-205] and one retrospective cohort study.[206] Two articles came from the MISC study in UAE, and the rest of the articles were from independent cohort studies.

Description of the evidence

Population

Sample sizes of the studies ranged from N=114[198] to N=56,529[186] participants. Most participants were between 18 and 35 years old, with one study including adolescent participants (16 to 20 years).[206]

Five studies were conducted in the U.S.[185,187,195,196,203] In addition, four studies were conducted in China,[190,194,197,204] three were conducted in Spain,[183,198,206] two in Norway[186,193] and one study each in Canada,[202] Iran,[199] Mexico,[191] Australia,[184] Iceland,[189] Malaysia,[192] Brazil,[205] Sweden,[212] the UAE,[200,201] and the Netherlands.[188]

Health status

Studies in this body of evidence included individuals during pregnancy who were representative of the general population, including those with overweight and obesity. Van Horn et al.,[185] exclusively enrolled participants with overweight or obesity. Some articles noted that the mean pre-pregnancy BMI of the participants was between ~25 and ~28 kg/m^2, [191,195,196,199,201,203] while Itani et al.,[201] reported that ~60% of the participants had pre-pregnancy BMI ≥25 kg/m^2 and Ancira-Moreno et al.[191] noted that nearly half of the participants had overweight or obesity. Most articles reported that mean pre-pregnancy BMI ranged from 18.5 up to 25 kg/m^2.[183,184,186-190,192-194,197,198,202,204-206,212]

Many studies excluded participants with diabetes mellitus (type 1 or type 2) at baseline. However, some studies reported up to 20% of participants had gestational diabetes mellitus (GDM) in the current pregnancy.[189,200,201] In studies that reported hypertensive disorders of pregnancy, the prevalence was <6%.[184,187,188,193,202] A few studies excluded participants with incident hypertensive disorders of pregnancy[191] and/or GDM.[183,191]

Race and/or ethnicity

About two-thirds of the articles reported race and/or ethnicity of the participants. Of these, 10 articles noted that ≥50% of the participants were White.[183-185,187,188,193,196,202,203,206] Two articles reported that all of their participants were Hispanic and/or Latina[196,206] and three other articles reported that ~21-40% of the participants were Hispanic.[183,185,195]

Black participants were largely under-represented, with a few studies reporting ≤25% Black participants.[185,187,195,203] Although most articles did not report the proportion of participants of Asian descent, a few reported ~24-32%[184,195] Asian participants. The majority of the participants from studies conducted in China were of Han ethnicity.[194,204] Two articles from the same cohort in UAE reported that more than half of the participants were of Arab nationality.[200,201]

Several articles did not report race and/or ethnicity of the participants,[186,189,191,197-199] and a number of articles only reported the percentage of participants who were White or "other."[188,193,202] No studies explicitly reported

any American Indian or Alaskan Native participants, and it was not clear whether Native Hawaiians or Other Pacific Islanders were included.

Socioeconomic position

Education: In studies that reported education status, ≥50% of the participants had some university education or higher.[183,185,187,189,190,195,197,198,202,203,205] Hillesund et al., 2018 did not report education level of the participants.[193] One study reported that the majority of participants had “middle” to “high” education.[188] About ~14% of the participants from a cohort in Mexico[191] had ≥8 years of schooling and most participants from a Spanish study had lower or intermediate education.[206] An Iranian study noted that <6% of the participants had a university degree.[199]

Income and/or Occupation: One-third of articles did not report participant income or occupation data, or the data was not easily interpretable.[186,189,191,196,198,203-206] Of the studies that reported occupation data, a few noted that the majority of the participants were unemployed,[196,199,200] while others reported that the majority of the participants were employed.[183,192,193] One trial in Australia noted that ~17% of the participants were classified as most disadvantaged based on the Socio-economic Index for Areas—Index of Relative Socio-economic Disadvantage.[184]

Smoking:

A majority of the articles reported smoking status of the participants, with some exceptions.[191,192,196,200,206] A few studies excluded participants who smoked or reported that none of the participants smoked.[185,198,199] Generally, studies stated <10% of the participants smoked (daily or occasionally) before or during pregnancy.[183,184,186,193,194,197,202,204 205,212 203]Notable exceptions were three articles that reported 16-30% of participants smoked before or during pregnancy.[188-190]

Most studies did not report data on alcohol consumption during pregnancy. However, 3 studies (including one conducted in the U.S.) reported that ~19%-47% of participants consumed alcohol during pregnancy.[188,203 205]

Intervention/exposures

Dietary patterns were assessed using 1) index/score analysis, 2) factor/cluster analysis, 3) experimental diet, and 4) reduced rank regression. A description of the studies categorized by the method used to measure dietary patterns is included below and in . Sixteen articles included in this review used one or more of the following indices/scores summarized below:

- Healthy Eating Index (HEI) and its modifications [187,195,196]
- Country-specific patterns [186,188,191-193,197]
- Mediterranean Diet [195,198,200,206]
- Dietary Approaches to Stop Hypertension (DASH)[195]
- Dietary risk scores[189]
- Maternal Diet Quality Score (MDQS)[191]
- Nova[203]
- Plant-based diet score (healthy, unhealthy)[199]
- Dietary quality index[212]
- Empirical Dietary Inflammatory Index[195]

Seven articles assessed dietary patterns using factor/cluster analysis.[188,190,196,201,202,204 194]Three articles in this review assigned participants to an experimental diet (i.e., Mediterranean diet, DASH, HEI) or a control.[183-185] Alves-Santos et al.,[205] assessed adherence to dietary patterns derived using reduced rank regression.

Outcome

Studies that assessed adequacy of total GWG (i.e., in relation to recommendations based on pre-pregnancy BMI) were included in this body of evidence. Studies that examined GWG only during certain time periods or trimesters of pregnancy, or that examined absolute total GWG not in relation to recommendations based on pre-pregnancy BMI, were excluded.

Most studies classified GWG as inadequate, adequate, or excessive according to the Institute of Medicine (2009) guidelines*, with a few exceptions; Rifas-Shiman et al[187] and Jayedi et al.[199] used the Institute of Medicine (1990) guidelines,† Hrolfsdottir et al[189] used Icelandic recommendations (no reference provided), and Assaf-Balut et al[183] cited a previous publication.‡

Synthesis of the evidence for excessive gestational weight gain

Twenty-two articles from three RCT, 18 articles from 17 prospective cohort studies and one RCS were considered in the evidence synthesis.(Table 21) Three cohort studies were not considered in the synthesis because of very high risk of bias, primarily due to critical issues with exposure measurement or missing data.[204,212,205]

One trial[185] and nine prospective cohort articles[186,191,193-195,197,200,201] showed that at least one dietary pattern examined was associated with a decreased risk of excessive GWG and/or GWG rate (GWGR). Several studies also showed that greater alignment to an unhealthy dietary pattern (e.g., Western dietary pattern; ultra-processed food; margarine, sugar and snacks pattern) was associated with greater risk of excessive GWG.[188-190,201,203] Eight studies examined dietary patterns using an index/score[186,189,191,193,195,197,200,203] and four studies used factor/cluster analysis.[188,190,194,201] Most of these dietary patterns shared the following positive components in common: fruits, vegetables, whole grains, legumes, nuts, dairy and fish; and one negative component in common: added sugar.

- Some studies specified dairy as a positive or negative component based on fat content (e.g., low-fat dairy, skim milk, and reduced fat milk as a positive component; high-fat dairy a negative component) or the amount of intake (e.g., 2 to 5 times/day as positive component, >5 times a day as negative component); however, this was not consistent across studies.
- Except for five studies[187,191,192,197,198] that assessed diet at least two times during pregnancy, most studies had a single dietary measurement at baseline.
- One cohort study showed that the modified Healthy Eating Index for Malaysians was associated with a greater risk of excessive GWG, which was inconsistent with results from other studies.[192]
- Studies also reported null findings or no significant association between dietary patterns consumed and excessive GWG or GWGR. Two trials[183,184] showed no effect on excessive GWG; however, one of the trials had numerous methodological issues and hence was weighed less during the synthesis process.[183] Several other cohort studies reported that some or all of the dietary patterns included did not show an association with excessive GWG or GWGR.[187-190,194-196,198-202,206]

* Institute of Medicine (US) and National Research Council (US) Committee to Reexamine IOM Pregnancy Weight Guidelines. Weight Gain During Pregnancy: Reexamining the Guidelines. (Rasmussen KM, Yaktine AL, eds.). Washington (DC): National Academies Press (US); 2009

† Institute of Medicine (US) Committee on Nutritional Status During Pregnancy and Lactation. Nutrition During Pregnancy: Part I Weight Gain. Washington (DC): National Academies Press (US); 1990

‡ Hutcheon JA, Platt RW, Abrams B, Himes KP, Simhan HN, Bodnar LM. Pregnancy weight gain charts for obese and overweight women. *Obesity*. 2015; 23(3): 532-535. doi: 10.1002/oby.21011.

Table 18. List of dietary patterns consumed during pregnancy that were examined in relation to gestational weight gain[*]

Reference	Dietary pattern	Dietary components
Index/Score Analysis		
Acosta-Manzano[198]	Mediterranean Diet Score Index	Fruits; vegetables; fish (positive) Red meat/subproducts (negative) Whole-grain cereals; potatoes; pulses; olive oil; poultry; dairy products (unclear) Alcohol component excluded
Ancira-Moreno et al[191]	Maternal Diet Quality Score	Vegetables and fruits; legumes; low-fat dairy products; PUFAs (positive) Red meat; added sugars; foods high in saturated fat or added sugar (negative)
Augustin et al[212]	Dietary quality index	Fruit, vegetables, whole grain bread, fish, use of low-fat margarine (≤40%) (positive) Cheese, sausage, discretionary foods, use of high fat margarine or butter (≥60%) (negative)
Berube et al[196]	Healthy Eating Index (HEI)-2015	Total fruits, whole fruits, total vegetables, greens and beans, whole grains, dairy, total protein, seafood and plant protein, and fatty acids (positive) Refined grains, sodium, saturated fat, and added sugars (negative)
Cummings et al[203]	Nova	“Instant” foods; ready-to-heat pre-prepared pies, pasta, and pizza dishes; mass-produced packaged breads; reconstituted meats; sweet or savory packaged snacks; confectionery desserts; sweetened drinks
Hillesund et al 2014[186]	New Nordic Diet (NND)	Root vegetables; cabbages; potatoes relative to rice and pasta; Nordic fruits; foods from the wild countryside (game, fish, seafood, and native berries); whole grain breads relative to refined breads; oatmeal porridge; unsweetened milk relative to fruit juice; water relative to sweetened beverages; meal frequency (positive)
Hillesund et al 2018[193]	Norwegian Fit for Delivery	Vegetables with dinner; fruits or vegetables as snacks; water relative to other beverages; small portion size of one or more unhealthy food items (soda, salty crisps, or chocolate); meal frequency; never eating sweets and snacks without appreciation; reading nutrition labels (positive) Sugar-rich food items; fast-foods, snacks, or other salty food; eating beyond satiety (negative)

[*] Author-derived dietary patterns

Reference	Dietary pattern	Dietary components
Hrolfsdottir et al[189]	Dietary risk score (13 risk factors)	Low intake of vegetables and fruits; whole grains; beans, nuts, and seeds; dairy; fish; vitamin D Low dietary variety High intake of processed meat; french fries and fried potatoes; dairy; sweets, ice cream, cakes, and cookies; sugar and artificially sweetened beverages; butter relative to oil
	Dietary risk score (6 risk factors)	Low intake of vegetables and fruits; whole grains; dairy Low dietary variety High intake of dairy; sugar and artificially sweetened beverages
	Dietary risk score (3 risk factors)	Low intake of whole grains; dairy High intake of dairy; sugar and artificially sweetened beverages
Jayedi[199]	Plant-based diet score	Healthy plant-based foods (whole grains, fruits, vegetables, nuts, legumes, vegetable oils, tea/coffee); less healthy plant-based foods (fruit juices, refined grains, potatoes, sugar-sweetened beverages, sweets/desserts) (positive) Animal-based foods (animal fat, dairy, eggs, fish/seafood, meat, miscellaneous animal-based foods) (negative)
	Healthy plant-based diet score	Healthy plant-based foods (whole grains, fruits, vegetables, nuts, legumes, vegetable oils, tea/coffee) (positive) Less healthy plant-based foods (fruit juices, refined grains, potatoes, sugar-sweetened beverages, sweets/desserts); animal-based foods (animal fat, dairy, eggs, fish/seafood, meat, miscellaneous animal-based foods) (negative)
	Unhealthy plant-based diet score	Less healthy plant-based foods (fruit juices, refined grains, potatoes, sugar-sweetened beverages, sweets/desserts) (positive) Healthy plant-based foods (whole grains, fruits, vegetables, nuts, legumes, vegetable oils, tea/coffee); animal-based foods (animal fat, dairy, eggs, fish/seafood, meat, miscellaneous animal-based foods) (negative)
Liu et al[195]	Healthy Eating Index (HEI)-2010	Total fruit, whole fruit, total vegetables, greens and beans, whole grains, dairy, total protein foods, seafood and plant proteins, fatty acids (positive) Refined grains, sodium, and empty calories (negative) Alcohol excluded from empty calories component
	Dietary Approaches to Stop Hypertension (DASH)	Fruits, vegetables, nuts and legumes, low-fat dairy products, whole grains (positive) Sodium, red and processed meats, and sweetened beverages (negative)

Reference	Dietary pattern	Dietary components
	Alternate Mediterranean Diet (aMed)	Fish, whole grains, legumes, nuts, fruits, vegetables, and monounsaturated to saturated fat ratios (positive) Red and processed meat (negative) Alcohol component excluded
	Empirical Dietary Inflammatory Index (EDIP)	Tea, coffee, dark yellow vegetables, leafy green vegetables, snacks, fruit juice, pizza (positive) Processed meat, red meat, organ meat, other fish, other vegetables, refined grains, high-energy beverages, low-energy beverages, and tomatoes (negative) Alcohol component excluded
Radwan et al[200]	alternative Mediterranean diet	Vegetables (not potatoes); legumes; fruit; nuts; whole grains; fish; MUFA/SFA (positive) Red and processed meat (negative) Alcohol component excluded
	Lebanese Mediterranean Diet	Whole grains/bulgur; olive oil; fruits; dried fruits; vegetables; starchy vegetables; legumes; eggs, dairy (positive)
Rifas-Shiman et al[187]	Alternative Healthy Eating Index for Pregnancy (AHEI-P)	Vegetables (includes tofu and soybeans); fruits; ratio of white (poultry, fish) to red meat (beef, pork, lamb, processed); ratio of PUFAs to SFAs; fiber; calcium; folate; iron (positive) *Trans* fats (negative) Alcohol and nut components excluded
Silva-del-Valle et al[206]	Mediterranean Diet	Olive oil as principal fat; olive oil servings; vegetables; fruit; pulses; fish, seafood; nuts; chicken, turkey, or rabbit in place of red meat or sausages; sofrito; wine (positive) Red meat/sausages; butter, margarine, cream; carbonated and/or sugar-sweetened beverages; commercial pastries (negative)
Tielemans et al[188]	Dutch Healthy Diet Index	Vegetables; fruits; fish; fiber (positive) SFAs; sodium (negative) Alcohol, acidic food and drink, and *trans* fat components excluded
Yang et al[197]	Chinese Healthy Diet Index for pregnancy	Grains, tubers and mixed beans; vegetables and fruits; meat, poultry, fish and eggs; dairy, soybeans and nuts (positive)
Yong et al[192]	Modified Healthy Eating Index (HEI) for Malaysians	Vegetables; fruits; cereals and grains; legumes; poultry, meat, and eggs; fish and seafood; milk and milk products; total fats; sodium (negative)

Reference	Dietary pattern	Dietary components
Factor/Cluster Analysis*		
Hu et al[204]	'Traditional'	High intakes of tubers, vegetables, fruits, red meat, rice
	'Sweet foods'	High intakes of sweet beverages, pastry and candy, shrimps, crabs and mussels, fruits
	'High protein'	Fried foods, beans and bean products, dairy products and fruits
	'Milk-nut-seafood'	High intakes of milk, nuts, shrimps, crabs and mussels, fruits, dairy products, eggs and egg products, pastry and candy and lower intake of sweet beverages
Jarman et al[202]	'Tea and coffee' pattern	Characterized by more frequent intakes of coffee, tea (both regular and decaffeinated), reduced-fat milk, full-fat milk, cream and added sugar
Li et al[194]	'Beans-vegetables'	Root vegetables, mushrooms and algae, melon and solanaceous vegetables, Beans and bean products (soybean, mung bean, soybean milk, bean curd, etc), Leafy and cruciferous vegetables
	'Fish-meat-eggs'	Red meat, freshwater fishes, eggs
	'Nuts-whole grains'	Nuts, whole grains, dairy products
	'Organ-poultry-seafood'	Animal organ and blood, seafood, poultry
	'Rice-wheat-fruits'	Rice and wheat products, fruits
Itani et al[201]	'Diverse'	Consumption of fruits, vegetables, mixed dishes, meats, dairy, grains, legumes and nuts, fats and oils
	'Western'	High intakes of sweets, sweetened beverages, added sugars, fast food, eggs, offals
Tielemans et al[188]	'Vegetable, Oil and Fish'	High intake of vegetables, oil, and fish
	'Nuts, High-Fiber Cereals, and Soy'	High intake of nuts, high-fiber cereals, and soy
	'Margarine, Sugar, and Snacks'	High intake of margarine, sugar, and snacks
Wei et al[190]	'Cereals'	Richer in cereals
	'Vegetables'	Richer in vegetables
	'Meats'	Richer in meats

* A posteriori dietary pattern

Reference	Dietary pattern	Dietary components
	'Fruits'	Richer in fruits
	'Fish, beans, nuts, and yogurt'	Richer in fish, beans, nuts, and yogurt
	'Milk and milk powder'	Richer in milk and milk powder
Experimental Diet		
Assaf-Balut et al[183]	Control	Mediterranean Diet: High consumption of vegetables, fruit (avoiding juices), skimmed dairy products, whole grain cereals, and legumes; moderate-to-high consumption of fish; low consumption of red and processed meat; avoidance of refined grains, processed baked goods, pre-sliced bread, soft drinks and fresh juices, fast foods, and precooked meals; restriction of dietary fat, including extra virgin olive oil (EVOO) and nuts
	Intervention	Mediterranean Diet plus EVOO and pistachios provided by investigators
Dodd et al[184]	Lifestyle advice	Dietary advice consistent with Australian dietary standards, participants were advised to increase their intake of fiber, and to consume two servings of fruit, five servings of vegetables and three servings of dairy each day
	Standard care	Received antenatal care according to hospital guidelines (did not include information relating to dietary intake)
Van Horn et al[185]	Mama-Dietary Approaches to Stop Hypertension (DASH)	Encouraged consumption of low-fat dairy products, fish, skinless poultry, lean meat and vegetable protein, unsaturated fats, fiber-rich whole grains, fruits, vegetables, and legumes; discouraged consumption of sugar-sweetened beverages, sweets, and non-nutrient-dense snack foods; avoidance of fish considered higher in mercury; inclusion of calcium-rich, vitamin D−enriched dairy, or calcium-fortified non-dairy products
	Control	Usual care, including bi-weekly newsletters and publicly available maternity website links
Alves Santos et al[205]	Common-Brazilian	Higher in beans; rice; lower in fast food and snacks; candies and table sugar; processed meats and bacon
	Western	Higher in fast food and snacks; processed meat and bacon. Lower in noodles, pasta, roots, and tubers; sodas

Conclusion statement and grade

The 2025 Dietary Guidelines Advisory Committee developed a conclusion statement to answer the question, "What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity?" based on their review of the body of evidence examining dietary patterns consumed during pregnancy and excessive gestational weight gain. (**Table 19**)

Table 19. Conclusion statement, grades for dietary patterns consumed during pregnancy and excessive gestational weight gain*

Conclusion Statement	Limited evidence suggests that dietary patterns consumed during pregnancy may be associated with a lower risk of excessive gestational weight gain. These patterns tend to emphasize higher intakes of fruits, vegetables, whole grains, legumes, nuts, dairy and fish and lower intakes of added sugar.
Grade	Limited
Body of Evidence	22 articles: 3 RCT, 18 prospective cohort studies, 1 RCS
Consistency	Serious issues with consistency across trials, partially explained by participant pre-pregnancy BMI. Heterogeneity in the dietary patterns across cohort studies. Yet, many showed favorable associations, with statistically non-significant findings pointing to favorable association.
Precision	Serious issues with precision, with few trials reporting power analyses for GWG outcomes. Despite adequate power and sample size, cohort studies reported results with wide confidence intervals and values close to null.
Risk of bias	Serious issues with trials generally having high risk of bias, with concerns about deviations from intended interventions and selection of reported results. Most cohort studies had high or serious risk of bias because of confounding, missing data, and selection of reported results.
Directness	Serious issues with directness, with only one trial designed to address the effect of dietary patterns on GWG. The intervention in another trial focused only on certain foods and did not fully align with the intervention/exposure in the analytic framework. Despite most observational studies having GWG as the primary outcome, substantial issues were noted as the definitions of dietary patterns were not consistent and GWG was measured at different time points.
Generalizability	Serious issues, with only one trial conducted in the U.S. Across trials and cohort, the participants did not fully reflect the diversity of the U.S. population.

Assessment of evidence for excessive GWG

This body of evidence included both large and small studies with significant as well as null findings, so publication bias may have been less likely. As outlined and described below, the body of evidence was assessed for the following elements used when grading the strength of evidence.

Consistency

Of the three trials, only Van Horn et al.,[185] showed a beneficial effect of the dietary pattern on excessive GWG. Dodd et al.,[184] reported findings that approached statistical significance and Assaf-Balut et al.,[183] did not show a statistically significant effect. The heterogeneity in findings may be due to the underlying differences in the population's pre-pregnancy BMI or health status. Van Horn et al.[185] exclusively enrolled participants with overweight or obesity; whereas Dodd et al.,[184] enrolled participants with BMI 18.5-24.9 kg/m^2. Assaf-Balut et

al.,[183] restricted participants to those who were normoglycemic. Across cohort studies, there was heterogeneity in the dietary patterns and in the foods and food groups that each pattern included. Despite the heterogeneity, a good number of studies showed beneficial associations and most of the other studies reported non-significant results that tended to be in the same direction as statistically significant results.

Precision

The body of evidence included only three RCT, although they had reasonable sample sizes of 280 to 697 participants. Many studies reported power calculations; yet most of them were not for the outcome of interest (i.e., GWG). Although most cohort studies had adequate power and sample size, the results were generally statistically non-significant with wide confidence intervals and had small magnitudes.

Risk of bias

The overall risk of bias for RCT was high for two trials and low for one, Table 22**.** The concerns in these trials regarded deviations from intended interventions due to issues with adherence and selection of reported results, primarily due to not reporting the analysis plan *a priori*. Most observational studies had high or serious risk of bias (**Table 23, Table 24**). This was primarily driven by issues with confounding, missing data, and selection of reported results. None of the cohort studies adjusted for all the key confounders. Similar to the trials, most of the cohort studies did not report an *a priori* analysis plan.

Directness

Only one trial was designed to test the effect of dietary patterns on GWG.[185] Further, the intervention in another trial[183] focused only on certain foods and did not fully align with the intervention/exposure in the analytic framework. With regard to cohort studies, although most of the articles included in the body of evidence were designed to assess the effect of dietary patterns on GWG, definitions of dietary patterns were not consistent and not all foods included in the conclusion statement were included in all the dietary patterns. There was also heterogeneity in outcome measurement, with studies assessing GWG at different timepoints during pregnancy.

Generalizability

Only one trial included U.S. participants[185] and the other trials did not reflect the diversity of the U.S. population. Although many cohort studies included non-U.S. populations (e.g., Malaysian, Chinese, Lebanese, Nordic), they did not fully reflect the diversity of the U.S. population either. Further, some of the dietary patterns in these studies were not reflective of U.S. diets.

Synthesis of the evidence for inadequate gestational weight gain

Eighteen articles, including two RCT, 15 articles from 14 prospective cohort studies and one RCS were considered in the evidence synthesis. Augustin et al.,[212] a Swedish cohort study was not considered during synthesis because of very high risk of bias due to issues with exposure measurement.

Eight cohort studies showed that at least one dietary pattern examined was associated with a decreased risk of inadequate GWG and/or GWGR.[186,190-192,194,199-201] Of these, five articles assessed dietary patterns using index score analysis and three articles used factor/cluster analysis.

Many studies that examined dietary patterns did not find an association with inadequate GWG or GWGR. Both trials[183,184] showed no effect on inadequate GWG, one of which had numerous methodological issues and hence was weighed less during the synthesis process.[183] Several cohort studies reported that at least one or all of the patterns included did not show an association with inadequate GWG or GWGR.[187,188,190,193,195-197,199-201,203] Two dietary patterns (beans-vegetables and Med Diet) showed at least one detrimental association with inadequate GWG.[194,206]

Overall, only a few cohort studies showed a significant association between dietary patterns and inadequate GWG, which were not consistent in the composition of dietary patterns or in the direction of results. Further, no RCT showed an effect of dietary patterns on inadequate GWG. The lack of association could be due to methodological limitations, as noted by high risk of bias for most of the studies, or differences in pre-pregnancy BMI. One RCT had a high risk of bias due to deviation from intended intervention and selection of reported results (Table 22). In addition, many observational studies had issues with confounding and missing data (**Table 23, Table 24**). This body of evidence included both large and small studies with significant as well as null findings, so publication bias may have been less likely.

Conclusion statement and grade

The 2025 Dietary Guidelines Advisory Committee developed a conclusion statement to answer the question, “What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity?” based on their review of the body of evidence examining dietary patterns consumed during pregnancy and inadequate gestational weight gain. (**Table 20**).

Table 20. Conclusion statement, grades for dietary patterns consumed during pregnancy and inadequate gestational weight gain

Conclusion Statement	A conclusion statement cannot be drawn about the relationship between dietary patterns consumed during pregnancy and risk of inadequate gestational weight gain because there are substantial concerns with consistency in the body of evidence.
Grade	Grade not assignable
Body of Evidence	18 articles: 2 RCT, 15 prospective cohort studies, 1 RCS
Rationale	The available evidence was too inconsistent to draw conclusions on the relationship between dietary patterns and inadequate gestational weight gain.

Table 21. Evidence examining the relationship between dietary patterns consumed during pregnancy and gestational weight gain[a]

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
RCT			

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding

Assaf-Balut, 2019[183]
 	
RCT, Spain, St. Carlos GDM Prevention Study
 	
Baseline N=1000; Analytic N=697 (Attrition: 30%)
 	
• Age: ~33.0y
• Race/Ethnicity (%):
  ○ White: 67.5; Hispanic: 29.7; Other: 2.8
• Socioeconomic position:
  ○ Education (%): University degree: 50.8
  ○ Employed (%): 77.3
• Pre-pregnancy BMI: 22.6
• Smoking (%): 7.9
• DM/HDP (%):
  ○ GDM: 0.0
  ○ Gestational HTN: CG: 3.3; IG: 3.6
  ○ PE: CG: 1.2; IG: 1.9
	IG vs. CG
	
	FFQ at: 8-12 GW, 24-28 GW, and 36-38 GW
	
	DP Descriptions:
	
	• Both the intervention group (IG) and control group (CG) given the same basic MedDiet recommendations: ≥2 servings/d vegetables, ≥3 servings/d fruit (avoiding juices), 3 servings/d skimmed dairy products, wholegrain cereals, 2-3 servings legumes/wk, moderate to high consumption of fish; low consumption of red and processed meat, avoidance of refined grains, processed baked goods, pre-sliced bread, soft drinks and fresh juices, fast foods and precooked meals. They were also instructed to be physically active and walk ≥30 min/d.
	• IG recommended to consume ≥40 mL/d of EVOO and a handful (25-30 g/d) of pistachios and were provided with 10 L EVOO and 2 kg roasted pistachios at 12-14 GW and 24-28 GW.
	• CG recommended to restrict dietary fat, including EVOO and nuts.
	
	Adherence: MEDAS scores did not differ at baseline but were higher in IG at 24-28 GW and 36-38 GW. Physical activity scores did not differ at either follow-up point.
	
	Outcome and assessment methods:
	GWG assessed at: baseline (12-14 GW) to 36-38 GW.
	Weight measured by investigators.
	GWG adequacy defined according to pre-pregnancy BMI: <25: 9 kg, 25–29: 6 kg, 30–34.9: 3 kg, and ≥35: 0 kg. Weight gain 3 kg below designated target categorized as insufficient. Weight gain 3 kg above designated target categorized as excessive.
		GWG Adequacy
		Chi-squared test, %
		
		Excessive: CG: 26.7; IG: 27.5
		Adequate: CG: 70.9; IG: 69.2
		Inadequate: CG: 2.4; IG: 3.3
		p=0.713
			Limitations: Issues with deviation from intended intervention and selection of the reported results
			
			Funding: Fundación para Estudios Endocrinometabolicos, IdISSC Hospital Clínico San Carlos; the Instituto de Salud Carlos III of Spain

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding

Dodd, 2019[184]
 	
RCT, Parallel-arm, Australia, OPTIMISE
Baseline N=641; Analytic N= 629 (Attrition: 1%)
 	
• Age (y): 31.53±4.76
• Race/Ethnicity (%): White: 67.46; Asian: 15.01; Indian, Pakistani, Sri Lankan: 8.06; Other: 9.47
• Socioeconomic position:
  ○ SEIFA IRSD (%): Quintile 1 (most disadvantaged): 16.75; Quintile 5: 17.85
• Baseline BMI: Median (IQR): 22.20 (20.87, 23.60)
• DM/HDP (%):
  ○ T1 or T2 DM: 0.0
  ○ GDM: LI: 12.43; SC: 12.46
  ○ Gestational HTN: LI: 1.58; SC: 1.30
  ○ PE/Eclampsia: LI: 1.90; SC: 2.91
• Smoking (%): 4.42
	LI vs. SC
	FFQ at: trial entry (10-20 GW), 28 GW and 36 GW
	
	DP Descriptions:
	
	• Lifestyle Intervention (LI): Received 3 in-person visits and 3 phone calls with dietitian or research assistant at trial entry, and 20, 24, 28, 32, and 36 GW. Dietary advice was consistent with current Australian dietary standards, maintaining a balance of carbohydrates, fat, and protein, and encouraging reduced intake of energy dense and non-core foods high in refined carbohydrates and saturated fats. Participants were advised to increase their intake of fibre, and to consume 2 svg/d fruit, 5 svg/d vegetables and 3 svg/d dairy.
	
	• Standard Care (SC): Received antenatal care according to hospital guidelines, which did not include information relating to dietary intake, physical activity or weight gain during pregnancy.
	
	Adherence: HEI scores from FFQ did not differ at baseline,but were higher in LI at 28 GW and 36 GW. Physical activity scores did not differ at either follow-up.
	
	Outcome and assessment methods:
	GWG assessed at: trial entry (10-20 GW) to 36 GW
	Weight measured by investigators.
	Average weekly GWG methods NR. GWG adequacy by 2009 IOM recommendations.
		Total GWG Adequacy
		Logistic regression
		Incidence (%), Adj Estimate (95% CI), kg
		
		Below: LI: 50.71; SC: 51.68, 0.85 (0.60, 1.21), p=0.37
		Within: LI: 40.57; SC: 35.16, (Ref)
		Above: LI: 8.72; SC: 13.16, 0.58 (0.32, 1.04); p=0.07
		
		Weekly GWG Adequacy
		Logistic regression
		Incidence (%), Adj Estimate (95% CI), kg
		
		Below: LI: 19.25; SC: 14.78, 1.36 (0.82, 2.26); p=0.24
		Within: LI: 33.12; SC: 35.47, (Ref)
		Above: LI: 47.63; SC: 49.75, 1.02 (0.70, 1.48); p=0.92
			Other covariates: History (family or self) of GDM or HDP
			
			Limitations:
			
			Funding: The University of Adelaide; Lloyd Cox Strategic Research Excellence Award; NHMRC Practitioner Fellowship

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding

Van Horn, 2018[185]
 	
RCT, United States, MOMFIT
 	
Baseline N=281; Analytic N=280 (Attrition: 0%)
 	
• Age: ~33.6y
  ○ Race/Ethnicity (%): White: ~63.3; Hispanic: ~21.4; Black/African American: ~19.2; Other: ~17.4
• Socioeconomic position:
  ○ Education (%): ≤High school/GED: ~4.6; Postgraduate work: ~40.2
  ○ Total family income (%): <$20,000: ~4.6; ≥$200,000: ~17.4
• Pre-pregnancy BMI: ~31
  ○ (%): ≥30: ~54.8
• Smoking (%): 0.0
• DM/HDP (%):
  ○ T1 or T2 DM: 0.0
  ○ GDM: ~6.0
	Mama-DASH vs. UC
	
	24 hr recall at 15 GW and 36 GW
	
	DP Descriptions:
	
	• Mama-DASH: Encouraged: low-fat dairy, fish, skinless poultry, lean meat and vegetable protein, unsat fat, fiber-rich whole grains, fruits, vegetables, legumes; Discouraged SSB, sweets, non-nutrient-dense snack foods; Caloric restriction to meet GWG, following nutrition guidelines for pregnant women, including avoidance of fish considered higher in mercury, inclusion of calcium-rich, vitamin D−enriched dairy, or calcium-fortified non-dairy products; Individual and group diet & PA counseling sessions
	• Usual Care (UC): Received usual-care, including biweekly newsletters and publicly available maternity website links via email
	
	Adherence: DASH and HEI-2010 scores did not differ at baseline,but were higher in the Mama-DASH group at 35 GW. Physical activity scores did not differ at 35 GW.
	
	Outcome and assessment methods:
	GWG calculated as difference between self-reported pre-pregnancy weight and weight measured by blinded, trained staff at 35 GW (weight closest to this time extracted from clinic charts or taken from previous study visits if no 35 GW measure available). GWG adequcy determined by IOM 2009 recommendations.
		Excessive GWG
		
		All participants:
		
		UC: 84.4%
		
		Mama-DASH: 68.6%
		
		p=0.004
		
		Pre-pregnancy BMI 25-29.9
		
		UC: 86%
		
		Mama-DASH: 79%
		
		p=0.33
		
		Pre-pregnancy BMI >30
		UC: 83%
		Mama-DASH: 60%
		
		p=0.001
			Limitations: Issues with deviation from intended intervention
			
			Funding: NIDDK, NHLBI; NICHD; NCCIH; ORWH; OBSSR; the Indian Health Service

Cohort Studies			
Index/Score			

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Acosta-Manzano, 2022[198] **PCS, Spain, GESTAFIT** Analytic N =114 • Age (y): 33±5 • Socioeconomic position: ○ Education (%): Non-university level: 36.4; University degree: 63.6 • Pre-pregnancy BMI: 23.7±3.9 • DM/HDP (%): ○ Cardiometabolic disruptions: 0.0 • Smoking: Cigarettes/d (Median (IQR)): 0 (0, 0)	**Mediterranean Diet Score** (continuous adherence) FFQ at: 16 GW, 33 GW **DP Description:** • Positive components: fruits; vegetables; fish • Negative components: red meat/subproducts • Unclear: whole-grain cereals; potatoes; pulses; olive oil; poultry; dairy products **Outcome and assessment methods:** Excessive GWG assessed at: Pre-pregnancy to 33 GW Body weight measured by investigators. GWG adequacy by 2009 IOM recommendations	**Excessive Total GWG** Logistic regression OR (95% CI): 0.92 (0.79, 1.07) β (SE), kg: −0.09 (0.08), p=0.26 TEI adjustment: p=0.41	**Key confounders accounted for**: Age, Pre-pregnancy BMI, Smoking, DM in the current pregnancy, HDP in the current pregnancy **Key confounders not accounted for**: Physical activity, Race and/or ethnicity, Socioeconomic position, Parity **Other covariates:** In-bed time, sleep (duration, awakening time after onset, efficiency, quality), upper body muscle strength, cardiorespiratory fitness **Limitations**: Issues with confounding, participant selection, and missing data; some concerns about post-exposure interventions and selection of reported results **Funding:** University of Granada, the Spanish Ministry of Economy and Competitiveness, the Spanish Ministry of Education, Culture and Sports, Instituto de Salud Carlos III, European Social Fund

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Ancira-Moreno, 2019[191] **PCS, Mexico, PRINCESA** Analytic N=660 • Age: ~24.9y • Socioeconomic position: ○ >9y education: ~14.2% • Pre-pregnancy BMI: ~25.7 • DM/HDP (%): ○ GDM: 0.0 ○ PE: 0.0	**Maternal Diet Quality Score** (tertiles of alignment) 24 hr recall at: each prenatal visit (~every 5 GW) **DP Description:** • Positive components: PUFA, fruits and vegatables, low fat dairy, legumes • Negative components: Added sugars, red meat, foods high in saturated fat or added sugar **Outcome and assessment methods**: Weight measured at first and consecutive visits by trained staff using standardized methods. Pre-pregnancy weight self-reported. GWGR (kg/wk) calculated as weight at current visit minus weight from previous visit, divided by follow-up duration. First GWGR estimated using pre-pregnancy weight. GWGR adequacy based on 2009 IOM recommendations.	**Inadequate GWGR** Mixed-effect logistic regression OR (95% CI) <u>All participants</u> T2 vs T1 (Ref): 0.74 (0.56, 0.99), p=0.044 T3 vs T1 (Ref): 0.63 (0.42, 0.95), p=0.031 <u>Pre-pregnancy BMI <25</u> T2 vs. T1 (Ref): 0.43 (0.18, 0.99),p=0.046 T3 vs. T1 (Ref): 0.30 (0.09, 0.95),p=0.040 <u>Pre-pregnancy BMI ≥25</u> T2 vs. T1 (Ref): 0.10 (0.01, 0.91),p=0.044 T3 vs. T1 (Ref):0.03 (0.002, 0.44), p=0.01 **Excessive GWGR** Mixed-effect logistic regression OR (95% CI) <u>All participants</u> T2 vs. T1 (Ref): 0.77 (0.57, 1.04),p=0.094 T3 vs. T1 (Ref): 0.62 (0.41, 0.94),p=0.025 <u>Pre-pregnancy BMI <25</u> T2 vs. T1 (Ref): 0.35 (0.13, 0.95),p=0.040 T3 vs. T1 (Ref): 0.24 (0.06, 0.99),p=0.048 <u>Pre-pregnancy BMI ≥25</u> T2 vs. T1 (Ref): 0.08 (0.13, 0.92),p=0.042 T3 vs. T1 (Ref): 0.08 (0.06, 0.999),p=0.05	**Key confounders accounted for:** Age, Physical activity, Socioeconomic position, Pre-pregnancy BMI, Parity, DM in the current pregnancy, HDP in the current pregnancy **Key confounders not accounted for**: Race and/or ethnicity, Smoking **Other covariates:** TEI, GA, Fetal sex, Marital status **Limitations**: Issues with confounding, exposure measurement, participant selection, and selection of the reported results; some concerns about missing data, outcome measurement, **Funding:** The Capital Semilla of the Division of Social Studies; Academic Vice Presidency of the Universidad Iberoamericana

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Augustin, 2020[212] **PCS, Sweden, GraviD** Analytic N =1113 • Age (y): 31.9±4.6 • Socioeconomic position: ○ Education (%): Primary: 1.5; Secondary: 29.8; University: 68.9 • BMI at first visit: 24.1±4.0 • Smoking (%): Tobacco use in early pregnancy: 3.9	**Dietary quality index** (High vs. Fair and Poor) FFQ at: TM3 **DP Description:** • Positive components: fruit, vegetables, whole grain bread, fish, use of low-fat margarine (≤40%) • Negative components: cheese, sausage, discretionary foods, use of high fat margarine or butter (≥60%) **Outcome and assessment methods:** GWG assessed at: ≤14 GW to 37±2 GW Body weight retrieved from medical records. GWG calculated as weight at 37±2 GW minus weight ≤14 GW. GWG adequacy by 2009 IOM recommendations.	**Insufficient GWG** Logistic regression OR Fair vs High (Ref): 0.58, p=0.17 Poor vs High (Ref): 0.40, p=0.02 **Adequate GWG** Logistic regression OR Fair vs High (Ref): 0.80, p=0.57 Poor vs High (Ref): 0.83, p=0.63 **Excessive GWG** Logistic regression OR Fair vs High (Ref): 3.3, p=0.04 Poor vs High (Ref): 4.4, p=0.01	**Key confounders accounted for:** Age, Socioeconomic position, Pre-pregnancy BMI, Smoking, Parity, DM in the current pregnancy, HDP in the current pregnancy **Key confounders not accounted for**: Physical activity, Race and/or ethnicity **Other covariates:** GA at the time of registration, gestational duration **Limitations**: Issues with confounding, exposure measurement, and missing data; some concerns about participant selection and selection of the reported results **Funding:** The Swedish Research Council for Health, Working Life and Welfare, grant number 2018-00441 and Regional Research and Development Grant

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Berube, 2023[196] **PCS, United States, StEP** Analytic N =500 • Age (y): HEI-2015 T1: 27±6; HEI-2015 T3: 30±6, p<0.0001 • Race/Ethnicity (%): Hispanic/Latina: 100 • Socioeconomic position: ○ Education (%): <High school: 33.6; ≥High school: 66.4 ○ Employed (%): 24.8 • Pre-pregnancy BMI: 27.5±5.5	**HEI-2015** (tertiles of adherence) FFQ at: At baseline (28-32 GW) **DP Description:** • Positive components: total vegetables; greens and beans; total fruit; whole fruit; whole grains; seafood and plant proteins; total protein foods; dairy; PUFA+MUFA/SFA. • Negative components: refined grains; added sugars; SFA; sodium **Outcome and assessment methods:** GWG assessed at: Pre-pregnancy to delivery Pre-pregnancy weight (first measured weight at ≤12 GW) and weight at delivery were extracted from medical records. If the first measured weight taken at >12 GW, self-reported pre-pregnancy weight was used. GWG calculated by subtracting pre-pregnancy weight from weight at delivery. GWG adequacy by 2009 IOM recommendations.	**Inadequate GWG** Multinomial logistic regression OR (95% CI) T1: Ref; T2: 1.1 (0.7, 1.9); T3: 1.0 (0.6, 1.8) **Excessive GWG** Multinomial logistic regression OR (95% CI) T1: Ref; T2: 0.8 (0.5, 1.5); T3: 0.9 (0.5, 1.6)	**Key confounders accounted for**: Age, Physical activity, Race and/or ethnicity, Socioeconomic position, Pre-pregnancy BMI, Parity **Key confounders not accounted for**: Smoking, DM in the current pregnancy, HDP in the current pregnancy **Other covariates:** TEI **Limitations**: Issues with post-exposure interventions; some concerns about confounding, exposure measurement, participant selection, and selection of the reported results **Funding:** USDA NIFA, NICHD, HRSA
Cummings, 2022[203] **PCS, United States, PEAS** Analytic N=367 • Age (y): 30.5±4.7 • Race/Ethnicity (%): White: 71; Black: 17, Asian: 5, Other or multiracial: 6; Hispanic: 9 • Socioeconomic position: ○ Income-Poverty Ratio: 3.84±1.97 ○ Education (%): College degree: 72 • Pre-pregnancy BMI (%): <18.5: 0.0; ≥25: 25.1; >30: 27.1 • GWG (%): Inadequate: 19; Adequate: 34; Excessive: 47 Smoking (%): Current: 2; Former: 18	**Nova** (continuous adherence, % energy intake z-scored) ASA24 at: Baseline (<12 GW), TM2 (16-22 GW), TM3 (28-32 GW) **DP Description**: • Positive components: 'instant' foods; ready-to-heat pre-prepared pies, pasta, and pizza dishes; mass-produced packaged breads; reconstituted meats; sweet or savory packaged snacks; confectionery desserts; sweetened drinks **Outcome and assessment methods:** GWG assessed at: <12 GW, 35±0.75 GW Calculated as differences between weight at baseline (<12 GW) and last prenatal visit. GWG adequacy by 2009 IOM recommendations. Weight, height measured by investigators, and from prenatal medical records.	**Excessive GWG** Logistic regression OR (95% CI), Adequate (Ref) 1.31 (1.01, 1.70), p=0.045 **Inadequate GWG** Logistic regression OR (95% CI), Adequate (Ref) 0.88 (0.63, 1.23), p=0.451	**Key confounders accounted for**: Age, Physical activity, Socioeconomic position, Pre-pregnancy BMI, Smoking, **Key confounders not accounted for**: Race and/or ethnicity, Parity, DM in the current pregnancy, HDP in the current pregnancy **Other covariates:** TEI, time **Limitations**: Issues with confounding; some concerns about exposure measurement, missing data, and selection of the reported results **Funding:** NICHD, NIH

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Hillesund, 2014[186] **PCS, Norway, MoBa** Analytic N=56629 • Age: 30.1±4.6y • Socioeconomic position: ○ Education (%): ≤12y: ~33.3; ≥17y: ~33.3 • Pre-pregnancy BMI: 24.0± 4.2 • Smoking (%): ~7.2 • DM/HDP (%): ○ DM: 0.0	**New Nordic Diet** (tertiles of alignment) FFQ at: 22 GW **DP Description:** • Positive components: eating/drinking ≥24 main meals/wk; Nordic fruits; root vegetables; cabbage; potatoes ≥1/3 of total occasions of potatoes, rice, or pasta; whole grain bread; oatmeal; fish/game/berries; milk; water • Negative components: Refined grains; fruit juice; SSB **Outcome and assessment methods**: GWG assessed at: Pre-pregnancy to delivery Pre-pregnancy weight self-reported at 17 GW. Delivery weight self-reported at 6mo postpartum. GWG adequacy by 2009 IOM recommendations	**Inadequate GWG** Multinomial logistic regression OR (95% CI) Pre-pregnancy BMI <25 T2 vs. T1 (Ref): 0.99 (0.92, 1.07), p=NS T3 vs. T1 (Ref): 0.98 (0.91, 1.06), p= NS Pre-pregnancy BMI ≥25 T2 vs. T1 (Ref):0.86 (0.74, 0.99), p=0.038 T3 vs. T1 (Ref): 0.90 (0.77, 1.06), p=NS **Excessive GWG** Multinomial logistic regression OR (95% CI) Pre-pregnancy BMI <25 T2 vs. T1 (Ref): 0.99 (0.93, 1.06), p=NS T3 vs. T1 (Ref):0.93 (0.87, 0.99), p=0.024 Pre-pregnancy BMI ≥25 T2 vs. T1 (Ref): 1.01 (0.92, 1.14), p=NS T3 vs. T1 (Ref): 1.11 (1.00, 1.23), p=NS	**Key confounders accounted for**: Age, Physical activity, Socioeconomic position, Pre-pregnancy BMI, Smoking, Parity, DM in the current pregnancy **Key confounders not accounted for**: Race and/or ethnicity, HDP in the current pregnancy **Other covariates:** TEI, Length of gestation **Limitations**: Issues with confounding, participant selection, outcome measurement, and selection of the reported results; some concerns about exposure measurement, deviations from intended interventions, and missing data **Funding:** Norwegian Ministry of Health; Norwegian Ministry of Education and Research; NIEHS; NINDS; Norwegian Research Council/FUG; University of Agder

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding

Hillesund, 2018[193]
 	
PCS, Norway, NFFD
 	
Analytic N=524
 	
• Age: 28.0±4.4y (range 18–44y)
  ○ (%): ≥35y: 6.8
• Race/Ethnicity: "predominantly White, European"
• Socioeconomic position:
  ○ Education (%): ≤12y: 31.8; ≥16y: 35.5
  ○ Occupation (%): Outside home: 84.2; Student: 8.7; Unemployed: 3.9; Sick leave/disabled: 1.9; Homemaker: 1.4
  ○ Income (%): ≤400,000 NOK: 31.2; >700,000 NOK: 34.4; NR: 6.6
• Pre-pregnancy BMI: 23.7± 3.9
  ○ (%): 25-29.9: 20.2; ≥30: 7.6
• Smoking (%): 3.9
• DM/HDP (%):
  ○ GDM: 9.1
  ○ PE: 4.3
  ○ Severe PE/HELLP/eclampsia: 2.6
	Norwegian Fit for Delivery (continuous alignment)
	FFQ at: 15 GW
	
	DP Description:
	
	• Positive components: eating/drinking ≥24 main meals/wk; water for ≥44% of drinking events, vegetables with dinner ≥5x/wk, fruits or vegetables as snacks ≥3x/wk, <1x/d sugar-rich food items, <1x/d fast-foods, snacks, or other salty food, never eating sweets and snacks without appreciation, buying small portion size of ≥1 unhealthy food items, eating beyond satiety <1/wk, and reading nutrition labels on foods sometimes or often.
	
	• Negative components:
	
	Outcome and assessment methods:
	
	GWG assessed at: Pre-pregnancy to final measured weight within 2wk of delivery
	
	Pre-pregnancy weight self-reported. GWG adequacy by 2009 IOM recommendations.
		Inadequate GWG
		
		Multivariate logistic regression
		
		OR (95% CI)
		
		<u>Main analysis</u>
		
		1.05 (0.94, 1.17), p=0.381
		
		<u>Sensitivity analysis additionally adjusting for PA</u>
		
		1.02 (0.95, 1.19), p=0.374
		
		Excessive GWG
		
		Multivariate logistic regression
		
		OR (95% CI)
		
		<u>Main analysis</u>
		0.90(0.83, 0.99), p=0.024
		
		<u>Sensitivity analysis additionally adjusting for PA</u>
		
		0.88 (0.79, 0.97), p=0.009
			Key confounders accounted for: Age, Physical activity (in sensitivity analysis), Socioeconomic position, Pre-pregnancy BMI, Smoking, Parity, DM in the current pregnancy, HDP in the current pregnancy
			
			Key confounders not accounted for: Race and/or ethnicity
			
			Other covariates: Marital status, Original trial randomization assignment
			
			Limitations: Issues with confounding, exposure measurement, missing data, and selection of the reported results; some concerns about participant selection, deviations from intended interventions, and outcome measurement
			
			Funding: South-Eastern Norway Regional Health Authority; Municipalities of southern Norway; University of Agder

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Hrolfsdottir, 2019[189] **PCS, Iceland, PREWICE** Analytic N=1326 • Age: 30.2± 5.2y • Socioeconomic position: ○ Education (%): Elementary: 13; High & technical school: 29; Higher academic: 24 • Pre-pregnancy BMI: 24.1± 6.5 ○ (%): 25.0-29.9: 24; ≥30: 18 • Smoking (%): Before pregnancy: 16; During pregnancy: 7 • DM/HDP (%): ○ GDM: 19.9	**3 dietary risk factors score, 6 dietary risk factors score, & 13 dietary risk factors score** (continuous alignment, tertiles of alignment) FFQ at: 11-14 GW **DP Descriptions:** 3 dietary risk factors score: • Positive components: Whole grains • Negative components: SSB, dairy ≥5x/d 6 dietary risk factors score: • Positive components: Varied diet (eating all main food groups); vegetables and fruit; dairy (2-<5x/d); whole grains • Negative components: SSB, dairy (<2 or ≥5x/d) 13 dietary risk factors score: • Positive components: Varied diet (eating all main food groups); vegetables and fruit; fish; dairy (2-<5x/d), whole grains; beans, nuts, and seeds; vitamin D • Negative components: French fries; sweets and desserts; SSB; processed meat; dairy (<2 or ≥5x/d); butter vs oil **Outcome and assessment methods**: GWG assessed at: Pre-pregnancy to highest recorded weight ≥36 GW GWG retrieved from hospital records. Excessive GWG defined by Icelandic recommendations: >18 kg for participants with pre-pregnancy BMI <25 and >12 kg for participants with pre-pregnancy BMI ≥25	**Excessive GWG** Multivariable Poisson log-linear regression RR (95% CI) 3 dietary risk factors score per SD: 1.08 (1.002, 1.15), p<0.05 6 dietary risk factors score Per one unit: 1.10 (1.01, 1.19), p<0.05 Per SD: 1.08 (1.01, 1.15), p<0.05 T2 vs. T1 (Ref): 1.04 (0.86, 1.26), p=NS T3 vs. T1 (Ref):1.23 (1.002, 1.50), p<0.05 Stratifying by BMI attenuated the results *Excluding 264 GDM cases:* Per one unit: 1.09 (1.00, 1.19), p=NS T2 vs. T1 (Ref): 1.01 (0.82, 1.23), p=NS T3 vs. T1 (Ref): 1.19 (0.96, 1.47), p=NS Stratifying by BMI did not substantially alter the results 13 dietary risk factors score per SD: 1.04 (0.97, 1.22), p=NS	**Key confounders accounted for**: Age, Socioeconomic position, Pre-pregnancy BMI, Smoking, Parity, DM in the current pregnancy (in sensitivity analyses **Key confounders not accounted for**: Physical activity, Race and/or ethnicity, HDP in the current pregnancy **Other covariates**: Gestation length when highest weight recorded, NVP **Limitations**: Issues with confounding, missing data, and selection of the reported results; some concerns about exposure measurement, participant selection, and outcome measurement **Funding**: Doctoral Grants of the UoI Research Fund; The Technology Development Fund/RANNIS

Jayedi, 2023[199]

PCS, Iran (Islamic Rep. of), PERSIAN (Semnan branch)
Analytic N =657

- Age (y): 28.8±5.08
- Socioeconomic position:
  - Job with income (%):
    PDI: Q1: 31.8; Q4: 25.3
    hPDI: Q1: 28.3; Q4: 26.9
    uPDI: Q1: 30.8; Q4: 33.3
  - University graduate:
    PDI: Q1: 5.30; Q4: 4.00
    hPDI: Q1: 5.30; Q4: 4.00
    uPDI: Q1: 5.90; Q4: 3.60
- Pre-pregnancy BMI:
  PDI: Q1: 25.8±5.04; Q4: 24.7±4.11, p<0.001
  hPDI: Q1: 24.5±4.12; Q4: 25.3±4.79
  uPDI: Q1: 25.0±4.50; Q4: 24.6±3.83
- Smoking (%): 0.0

PDI, hPDI, & uPDI (quartiles of alignment)
FFQ at: TM1

DP Descriptions:

PDI:

- Positive components: healthy plant-based foods (whole grains, fruits, vegetables, nuts, legumes, vegetable oils, tea/coffee); less healthy plant-based foods (fruit juices, refined grains, potatoes, sugar-sweetened beverages, sweets/desserts)
- Negative components: animal-based foods (animal fat, dairy, eggs, fish/seafood, meat, miscellaneous animal-based foods)

hPDI:

- Positive components: healthy plant-based foods (whole grains, fruits, vegetables, nuts, legumes, vegetable oils, tea/coffee)
- Negative components: less healthy plant-based foods (fruit juices, refined grains, potatoes, sugar-sweetened beverages, sweets/desserts); animal-based foods (animal fat, dairy, eggs, fish/seafood, meat, miscellaneous animal-based foods)

uPDI:

- Positive components: less healthy plant-based foods (fruit juices, refined grains, potatoes, sugar-sweetened beverages, sweets/desserts)
- Negative components: healthy plant-based foods (whole grains, fruits, vegetables, nuts, legumes, vegetable oils, tea/coffee); animal-based foods (animal fat, dairy, eggs, fish/seafood, meat, miscellaneous animal-based foods)

Outcome and assessment methods:
GWG assessed at: TM1 to before delivery
Investigators measured weight and height. GWG: difference in weight between TM1 and delivery. GWG adequacy by 1990 IOM recommendations. Inadequate GWG below and Excessive GWG below: BMI <18.5: 12.8–18 kg; BMI 18.5–24.9: 11.5–16 kg; BMI 25–29.9: 7–11.5 kg; BMI ≥30: 5–9 kg

Inadequate GWG
Cox proportional-hazards
HR (95% CI)

PDI
Q4 vs Q1 (Ref): 0.50 (0.29,0.89), p=0.02
Q3 vs Q1 (Ref): 0.73 (0.42, 1.25), p=0.25
Q2 vs Q1 (Ref): 0.79 (0.45, 1.41), p=0.43

hPDI
Q4 vs Q1 (Ref): 1.15 (0.66, 1.91), p=0.62
Q3 vs Q1 (Ref): 1.15 (0.66, 1.98), p=0.63
Q2 vs Q1 (Ref): 1.26 (0.70, 2.27), p=0.43

uPDI
Q4 vs Q1 (Ref): 0.75 (0.42, 1.34), p=0.33
Q3 vs Q1 (Ref): 0.67 (0.38, 1.13), p=0.13
Q2 vs Q1 (Ref): 0.62 (0.34, 1.10), p=0.10

Excessive GWG
Cox proportional-hazards
HR (95% CI)

PDI
Q4 vs Q1 (Ref): 0.99 (0.69, 1.42), p=0.96
Q3 vs Q1 (Ref): 1.03 (0.73, 1.48), p=0.83
Q2 vs Q1 (Ref): 1.08 (0.77, 1.50), p=0.65

hPDI
Q4 vs Q1 (Ref): 0.91 (0.66, 1.27), p=0.58
Q3 vs Q1 (Ref): 0.95 (0.68, 1.33), p=0.79
Q2 vs Q1 (Ref): 1.24 (0.88, 1.74), p=0.22

uPDI
Q4 vs Q1 (Ref): 1.17 (0.82, 1.65), p=0.38
Q3 vs Q1 (Ref): 0.90 (0.65, 1.25), p=0.54
Q2 vs Q1 (Ref): 0.88 (0.63, 1.24), p=0.47

Key confounders accounted for: Age, Physical activity, Socioeconomic position, Pre-pregnancy BMI, Smoking, Parity

Key confounders not accounted for: Race and/or ethnicity, DM in the current pregnancy, HDP in the current pregnancy

Other covariates: TEI, pre-pregnancy supplement intake, multivitamin use during pregnancy, history of cardiovascular disease

Limitations: Issues with missing data, selection of the reported results; some concerns about confounding

Funding: Semnan University of Medical Sciences

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Liu, 2023[195] **PCS, United States, PETALS** Analytic N =2914 • Age (%): 18-24y: 15.2; 25-29y: 25.9; 30-34y: 36.8; ≥35y: 22.1 • Race/Ethnicity (%): AAPI: 24; Black: 9.6; Hispanic: 40; Other/Unknown: 3.2; NHW: 23 • Socioeconomic position: ○ Education (%): <High school: 2.7; Some college: 37; ≥4y college: 49 ○ Household income (%): <$50,000/y: 32; ≥$150,000/y: 18 • Pre-pregnancy BMI: 27.0±6.0 • DM/HDP (%) ○ DM: 0.0	**HEI-2010, DASH, aMED, and EDIP** (quartiles of alignment) FFQ at: ~10-13 GW **DP Descriptions (alcohol components excluded):** <u>HEI-2010:</u> • Positive components: total fruit, whole fruit, total vegetables, greens and beans, whole grains, dairy, total protein foods, seafood and plant proteins, fatty acids • Negative components: refined grains, sodium, and empty calories <u>DASH:</u> • Positive components: fruits, vegetables, nuts and legumes, low-fat dairy products, whole grains • Negative components: sodium, red and processed meats, and sweetened beverages <u>aMED:</u> • Positive components: fish, whole grains, legumes, nuts, fruits, vegetables, and monounsaturated to saturated fat ratios • Negative components: red and processed meat <u>EDIP:</u> • Positive components: Tea, coffee, dark yellow vegetables, leafy green vegetables, snacks, fruit juice, pizza • Negative components: processed meat, red meat, organ meat, other fish, other vegetables, refined grains, high-energy beverages, low-energy beverages, and tomatoes **Outcome and assessment methods:** GWG assessed at: ~10-13 GW to delivery GWG difference between weight at delivery and visit 1. GWGR calculated by dividing GWG by the number of weeks btw the two measurements. GWGR adequacy by 2009 IOM-recommendations.	**Excessive GWGR** Multivariable Poisson Regression Adjusted RR (95% CI) <u>HEI-2010</u> Q1 vs Q4 (Ref): 1.04 (1.00, 1.07), p ≤0.05 Q2 vs Q4 (Ref): 1.05 (1.01, 1.08), p ≤0.05 Q3 vs Q4 (Ref): 1.01 (0.98, 1.05), p>0.05 BMI <25.0: Q1 vs Q4 (Ref): 1.05 (1.00,1.10), p≤0.05 25.0≤BMI≤ 29.9: Q1 vs Q4 (Ref): 1.04 (0.97, 1.06), p>0.05 BMI≥30.0: Q1 vs Q4 (Ref): 1.01 (0.97, 1.06), p>0.05 AAPI: Q1 vs Q4 (Ref): 1.00 (0.94, 1.06), p>0.05 Black: Q1 vs Q4 (Ref): 1.14 (1.02,1.28), p≤0.05 Hispanic: Q1 vs Q4 (Ref): 0.99 (0.95, 1.03), p>0.05 Other/Unknown: Q1 vs Q4 (Ref): 1.15 (0.99,1.35), p>0.05 NHW: Q1 vs Q4 (Ref): 1.07 (1.01,1.12), p≤0.05 <u>DASH</u> Q1 vs Q4 (Ref): 1.00 (0.97, 1.04), p>0.05 Q2 vs Q4 (Ref): 1.02 (0.99, 1.06), p>0.05 Q3 vs Q4 (Ref): 1.03 (0.99, 1.06), p>0.05 <u>aMED</u> Q1 vs Q4 (Ref): 1.00 (0.96, 1.04), p>0.05 Q2 vs Q4 (Ref): 1.00 (0.96, 1.04), p>0.05 Q3 vs Q4 (Ref): 1.02 (0.99, 1.05), p>0.05 <u>EDIP</u> Q4 vs Q1 (Ref): 1.00 (0.97, 1.03), p>0.05 Q3 vs Q1 (Ref): 0.98 (0.95, 1.01), p>0.05 Q2 vs Q1 (Ref): 0.99 (0.96, 1.03), p>0.05	**Key confounders accounted for**: Age, Physical activity, Race and/or ethnicity, Socioeconomic position, Pre-pregnancy BMI, Parity, DM in the current pregnancy **Key confounders not accounted for**: Smoking, HDP in the current pregnancy **Other covariates:** TEI **Limitations**: Some concerns about confounding, missing data, selection of the reported results **Funding:** NIEHS; NIH's ECHO

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
		Inadequate GWGR Multivariable Poisson Regression Adjusted RR (95% CI) HEI-2010 Q1 vs Q4 (Ref): 0.92 (0.82, 1.03), p>0.05 Q2 vs Q4 (Ref): 0.98 (0.88, 1.10), p>0.05 Q3 vs Q4 (Ref): 0.96 (0.86, 1.07), p>0.05 DASH Q1 vs Q4 (Ref): 0.96 (0.85, 1.08), p>0.05 Q2 vs Q4 (Ref): 0.97 (0.87, 1.09), p>0.05 Q3 vs Q4 (Ref): 0.91 (0.81, 1.02), p>0.05 aMED Q1 vs Q4 (Ref): 1.07 (0.94, 1.21), p>0.05 Q2 vs Q4 (Ref): 1.05 (0.92, 1.19), p>0.05 Q3 vs Q4 (Ref): 1.04 (0.94, 1.15), p>0.05 EDIP Q4 vs Q1 (Ref): 0.92 (0.83, 1.03), p>0.05 Q3 vs Q1 (Ref): 0.90 (0.81, 1.00), p>0.05 Q2 vs Q1 (Ref): 0.93 (0.84, 1.03), p>0.05	

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Radwan, 2021[200] **PCS, United Arab Emirates, MISC** Analytic N =243 • Age (%): 18-24.9y: 22.6; 25-34.9y: 51.4; ≥35y: 25.9 • Race/Ethnicity (%): Nationality: Emirati: 40.7; Arab: 59.3 • Socioeconomic position: ○ Education (%): ≤Intermediate: 13.2; University: 32.1 ○ Employment (%): Homemaker: 81.9; Employee: 18.1 ○ Income (%): <10,000 AED: 35.0; ≥10,000 AED: 40.7; Don't know: 24.3 • DM/HDP (%): ○ GDM: 19.3 ○ PE: 0.0	**aMED & LMD** (low vs high alignment) FFQ at: ≥27 GW **DP Descriptions:** <u>aMED:</u> • Positive components: vegetables (not potatoes); legumes; fruit; Nuts; whole grains; fish; MUFA/SFA. • Negative components: red and processed meat <u>Lebanese Mediterranean Diet (LMD):</u> • Positive components: whole grains/bulgur; olive oil; fruits; dried fruits; vegetables; Starchy vegetables; legumes; eggs, dairy **Outcome and assessment methods:** GWG assessed at: Pre-pregnancy to delivery GWGR assessed at: 12 GW to delivery GWG extracted from medical records. GWGR calculated based on assumption that 1 kg gained in TM1. GWG and GWGR adequacy by 2009 IOM recommendations.	**GWG Adequacy** Logistic regression OR (95% CI) <u>aMED</u> Inadequate: High vs low (Ref): 0.31 (0.11, 0.83), p<0.05 Excessive: High vs low (Ref): 0.41 (0.18, 0.93), p<0.05 <u>LMD</u> Inadequate: High vs low (Ref): 0.48 (0.18, 1.34), p=NS Excessive: High vs low (Ref): 0.40 (0.16, 0.98), p<0.05 **GWGR Adequacy** Logistic regression OR (95% CI) <u>aMED</u> Inadequate: High vs low (Ref): 0.46 (0.2, 1.04), p=NS Excessive: High vs low (Ref): 0.52 (0.23, 1.15), p=NS <u>LMD</u> Inadequate: High vs low (Ref): 0.47 (0.2, 1.1), p=NS Excessive: High vs low (Ref): 0.34 (0.14, 0.81), p<0.05	**Key confounders accounted for**: Age, Pre-pregnancy BMI, Parity, HDP in the current pregnancy **Key confounders not accounted for**: Physical activity, Race and/or ethnicity, Socioeconomic position, Smoking, DM in the current pregnancy **Other covariates:** TEI **Limitations**: Issues with confounding, missing data; some concerns about exposure measurement, participant selection **Funding:** Al Jalila Foundation; Vice-Chancellor Research and Graduate Studies Office/University of Sharjah Grant

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Rifas-Shiman, 2009[187] **PCS, United States, Project Viva** Analytic N=1777 • Age: 32.4± 4.9y • Race/Ethnicity (%): White: 72; Black/African American: 12; Other, > 1 race: 16 • Socioeconomic position: ○ Education (%): ≤High school: 9; College graduate: 69 ○ Household income (%): <$40,000/y: 13 • Pre-pregnancy BMI: 24.6± 5.3 • DM/HDP (%): ○ GDM: 5.0	**AHEI-P** (continuous alignment) FFQ at: TM1 (~11wk) and TM2 (~26-28wk) **DP Description**: • Positive components: Vegetables; fruit; white to red meat ratio; fiber; PUFA/SFA; folate; calcium; iron • Negative component: *Trans* fat **Outcome and assessment methods**: GWG assessed at: Pre-pregnancy to last clinical weight Pre-pregnancy weight self-reported at baseline. Last clinical weight taken from medical records. GWG adequacy by 1990 IOM recommendations	**Inadequate GWG** Multinomial logistic regression OR (95% CI) TM1 AHEI-P: 0.95 (0.88, 1.02), p=NS TM2 AHEI-P: 0.99 (0.92, 1.07), p=NS **Excessive GWG** Multinomial logistic regression OR (95% CI) TM1 AHEI-P: 0.99 (0.94, 1.04), p=NS TM2 AHEI-P: 0.99 (0.94, 1.04), p=NS	**Key confounders accounted for**: Age, Race and/or ethnicity, Socioeconomic position, Pre-pregnancy BMI, Parity **Key confounders not accounted for**: Physical activity, Smoking, DM in the current pregnancy, HDP in the current pregnancy **Other covariates**: **Limitations**: Issues with confounding, participant selection, missing data, and selection of the reported results; some concerns about exposure measurement, deviations from intended interventions, and outcome measurement **Funding:** NIH; Harvard Medical School; Harvard Pilgrim Health Care Foundation

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Silva-del Valle, 2013[206] **RCS, Spain, University Hospital Materno Infantil of Gran Canaria** Analytic N =170 • Age (%): 16-20y: T1: 4.5; T3: 4.3; 21-25y: T1: 31.8; T3: 8.7 26-30y: T1: 43.2; T3: 39.1 >31y: T1: 20.5; T3: 47.8 • Race/Ethnicity (%): White Spanish: 100 • Socioeconomic position: ○ Education (%): Lower: T1: 54.5; T3: 26.3; Intermediate: T1: 27.3; T3: 31.6; Higher: T1: 18.2; T3: 42.1 • Pre-pregnancy BMI: T1: 25.1±4.5; T3: 24.3±4.7	**Med Diet** (continuous alignment, tertiles of alignment) FFQ at: First prenatal visit **DP Description:** • Positive components: olive oil as principal fat; olive oil servings; vegetables; fruit; pulses; fish, seafood; nuts; chicken, turkey, or rabbit in place of red meat or sausages; sofrito; wine. • Negative components: red meat/sausages; butter, margarine, cream; carbonated and/or sugar-sweetened beverages; commercial pastries **Outcome and assessment methods:** GWG assessed at: Prepregnancy to delivery Self-reported pre-pregnancy weight and height at first prenatal visit. Pregnancy weights from medical records. GWG adequacy by 2009 IOM recommendations.	**Inadequate GWG** Logistic regression OR (95% CI) Per one point: 1.38 (1.07, 1.79) T3 vs T1 (Ref): 10.35 (1.80, 59.54) T2 vs T1 (Ref): 4.16 (0.84, 20.66) **Adequate GWG** Logistic regression OR (95%CI) Per one point: 0.91 (0.76, 1.09) T3 vs T1 (Ref): 0.59 (0.19, 1.82) T2 vs T1 (Ref): 1.01 (0.38, 2.74) **Excessive GWG** Logistic regression OR (95% CI) Per one point: 0.98 (0.80, 1.20) T3 vs T1 (Ref): 0.82 (0.23, 2.92) T2 vs T1 (Ref): 0.50 (0.17, 1.48)	**Key confounders accounted for**: Age, Race and/or ethnicity, Socioeconomic position, Pre-pregnancy BMI **Key confounders not accounted for**: Physical activity, Smoking, Parity, DM in the current pregnancy, HDP in the current pregnancy **Other covariates**: **Limitations**: Issues with confounding, missing data; some concerns about exposure measurement, participant selection, and selection of the reported results **Funding:** NR

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Tielemans, 2015[188] **PCS, Netherlands, Generation R Study** Analytic N=2748 • Age: ~31.3y • Race/Ethnicity (%): Dutch ancestry: 100 • Socioeconomic position: ○ Education (%): Low and midlow: ~18.2; High: ~30.4 ○ Household income (%): <2200 Euro/mo: ~28.3 • Pre-pregnancy BMI: ~24.7 • Smoking (%): Until pregnancy known: ~8.3; During pregnancy: ~17.4 • DM/HDP (%): ○ GDM: 11.0 ○ HDP: 7.4	**Dutch Healthy Diet Index** (continuous alignment, quartiles of alignment) FFQ at ~13.4wk **DP Description:** • Positive components: vegetables, fruits, fiber, and fish • Negative components: saturated fat and sodium **Outcome and assessment methods**: GWG assessed at: Pre-pregnancy to maximum pregnancy weight Self-reported pre-pregnancy weight collected at enrollment. Self-reported maximum pregnancy weight collected at 6wk postpartum. GWG adequacy by 2009 IOM recommendations.	**Inadequate GWG** Multinomial logistic regression OR (95% CI) Per SD: p=0.07 Q2 vs. Q1 (Ref): 1.04 (0.74, 1.45), p=NS Q3 vs. Q1 (Ref): 0.84 (0.59, 1.20), p=NS Q4 vs. Q1 (Ref): 1.32 (0.92, 1.90), p=NS **Excessive GWG** Multinomial logistic regression OR (95% CI) Per SD: p=0.66 Q2 vs. Q1 (Ref): 0.92 (0.69, 1.24), p=NS Q3 vs. Q1 (Ref): 0.95 (0.70, 1.27), p=NS Q4 vs. Q1 (Ref): 1.11 (0.80, 1.53), p=NS	**Key confounders accounted for**: Age, Race and/or ethnicity, Socioeconomic position, Pre-pregnancy BMI, Smoking, Parity, DM in the current pregnancy, HDP in the current pregnancy **Key confounders not accounted for**: Physical activity **Other covariates**: Alcohol consumption during pregnancy, Stress during pregnancy, Fetal sex **Limitations**: Issues with confounding, outcome measurement, and selection of the reported results; some concerns about exposure measurement, participant selection **Funding**: Erasmus Medical Center; University Medical Centre Rotterdam; the Erasmus University, Rotterdam; the Dutch Ministry of Health, Welfare and Sport; the Netherlands Organization for Health Research and Development; Nestlé Nutrition; Metagenics Inc.

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Yang, 2022[197] **PCS, China, Sichuan Provincial Hospital for Women and Children** Analytic N =1416 • Age (y): IWG: 29.5±4.0; AWG: 28.8±4.1; EWG: 28.3±4.0 • Socioeconomic position: ○ Education (%): ≤Secondary level: IWG: 21.2; AWG: 20.6; EWG: 27.1; Graduate: IWG: 10.0; AWG: 6.5; EWG: 5.4, p=0.016 ○ Household Income (%): ≤451.65 USD/mo: IWG: 3.5; AWG: 3.3; EWG: 3.7; ≥1506.00 USD/mo: IWG: 21.8; AWG: 19.9; EWG: 22.3 • Pre-pregnancy BMI: IWG: 22.0±3.3; AWG: 20.7±2.6; EWG: 21.1±2.6; ○ (%): <18.5: IWG: 17.1; AWG: 16.7; EWG: 11.4; ≥24: IWG: 21.2; AWG: 8.5; EWG: 14.2, p=0.001 • DM/HDP (%): ○ Pre-GDM: 0.0 • Smoking (%): IWG: 1.8; AWG: 3.1; EWG: 4.5	**CHDI-P** (tertiles of alignment) 24 hr recall at: 6-14 GW, 24-28 GW, 32-36 GW **DP Description:** • Positive components: grains, tubers and mixed beans; vegetables and fruits; meat, poultry, fish and eggs; dairy, soybeans and nuts **Outcome and assessment methods:** GWG assessed at: Pre-pregnancy to delivery Pre-pregnancy weight self-reported. Delivery weight measured. GWG adequacy by 2009 IOM recommendations.	**EWG** Multiple logistic regression OR (95% CI) CHDI-P at 6-14 GW (n=1416) T1 vs. T3 (Ref): 0.86 (0.65, 1.14), p=0.29 T2 vs T3 (Ref): 0.90 (0.68, 1.19), p=0.48 CHDI-P at 24-28 GW (n=971) T1 vs. T3 (Ref): 1.53 (1.08,2.17), p=0.02 T2 vs. T3 (Ref): 1.06 (0.75, 1.49), p=0.74 CHDI-P at 32-36 GW (n=997) T1 vs. T3 (Ref): 1.71 (1.21,2.41), p=0.002 T2 vs T3 (Ref): 1.59 (1.13, 2.23), p=0.008 **IWG** Multiple logistic regression OR (95% CI) CHDI-P at 6-14 GW (n=1416) T1 vs T3 (Ref): 1.32 (0.85, 2.06), p=0.22 T2 vs T3 (Ref): 1.40 (0.90, 2.18), p=0.13 CHDI-P at 24-28 GW (n=971) T1 vs T3 (Ref): 1.20 (0.72,1.99), p=0.48 T2 vs T3 (Ref): 0.79 (0.47, 1.31), p=0.36 CHDI-P at 32-36 GW (n=997) T1 vs T3 (Ref): 0.65 (0.38,1.12), p=0.12 T2 vs T3 (Ref) : 0.75 (0.45, 1.25), p=0.27	**Key confounders accounted for**: Age, Physical activity, Pre-pregnancy BMI **Key confounders not accounted for**: Race and/or ethnicity, Socioeconomic position, Smoking, DM in the current pregnancy, HDP in the current pregnancy **Other covariates:** Primigravida (yes/no) **Limitations**: Issues with confounding, missing data; some concerns about selection of the reported results **Funding:** Danone Nutrition Centre for dietary nutrition research and Education
Yong, 2019[192] **PCS, Malaysia, SECOST** Analytic N=480 • Age: 30.16± 4.51y • Race/Ethnicity (%): Malay: 89.0; Non-Malay: 11.0 • Socioeconomic position: ○ Education (y): 12.95± 2.41	**HEI for Malaysians** (continuous alignment) 24 hr recall at: TM1, TM2, and TM3 **DP Description:** • Positive components: Cereals and grains (6-8 svg/d); vegetables (≥3 svg/d); fruits (2 svg/d); milk and milk products (2-3 svg/d); poultry, meat, and eggs (1-2 svg/d); fish and seafood (1 svg/d); legumes (1 svg/d) • Negative components: %E from fat; sodium	**Inadequate GWG** Multinomial logistic regression OR (95% CI) All participants TM1 HEI: 1.01 (0.99, 1.02), p=0.68 TM2 HEI: 0.98 (0.96, 0.98), p=0.03 TM3 HEI: 0.99 (0.97, 1.01), p=0.60	**Key confounders accounted for**: Age, Physical activity, Socioeconomic position, Pre-pregnancy BMI, Parity, **Key confounders not accounted for**: Race and/or ethnicity, Smoking, DM in the current pregnancy, HDP in the current pregnancy **Other covariates**:

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
▪ (%): ≤Secondary: 46.0; ≥Tertiary and above: 21.3 ○ Employed (%): 69.2 ○ Monthly household income (RM): 3698.30± 2034.20 ▪ (%): Low: 63.5; High: 2.9 ○ Household size: 3.78±1.63 ▪ (%): ≤2: 24.2; ≥5: 25.8% • Pre-pregnancy BMI: 24.10± 5.06 ○ (%): <18.5: 10.2; 25-29.9: 22.3; ≥30: 14.4	**Outcome and assessment methods**: GWG assessed at: Pre-pregnancy to last visit Pre-pregnancy weight self-reported. Last weight measured using standard instrument and procedures. GWG adequacy by 2009 IOM recommendations.	Pre-pregnancy BMI <25 TM1 HEI: 1.01 (0.98, 1.03), p=0.74 TM2 HEI: 0.97 (0.95, 0.99), p=0.01 TM3 HEI: 0.99 (0.97, 1.01), p=0.27 Pre-pregnancy BMI >25 TM1 HEI: 1.01 (0.97, 1.04), p=0.69 TM2 HEI: 1.00 (0.96, 1.03), p=0.82 TM3 HEI: 1.01 (0.97, 1.05), p=0.50 **Excessive GWG** Multinomial logistic regression OR (95% CI) All participants TM1 HEI: 1.02 (0.99, 1.03), p=0.52 TM2 HEI: 1.01 (0.98, 1.03), p=0.33 TM3 HEI: 1.04 (1.01, 1.06), p=0.01 Pre-pregnancy BMI <25 TM1 HEI: 1.02 (0.99, 1.05), p=0.34 TM2 HEI: 0.99 (0.96, 1.02), p=0.44 TM3 HEI: 1.04 (1.01, 1.07), p=0.03 Pre-pregnancy BMI >25 TM1 HEI: 0.99 (0.97, 1.03), p=0.95 TM2 HEI: 1.04 (1.01, 1.07), p=0.02 TM3 HEI: 1.04 (1.01, 1.08), p=0.02	**Limitations**: Issues with confounding, participant selection, selection of the reported results; some concerns about exposure measurement, outcome measurement **Funding:** DANONE DUMEX (M) SDN BHD
Factor/Cluster Analysis			

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Berube, 2023[196] **PCS, United States, StEP** Analytic N =500 • Age (y): Western T1: 30±6; Western T3: 27±5, p<0.0001 F&V T1: 27±6; F&V T1: 29±6, p<0.05 • Race/Ethnicity (%): Hispanic/Latina: 100 • Socioeconomic position: ○ Education (%): <High school: 33.6; ≥High school: 66.4 ○ Employed (%): 24.8 • Pre-pregnancy BMI: 27.5±5.5	**Western and F&V DP** (tertiles of alignment) FFQ at: At baseline (28-32 GW) **DP Descriptions:** • Western DP: Characterized by higher intake of cakes, pies and cookies, processed meats, American dishes, candy, sweetened beverages, and salty snacks • Fruits and vegetables (F&V) DP: Characterized by higher intake of nonstarchy vegetables, starchy vegetables, beans and peas, meat/vegetable soups, whole fresh fruit **Outcome and assessment methods:** GWG assessed at: Pre-pregnancy to delivery Pre-pregnancy weight (first measured weight at ≤12 GW) and weight at delivery were extracted from medical records. If the first measured weight taken at >12 GW, self-reported pre-pregnancy weight was used. GWG calculated by subtracting pre-pregnancy weight from weight at delivery. GWG adequacy by 2009 IOM recommendations.	**Inadequate GWG** Multinomial logistic regression OR (95% CI) Western DP T1: Ref; T2: 0.7 (0.4, 1.3); T3: 0.8 (0.4, 1.8), p>0.05 F&V DP T1: Ref; T2: 1.1 (0.6, 1.8); T3: 1.1 (0.6, 2.1), p>0.05 **Excessive GWG** Multinomial logistic regression OR (95% CI) Western DP T1: Ref; T2: 0.9 (0.5, 1.6); T3: 1.2 (0.5, 3.0), p>0.05 F&V DP T1: Ref; T2: 1.1 (0.6, 1.9); T3: 1.2 (0.5, 2.2), p>0.05	**Key confounders accounted for**: Age, Physical activity, Race and/or ethnicity, Socioeconomic position, Pre-pregnancy BMI, Parity **Key confounders not accounted for**: Smoking, DM in the current pregnancy, HDP in the current pregnancy **Other covariates:** TEI **Limitations**: Issues with post-exposure interventions; some concerns about confounding, exposure measurement, participant selection, and selection of the reported results **Funding:** USDA NIFA, NICHD, HRSA

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Hu, 2022[204] **PCS, China, BISCS** Analytic N =1026 • Age (%): <25y: Non-EGWG: 5.5; EGWG: 6.1; ≥35y: Non-EGWG: 17.0; EGWG: 13.9 • Race/Ethnicity (%): Han ethnicity: Non-EGWG: 85.8; EGWG: 81.1; Minority: Non-EGWG: 14.2; EGWG: 18.9, p=0.04 • Socioeconomic position: ○ Education (%):≤High school: Non-EGWG: 19.1; EGWG: 27.5; ≥College: Non-EGWG: 80.9; EGWG 72.5, p≤0.01 ○ Household income (%): <50,000 CNY/y: Non-EGWG: 51.5; EGWG: 54.5; ≥50,000 CNY/y: Non-EGWG: 48.5; EGWG: 45.6 • Pre-pregnancy BMI: (%): <18.5: Non-EGWG: 17.7; EGWG: 8.9; ≥25: Non-EGWG: 12.7; EGWG: 24.1, p≤0.01 • Smoking before or during pregnancy (%): Non-EGWG: 0.4; EGWG: 0.7	**Traditional DP, Sweet foods DP, High protein DP, & MNS DP** (quartiles of alignment) Food Diary at: 22±1.2 GW **DP Descriptions:** • Traditional DP: Characterized by high intakes of tubers; vegetables; fruits; red meat; rice • Sweet foods DP: Characterized by high intakes of sweet beverages; pastry and candy; shrimps, crabs and mussels; fruits • High protein DP: Characterized by high intakes of fried foods; beans and bean products; dairy products; fruits • Milk-nut-seafood (MNS) DP: Characterized by high intakes of milk; nuts; shrimps, crabs and mussels; fruits; dairy products; eggs and egg; pastry and candy; and a lower intake of sweet beverages **Outcome and assessment methods:** GWG assessed at: Pre-pregnancy weight to last measured weight. Pre-pregnancy weight self-reported. Pregnancy weight measured by investigators. GWG: difference between the last measured and pre-pregnancy weight. GWG adequacy by 2009 IOM recommendations.	**Excessive GWG** Logistic regression OR (95% CI) <u>Traditional DP</u> Q4: 1.67 (1.04, 2.67); Q3: 1.62 (1.10, 2.40); Q2: 1.06 (0.73, 1.54); Q1 (Ref) p-for trend= 0.02 <u>Sweet foods DP</u> Q4: 0.94 (0.65, 1.37); Q3: 1.03 (0.71, 1.49); Q2: 0.66 (0.46, 0.95); Q1 (Ref) p-for trend= 0.79 <u>High protein DP</u> Q4: 0.67 (0.46, 0.99); Q3: 0.56 (0.38, 0.81); Q2: 0.66 (0.46, 0.96); Q1 (Ref) p-for trend=0.10 <u>MNS DP</u> Q4: 1.04 (0.70, 1.53); Q3: 0.94 (0.65, 1.37); Q2: 0.83 (0.58, 1.20); Q1 (Ref) p-for trend=0.64	**Key confounders accounted for**: Age, Physical activity, Race and/or ethnicity, Socioeconomic position, Pre-pregnancy BMI, Smoking, Parity **Key confounders not accounted for**: DM in the current pregnancy, HDP in the current pregnancy **Other covariates:** TEI; Other DP score **Limitations**: Issues with missing data; some concerns about confounding, selection of the reported results **Funding:** National Natural Science Foundation of China; Department of Science & Technology of Liaoning Province

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Itani, 2020[201] **PCS, United Arab Emirates, MISC** Analytic N =242 • Age (%): 18-24.9y: 22.7; 25-29.9y: 25.2; ≥30y: 52.1 • Race/Ethnicity (%): Nationality: Emiratis: 40.9; Arabs: 59.1 • Socioeconomic position: ○ Education (%): ≤Primary: 12.8; Intermediate/high school: 55.4; University: 31.8 ○ Family income (%): <10,000 AED/mo: 47.0; >10,000 AED/mo: 53.0 • Pre-pregnancy BMI (%): <25: 40.1; ≥25: 59.9 • DM/HDP (%): ○ GDM: 19.8; ○ T1 or T2 DM: 0.0; ○ HTN or PE: 0.0	**Diverse DP & Western DP** (quartiles of alignment) FFQ at: 27-42 GW **DP Descriptions:** • Diverse DP: High in fruits, vegetables, mixed dishes, meats, dairy, grains, legumes and nuts, fats and oils • Western DP: High in sweets, sweetened beverages, added sugars, fast food, eggs, offals **Outcome and assessment methods:** GWG assessed at: pre-pregnancy to delivery GWG: last weight from medical records measured before delivery minus pre-pregnancy weight. GWG adequacy by 2009 IOM recommendations.	**Insufficient GWG** Logistic regression OR (95% CI) <u>Diverse DP</u> Q4 vs Q1 (Ref): 0.24 (0.06, 0.97), p<0.05 Q3 vs Q1 (Ref): 0.33 (0.09, 1.21), p=NS Q2 vs Q1 (Ref): 0.33 (0.09, 1.17), p=NS <u>Western DP</u> Q4 vs Q1 (Ref): 1.73 (0.4, 7.55), p=NS Q3 vs Q1 (Ref): 1.43 (0.46, 4.48), p=NS Q2 vs Q1 (Ref): 0.95 (0.29, 3.10), p=NS **Excessive GWG** Logistic regression OR (95% CI) <u>Diverse DP</u> Q4 vs Q1 (Ref): 0.40 (0.11, 1.43), p=NS Q3 vs Q1 (Ref): 0.40 (0.12, 1.31), p=NS Q2 vs Q1 (Ref): 0.38 (0.12, 1.22), p=NS <u>Western DP</u> Q4 vs Q1 (Ref):4.04 (1.07, 15.24), p<0.05 Q3 vs Q1 (Ref): 1.67 (0.5, 4.84), p=NS Q2 vs Q1 (Ref): 2.01 (0.71, 5.72), p=NS	**Key confounders accounted for**: Age, Pre-pregnancy BMI, Parity, DM in the current pregnancy, HDP in the current pregnancy **Key confounders not accounted for**: Physical activity, Race and/or ethnicity, Socioeconomic position, Smoking **Other covariates:** TEI **Limitations**: Some concerns about confounding, exposure measurement, participant selection, and selection of the reported results **Funding:** Al Jalila Foundation; University of Sharjah

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Jarman, 2018[202] **PCS, Canada, APrON** Analytic N =1545 • Age (y): 31.4±4.2 • Race/Ethnicity (%): White: 84 • Socioeconomic position: ○ Education (%): <University: 28; University: 72 ○ Household income (%): <$100,000/y: 42; ≥$100,000/y: 58 • Pre-pregnancy BMI (%): <18.5: 3; 18.5-24.9: 65; 25-29.9: 21; ≥30: 11 • DM/HDP (%): ○ GDM: 3.0 ○ HDP: 6.0 • Smoking (%): 1.0	**Tea and Coffee DP** (continuous alignment) FFQ at: Median: 17 GW **DP Description:** • Tea and Coffee DP: Higher in coffee, tea (both regular and decaffeinated), reduced-fat milk, full-fat milk, cream and added sugar **Outcome and assessment methods:** GWG assessed at: Pre-pregnancy to highest pregnancy weight. In cases in which the participant did not report their highest weight or reported a weight that was lower than had been measured during TM3, GWG calculated using measured weight in TM3. Excessive GWG by 2009 IOM recommendations.	**Excessive GWG** Forward step-wise logistic regression OR (95% CI) 1.1 (0.98, 1.3), p=0.07	**Key confounders accounted for**: Age, Physical activity, Race and/or ethnicity, Socioeconomic position, Pre-pregnancy BMI, Smoking, Parity **Key confounders not accounted for**: DM in the current pregnancy, HDP in the current pregnancy **Other covariates:** TEI **Limitations**: Issues with missing data; some concerns about confounding, selection of the reported results **Funding:** Alberta Innovates Health Solutions

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Li, 2021[194] **PCS, China, Tongji MCHC** Analytic N =3334 • Age (y): 28.1±3.5 • Race/Ethnicity (%): Han ethnicity: 97.0 • Socioeconomic position: ○ Education (%): ≤9y: 3.5; 10-12y: 13.2; ≥16y: 53.9; ○ Average personal income (%): ≤1000 CNY/mo: 0.4; 1001-2999 CNY/mo: 7.5; ≥10,000 CNY/mo: 16.2; • Pre-pregnancy BMI: 20.77±2.71 ○ (%): <18.5: 20; 24-27.9: 10.0; ≥28: 1.7 • Smoking (%): Pre-pregnancy: 3.6	**BV DP, FME DP, NWG DP, OPS DP, & RWF DP** (continuous alignment, quartiles of alignment) FFQ at: 24-28 GW **DP Descriptions:** • Beans-vegetables (BV) DP: Higher in root vegetables; mushrooms and algae; melon and solanaceous vegetables; beans and bean products (soybean, mung bean, soybean milk, bean curd, etc); leafy and cruciferous vegetables • Fish-meat-eggs (FME) DP: Higher in red meat; freshwater fishes; eggs • Nuts-whole grains (NWG) DP: Higher in nuts; whole grains, dairy products • Organ-poultry-seafood (OPS) DP: Higher in animal organ and blood; seafood; poultry • Rice-wheat-fruits (RWF) DP: Higher in rice and wheat products; fruits **Outcome and assessment methods:** GWG assessed at: Pre-pregnancy to delivery GWG: investigator-measured weight at delivery minus self-reported pre-pregnancy weight. GWG adequacy by 2009 IOM recommendations	**Excessive GWG** Logistic regression OR (95% CI) BV DP: 0.84 (0.77, 0.91), p<0.001 FME DP: 1.07 (0.99. 1.16), p>0.05 NWG DP: 1.07 (0.99. 1.15), p>0.05 OPS DP: 0.94 (0.87, 1.01), p>0.05 RWF DP: 1.01 (0.92, 1.12), p>0.05 **Adequate GWG** Logistic regression OR (95% CI) BV DP: 1.11 (1.03, 1.21), p<0.05 FME DP: 1.04 (0.96, 1.13), p>0.05 NWG DP: 1.02 (0.94, 1.11), p>0.05 OPS DP: 1.04 (0.96, 1.12), p>0.05 RWF DP: 1.14 (1.02, 1.26), p<0.05 **Insufficient GWG** Logistic regression OR (95% CI) BV DP: 1.14 (1.03, 1.26), p<0.05 FME DP: 0.85 (0.77, 0.95), p<0.05 NWG DP: 0.87 (0.79, 0.96), p<0.05 OPS DP: 1.06 (0.96, 1.17), p>0.05 RWF DP: 0.83 (0.74, 0.93), p<0.05	**Key confounders accounted for**: Age, Physical activity, Race and/or ethnicity, Socioeconomic position, Pre-pregnancy BMI, Smoking, Parity, DM in the current pregnancy **Key confounders not accounted for**: HDP in the current pregnancy **Other covariates**: Ethnology, family history of diabetes, family history of obesity, alcohol consumption before pregnancy, other 4 DP **Limitations**: Some concerns about confounding, selection of the reported results **Funding**: National Program on Basic Research Project of China, National Natural Science Foundation of China, Chinese Nutrition Society Nutrition Science Foundation
Tielemans, 2015[188] **PCS, Netherlands, Generation R Study** Analytic N=2748	**Vegetable, Oil and Fish DP, Nuts, High-Fiber Cereals and Soy DP, & Margarine, Sugar and Snacks DP** (continuous alignment, quartiles of alignment) FFQ at: ~13.4 GW **DP Descriptions:**	**Inadequate GWG** Multinomial logistic regression OR (95% CI) Vegetable, Oil and Fish DP	**Key confounders accounted for**: Age, Race and/or ethnicity, Socioeconomic position, Pre-pregnancy BMI, Smoking, Parity

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
• Age: ~31.3y • Race/Ethnicity (%): Dutch ancestry: 100 • Socioeconomic position: ○ Education (%): Low and midlow: ~18.2; High: ~30.4 ○ Household income (%): <2200 Euro/mo: ~28.3 • Pre-pregnancy BMI: ~24.7 • Smoking (%): Until pregnancy known: ~8.3; During pregnancy: ~17.4 • DM/HDP (%): ○ GDM: 11.0 ○ HDP: 7.4	• Vegetable, Oil and Fish DP: higher intake of vegetables, high fat dairy products, cereals (both low and high fiber), fish and shellfish, eggs and egg products, vegetable oils, coffee and tea, alcoholic beverages and legumes • Nuts, High-Fiber Cereals and Soy DP: higher intake of potatoes and other tubers, fruits, high and low fat dairy products, high fiber cereals, meat and meat products, fish and shellfish, coffee and tea, sugar-containing beverages, light soft drinks, nuts, seeds and olives, and soy products • Margarine, Sugar and Snacks DP: higher intake of potatoes and other tubers, high fat dairy products, low and high fiber cereals, meat and meat products, margarine and butter, sugar and confectionary and cakes, snacks, sugar-containing beverages, condiments and sauces, nuts, seeds and olives **Outcome and assessment methods**: GWG assessed at: Pre-pregnancy to maximum pregnancy weight Self-reported pre-pregnancy weight collected at enrollment. Self-reported maximum pregnancy weight collected at 6wk postpartum. GWG adequacy by 2009 IOM recommendations.	Per SD: p=0.21 Q2 vs. Q1 (Ref): 0.85 (0.60, 1.22), p=NS Q3 vs. Q1 (Ref): 0.86 (0.60, 1.23), p=NS Q4 vs. Q1 (Ref): 0.84 (0.58, 1.22), p=NS <u>Nuts, High-Fiber Cereals and Soy DP</u> Per SD: p=0.76 Q2 vs. Q1 (Ref): 0.77 (0.53, 1.13), p=NS Q3 vs. Q1 (Ref): 0.86 (0.59, 1.25), p=NS Q4 vs. Q1 (Ref): 0.85 (0.58, 1.24), p=NS <u>Margarine, Sugar and Snacks DP</u> Per SD: p=0.73 Q2 vs. Q1 (Ref): 0.97 (0.69, 1.36), p=NS Q3 vs. Q1 (Ref): 0.93 (0.66, 1.32), p=NS Q4 vs. Q1 (Ref): 0.98 (0.69, 1.40), p=NS **Excessive GWG** Multinomial logistic regression OR (95% CI) <u>Vegetable, Oil and Fish DP</u> Per SD: p=0.91 Q2 vs. Q1 (Ref): 1.08 (0.79, 1.48), p=NS Q3 vs. Q1 (Ref): 1.05 (0.76, 1.46), p=NS Q4 vs. Q1 (Ref): 1.06 (0.76, 1.48), p=NS <u>Nuts, High-Fiber Cereals and Soy DP</u> Per SD: p=0.46 Q2 vs. Q1 (Ref): 1.16 (0.82, 1.62), p=NS Q3 vs. Q1 (Ref): 1.26 (0.89, 1.77), p=NS Q4 vs. Q1 (Ref): 1.09 (0.77; 1.53), p=NS <u>Margarine, Sugar and Snacks DP</u> Per SD: p=0.09 Q2 vs. Q1 (Ref): 1.40 (1.04, 1.90), p<0.05 Q3 vs. Q1 (Ref): 1.37 (1.00, 1.87), p=NS Q4 vs. Q1 (Ref):1.45 (1.06, 1.99), p<0.05	**Key confounders not accounted for**: Physical activity, DM in the current pregnancy, HDP in the current pregnancy **Other covariates**: Alcohol consumption during pregnancy, Stress during pregnancy, Fetal sex **Limitations**: Issues with confounding, outcome measurement, and selection of the reported results; some concerns about exposure measurement, participant selection **Funding**: Erasmus Medical Center; University Medical Centre Rotterdam; the Erasmus University, Rotterdam; the Dutch Ministry of Health, Welfare and Sport; the Netherlands Organization for Health Research and Development; Nestlé Nutrition; Metagenics Inc.

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Wei, 2019[190] **PCS, China, BIGCS** Analytic N=5,733 • Age: ~29.1y • Socioeconomic position: ○ Education (%): ≤High school: 8.0; Vocational/technical college: 23.6; Postgraduate: 12.9 ○ Income (%): ≤1500 Yuan/mo: 9.3; ≥9001 Yuan/mo: 16.9 • Pre-pregnancy BMI: 20.4± 2.6 • Smoking (%): 29.7	**Cereals DP, Vegetables DP, Meats DP, Fruits DP, Fish, beans, nuts, and yogurt DP, & Milk and milk powder DP** (Cereals DP vs. all other DP) FFQ at: 24-27 GW **DP Descriptions:** • Cereals DP: Higher in cereals • Vegetables DP: Higher in vegetables • Meats DP: Higher in meats • Fruits DP: Higher in fruits • Fish, beans, nuts, and yogurt DP: Higher in fish, beans, nuts, and yogurt • Milk and milk powder DP: Higher in milk and milk powder **Outcome and assessment methods**: GWG assessed at: Pre-pregnancy to delivery Pre-pregnancy weight self-reported, weight before delivery measured at admission. GWG adequacy by 2009 IOM recommendations.	**Inadequate GWG** Logistic regression OR (95% CI) Cereals: Ref Vegetables: 1.045 (0.835, 1.309), p=NS Meats: 0.903 (0.713, 1.144), p=NS Fruits: 0.904 (0.689, 1.187), p=NS Fish, beans, nuts, and yogurt: 0.797 (0.638, 0.997), p<0.05 Milk and milk powder: 0.852 (0.664, 1.094), p=NS **Excessive GWG** Logistic regression OR (95% CI) Cereals: Ref Vegetables: 1.175 (0.954, 1.447), p=NS Meats: 0.914 (0.733, 1.139), p=NS Fruits: 1.393 (1.101, 1.763), p<0.05 Fish, beans, nuts, and yogurt: 1.094 (0.894, 1.338), p=NS Milk and milk powder: 1.164 (0.932, 1.454), p=NS	**Key confounders accounted for**: Age, Socioeconomic position, Pre-pregnancy BMI, Parity **Key confounders not accounted for**: Physical activity, Race and/or ethnicity, Smoking, DM in the current pregnancy, HDP in the current pregnancy **Other covariates:** Gestational age at delivery **Limitations**: Issues with confounding, exposure measurement, participant selection, missing data, and selection of the reported results; some concerns about deviations from intended exposures, outcome measurement **Funding:** Guangzhou Science and Technology Bureau; National Natural Science Foundation of China
Reduced Rank Regression			

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding

Alves-Santos, 2018
 	
PCS, Brazil, Municipal Health Centre Heitor Beltrão
Analytic N =173
 	
• Age (y): 26.7±5.5
• Socioeconomic position:
  ○ Per-capita family income (R$): 524.3±316.1
  ○ Education (y): 8.6±2.9
• Pre-pregnancy BMI: 24.9±4.2
  ○ (%): ≥25: 40.5
• DM/HDP (%):
  ○ Blood glucose alterations during pregnancy: 0.0
  ○ HOMA-IR: 1.2±0.8
• Smoking (%): 6.4
	Common-Brazilian DP & Western DP (tertiles of alignment)
	FFQ at: 30-36 GW
	
	DP Descriptions:
	
	• Common-Brazilian DP: Higher in beans; rice
	Lower in fast food and snacks; candies and table sugar; processed meats and bacon
	
	• Western DP: Higher in fast food and snacks; processed meat and bacon
	Lower in noodles, pasta, roots, and tubers; sodas
	
	Outcome and assessment methods:
	GWG assessed at: 5-13 GW to 38-40 GW
	Weight measured by investigators. GWG: difference between weight at the last visit before delivery and the first study visit. GWG adequacy by 2009 IOM recommendations.
		Excessive GWG
		Logistic regression
		OR (95% CI)
		
		Common-Brazillian DP
		T2: 0.76 (0.33, 1.71); T1 (Ref), p=0.51
		T3: 0.74 (0.32, 1.72); T1 (Ref), p=0.49
		
		Western DP
		T2: 1.37 (0.59, 3.18); T1 (Ref), p=0.46
		T3: 1.33 (0.57, 3.11); T1 (Ref), p=0.50
			Key confounders accounted for: Pre-pregnancy BMI, Parity, DM in the current pregnancy
			
			Key confounders not accounted for: Age, Physical activity, Race and/or ethnicity, Socioeconomic position, Smoking, HDP in the current pregnancy
			
			Other covariates:
			
			Limitations: Issues with confounding, exposure measurement, and participant selection; some concerns about selection of the reported results
			
			Funding: The Carlos Chagas Filho Research Foundation from the State of Rio de Janeiro (FAPERJ)

[a] Abbreviations: AAPI: Asian American Pacific Islander; Adj Diff: adjusted difference; AHEI: alternative healthy eating index; AHEI-P: Alternate Healthy Eating Index for Pregnancy; aMED: alternate Mediterranean Diet Score; AWG: adequate weight gain; BIGCS: Born in Guangzhou Cohort Study; BMI: body mass index; CHDI-P: Chinese Healthy Diet Index for Pregnancy; CI: confidence interval; d: day(s); DASH: Dietary Approaches to Stop Hypertension; DII: Dietary inflammatory index; DM: diabetes mellitus; DP: dietary pattern; EDIP: Empirical Dietary Inflammatory Score; EGWG: excessive gestational weight gain; EVOO: extra virgin olive oil; EWG: excessive weight gain; FFQ: food frequency questionnaire; g: gram(s); GA: gestational age; GDM: gestational diabetes mellitus; GESTAFIT: GESTAtion and FITness; GW: gestational week(s); GWG: gestational weight gain; GWGR: rate of gestational weight gain; HDP: hypertensive disorders of pregnancy; HEI: healthy eating index; HELLP: Hemolysis, Elevated Liver enzymes and Low Platelets; hPDI: healthy plant-based diet index; hr: hour; HTN: hypertension; IOM: Institute of Medicine; IQR: interquartile range; IWG: insufficient weight gain; kcal: kilocalories; kg: kilogram(s); LMD: Lebanese Mediterranean Diet; MDQS: Maternal Diet Quality Score; Med: Mediterranean; MEDAS: Mediterranean diet adherence screener; mo: month; MoBa: Mothers and Babies cohort; MOMFIT: Maternal Offspring Metabolics Family Intervention Trial; MUFA: monounsaturated fatty acid; NFFD: Norwegian Fit for Delivery; NHB: non-Hispanic Black; NHLBI: National Heart, Lung, and Blood Institute; NHW: non-Hispanic White; NICHD: National Institute of Child Health and Development; NIDDK: National Institute of Diabetes and Digestive and Kidney Diseases; NIEHS: National Institute of Environmental Health Sciences; NIFA: National institute of Food and Agriculture; NIH: National Institutes of Health; NINDS: National Institute of Neurological Disorders and Stroke; NND: New Nordic Diet; NR: not reported; NS: non-significant; NVP: nausea and vomiting in pregnancy; OR: odds ratio; PCS: prospective cohort study; PDI: plant-based diet index; PE: preeclampsia; PETALS: Pregnancy Environment and Lifestyle Study; PREWICE: PREgnant Women of Iceland; PRINCESA: Pregnancy Research on Inflammation; Nutrition and City Environments: Systematic Analyses; PUFA: polyunsaturated fatty acid; Q#: quartile; RCT: randomized controlled trial; Ref: reference; SD: standard deviation; SE: standard error; SECOST: Seremben Cohort Study; SEIFA IRSD: Socio-economic Index for Areas—Index of Relative Socio-economic Disadvantage; SEP: socioeconomic position; SFA: saturated fatty acid; svg: serving(s); T#: tertile; TEI: total energy intake; TM#: trimester; uPDI: unhealthy plant-based diet index; USDA: U.S. Department of Agriculture; wk: week(s); y: year(s)

Table 22. Risk of bias for randomized controlled trials examining dietary patterns consumed during pregnancy and gestational weight gain[a]

Article	Randomization	Deviations from intended interventions (effect of assignment)	Missing outcome data	Outcome measurement	Selection of the reported result	Overall risk of bias
Assaf-Balut, 2019[183]	LOW	HIGH	LOW	LOW	HIGH	HIGH
Dodd, 2019[184]	LOW	LOW	LOW	LOW	LOW	LOW
Van Horn, 2018[185]	LOW	HIGH	LOW	LOW	LOW	HIGH

[a] Possible ratings of low, some concerns, or high determined using the "Cochrane Risk-of-bias 2.0" (RoB 2.0) (August 2019 version)" (Sterne JAC, Savović J, Page MJ, Elbers RG, Blencowe NS, Boutron I, Cates CJ, Cheng H-Y, Corbett MS, Eldridge SM, Hernán MA, Hopewell S, Hróbjartsson A, Junqueira DR, Jüni P, Kirkham JJ, Lasserson T, Li T, McAleenan A, Reeves BC, Shepperd S, Shrier I, Stewart LA, Tilling K, White IR, Whiting PF, Higgins JPT. RoB 2: a revised tool for asSEPsing risk of bias in randomised trials. *BMJ* 2019; **366**: l4898.

Table 23. Risk of bias for observational studies examining dietary patterns consumed during pregnancy and gestational weight gain (ROBINS-E)[a]

Article	Confounding	Exposure measurement	Selection of participants	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall risk of bias
Acosta-Manzano, 2022[198]	HIGH	LOW	HIGH	SOME CONCERNS	HIGH	LOW	SOME CONCERNS	HIGH
Alves-Santos, 2018[205]	HIGH	VERY HIGH	HIGH	LOW	LOW	LOW	SOME CONCERNS	VERY HIGH
Augustin, 2020[212]	HIGH	VERY HIGH	SOME CONCERNS	LOW	HIGH	LOW	SOME CONCERNS	VERY HIGH
Berube, 2023[196]	SOME CONCERNS	SOME CONCERNS	SOME CONCERNS	HIGH	LOW	LOW	SOME CONCERNS	HIGH
Cummings, 2022[203]	HIGH	SOME CONCERNS	LOW	LOW	SOME CONCERNS	LOW	SOME CONCERNS	HIGH
Hu, 2022[204]	SOME CONCERNS	LOW	LOW	LOW	VERY HIGH	LOW	SOME CONCERNS	VERY HIGH
Itani, 2020[201]	SOME CONCERNS	SOME CONCERNS	SOME CONCERNS	LOW	LOW	LOW	SOME CONCERNS	SOME CONCERNS
Jarman, 2018[202]	SOME CONCERNS	LOW	LOW	LOW	HIGH	LOW	SOME CONCERNS	HIGH
Jayedi, 2023[199]	SOME CONCERNS	LOW	LOW	LOW	HIGH	LOW	HIGH	HIGH
Li, 2021[194]	SOME CONCERNS	LOW	LOW	LOW	LOW	LOW	SOME CONCERNS	SOME CONCERNS
Liu, 2023[195]	SOME CONCERNS	LOW	LOW	LOW	SOME CONCERNS	LOW	SOME CONCERNS	SOME CONCERNS
Radwan, 2021[200]	HIGH	SOME CONCERNS	SOME CONCERNS	LOW	LOW	LOW	HIGH	HIGH
Silva-del Valle, 2013[206]	HIGH	SOME CONCERNS	SOME CONCERNS	LOW	HIGH	LOW	SOME CONCERNS	HIGH
Yang, 2022[197]	HIGH	LOW	LOW	LOW	HIGH	LOW	SOME CONCERNS	HIGH

Table 24. Risk of bias for observational studies examining dietary patterns consumed during pregnancy and gestational weight gain (RoB-NObs)[*]

Article	Confounding	Classification of exposures	Selection of participants	Deviations from intended exposures	Missing data	Outcome measurement	Selection of the reported result
Ancira-Moreno, 2019[191]	SERIOUS	SERIOUS	SERIOUS	LOW	MODERATE	MODERATE	SERIOUS
Hillesund, 2014[186]	SERIOUS	MODERATE	SERIOUS	MODERATE	MODERATE	SERIOUS	SERIOUS
Hillesund, 2018[193]	SERIOUS	SERIOUS	MODERATE	MODERATE	SERIOUS	MODERATE	SERIOUS
Hrolfsdottir, 2019[189]	SERIOUS	MODERATE	MODERATE	LOW	SERIOUS	MODERATE	SERIOUS
Rifas-Shiman, 2009[187]	SERIOUS	MODERATE	SERIOUS	MODERATE	SERIOUS	MODERATE	SERIOUS
Tielemans, 2015[188]	SERIOUS	MODERATE	MODERATE	LOW	LOW	SERIOUS	SERIOUS
Wei, 2019[190]	SERIOUS	SERIOUS	SERIOUS	NO INFORMATION	SERIOUS	MODERATE	SERIOUS
Yong, 2019[192]	SERIOUS	MODERATE	SERIOUS	NO INFORMATION	NO INFORMATION	MODERATE	SERIOUS

[a] Possible ratings of low, moderate, serious, critical, or no information determined using the "Risk of Bias in Non-randomized Studies of Exposures (ROBINS-E)" tool (ROBINS-E Development Group (Higgins J, Morgan R, Rooney A, Taylor K, Thayer K, Silva R, Lemeris C, Akl A, Arroyave W, Bateson T, Berkman N, Demers P, Forastiere F, Glenn B, Hróbjartsson A, Kirrane E, LaKind J, Luben T, Lunn R, McAleenan A, McGuinness L, Meerpohl J, Mehta S, Nachman R, Obbagy J, O'Connor A, Radke E, Savović J, Schubauer-Berigan M, Schwingl P, Schunemann H, Shea B, Steenland K, Stewart T, Straif K, Tilling K, Verbeek V, Vermeulen R, Viswanathan M, Zahm S, Sterne J). Risk Of Bias In Non-randomized Studies - of Exposure (ROBINS-E). Launch version, 1 June 2022. Available from: https://www.riskofbias.info/welcome/robins-e-tool.) *Low risk of bias except for concerns about uncontrolled confounding.

[*] Possible ratings of low, moderate, serious, critical, or no information determined using the "Risk of Bias for Nutrition Observational Studies" tool (RoB-NObs) (Dietary Guidelines Advisory Committee. 2020. *Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services*. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC.)

Dietary patterns during postpartum

Description of the evidence

This systematic review included seven articles[198,203,207-212] (one RCT and six PCS) that address the relationship between dietary patterns consumed during postpartum and postpartum weight change (PPWC). The search included articles from high and very high Human Development Index* countries and the search time frame spanned between January 2000 and May 2023. Studies in this body of evidence included individuals during postpartum including those with overweight and obesity. Sample size in the included studies ranged between 102 to 1136 participants. Five of these seven studies were conducted in the U.S (all of which represented unique cohorts) [203,207,209-211] and the others were conducted in Spain[198] and China.[208]

Participant characteristics:

Age: Most of the participants were 20-35 years old, with one study conducted in China reporting that 14% of the participants were 35-45 years old.

Pre-pregnancy BMI: Three studies enrolled participants who had overweight/obesity,[209,211,203] while two other studies reported that almost half of the participants had a pre-pregnancy BMI ≥25 kg/m^2. Acosta-Manzano et al., reported a mean pre-pregnancy BMI of 23.7 kg/m^2 [198] and Li et al., did not report pre-pregnancy BMI.[208]

Race and/or ethnicity: Studies conducted in the U.S., reported that ≥50% of participants were White; studies conducted in Spain and China did not report race and/or ethnicity information.

Socioeconomic position: The majority of participants in these studies had at least some college education. One study conducted in the U.S. reported that 35% of the participants were from low-income families,[207] while another U.S., study noted that half of the participants had household income >$60,000.[211]

Smoking: Most studies reported that none or <10% of the participants were smokers. Notable exceptions were two studies that reported that 16-18% of the participants were former or current smokers.[203,207]

Gestational weight gain (GWG): Three studies noted that ~45-~60% of the participants reported excessive GWG.[203,207,209] One study noted that GWG was ~15 kg and another study reported GWG of ~11 kg, until 33 weeks. Stendell-Hollis et al.,[210] and Li et al.,[208] did not report GWG of the participants.

Human milk feeding status: One trial exclusively enrolled participants who were lactating,[210] while two other studies reported that about half of the participants were feeding human milk at baseline.[208,211] One study reported a human milk feeding score[207] and two others did not report on human milk feeding status.[198,203]

* The Human Development classification was based on the Human Development Index (HDI) ranking from the year the study intervention occurred or data were collected (UN Development Program. HDI 1990-2017 HDRO calculations based on data from UNDESA (2017a), UNESCO Institute for Statistics (2018), United Nations Statistics Division (2018b), World Bank (2018b), Barro and Lee (2016) and IMF (2018). Available from: http://hdr.undp.org/en/data). If the study did not report the year in which the intervention occurred or data were collected, the HDI classification for the year of publication was applied. HDI values are available from 1980, and then from 1990 to present. If a study was conducted prior to 1990, the HDI classification from 1990 was applied. When a country was not included in the HDI ranking, the current country classification from the World Bank was used instead (The World Bank. World Bank country and lending groups. Available from: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world- country-and-lending-groups).

Intervention/exposure

In this body of evidence, dietary patterns were assessed using 1) index/score analysis, 2) factor/cluster analysis, and 3) an experimental diet. Below is the description of studies categorized by the methods used to measure the dietary patterns (**Table 25**).

Four articles used one or more of the following indices/scores:

- Mediterranean Diet Score[198]
- Alternate Mediterranean Diet Score (aMED), Alternative Healthy Eating Index-2010 (AHEI-2010)[207]
- HEI-2005[211]
- Nova ultra-processed[203]

Two articles assessed dietary patterns using factor/cluster analysis, which the authors labeled as:

- Plant food, Diverse, Traditional northern, Marine-flour[208]
- Junk food, Healthy food[209]

One trial was designed to assess the effects of a Mediterranean diet vs. USDA MyPyramid diet on PPWC.[210]

Table 25. List of dietary patterns consumed during postpartum that were examined in relation to postpartum weight change

Reference	Dietary pattern	Dietary components
Index/Score Analysis		
Acosta-Manzano[198]	Mediterranean Diet Score Index	Positive components*: fruits; vegetables; fish Negative components†: red meat/subproducts Unclear: whole-grain cereals; potatoes; pulses; olive oil; poultry; dairy products Alcohol component excluded
Boghossian[207]	aMED	Positive components: vegetables (excluding potatoes), legumes, fruit, nuts, whole grains, fish, ratio of monounsaturated fat to saturated fat Negative components: red and processed meat
	AHEI-2010	Positive components: vegetables (excluding potatoes), whole fruit, whole grains, nuts and legumes, % energy intake from PUFAs, long-chain (n-3) fats Negative components: SSB and fruit juice, red and processed meat, % energy from trans-fat, sodium
Cummings[203]	Nova	"Instant" foods; ready-to-heat pre-prepared pies, pasta, and pizza dishes; mass-produced packaged breads; reconstituted meats; sweet or savory packaged snacks; confectionery desserts; sweetened drinks
Wiltheiss[211]	HEI-2005	Positive components: total fruit, whole fruit, total vegetables, dark green and orange vegetables and legumes, total grains, whole grains, milk, meat and beans, oils Negative components: saturated fat, sodium, calories from solid fats, alcoholic beverages, and added sugars
Factor/Cluster Analysis‡		
Li[208]	Plant food	Higher intake of rice and vegetables
	Diverse	Higher intake of starchy roots, fruit, livestock meat, aquatic products

* Positive and negative components, as indicated by the authors in the article.

† Positive and negative components, as indicated by the authors in the article.

‡ Author-derived dietary pattern

Reference	Dietary pattern	Dietary components
	Traditional northern	Higher intake of poultry, eggs, soup
	Marine-flour	Higher intake of flour, coarse food grains, marine fish
Østbye, 2012[209]	Junk food	Higher intake of soda, sweetened drinks, French fries and chips, fast food
	Healthy food	Higher intake of milk, fruit, vegetables
Experimental diet		
Stendell-Hollis[210]	MED	Plant-based diet with whole grains, fresh fruits and vegetables, legumes and nuts, fish and poultry, olive oil, and low-fat dairy products, limited intake of red meat and processed meats/foods (≤2 servings/mo). Participants instructed to consume study-provided walnuts (28 g/d), 1–2 tbsp/d of olive oil, and ≥7 servings/d of fruits and vegetables. Participants encouraged to consume ≥6 servings/d of whole grains, ≥ 2 servings/d of fish per week, and to increase consumption of legumes while limiting the intake of whole fat dairy products, red meats, processed foods, desserts, and non-olive oil fat sources
	USDA MyPyramid	Emphasizes healthy eating choices. Intake of nuts, the use of olive oil, and an increase in fruits and vegetables were de-emphasized in order to differentiate from the MED diet

Outcomes

PPWC was assessed at different time points using different methods across the included studies:

- Stendell-Hollis et al.,[210] assessed PPWC as the difference in weight measured by investigators at baseline (~17.5 wk postpartum) and follow-up (four mo after baseline).
- Acosta-Manzano et al.,[198] assessed PPWC as the difference in pre-pregnancy weight (self-reported) and weight at six wk postpartum (assessed by the investigator).
- Boghossian et al.,[207] assessed the difference between pre-pregnancy weight and weight at 21-34 wk, 35-48 wk, and 49-62 wk postpartum. All outcome measures were self-reported. The authors also assessed substantial PPWC, defined as weight ≥4.55 kg above pre-pregnancy weight, at multiple time-points during the postpartum period.
- Wiltheiss et al.,[211] assessed PPWC as change in weight from ~five mo to ~15 mo postpartum and weight was measured by the investigators.

- Østbye et al.,[209] reported PPWC as the weight change between baseline (six wk postpartum) and follow-up at 12 mo, 18 mo and 24 mo postpartum. Weight was measured by the investigators.
- Li et al.,[208] defined PPWC as weight at 42 d (self-report) or six mo postpartum (investigator measured) minus pre-pregnancy weight (data record from antenatal examination).
- Cummings et al.,[203] assessed PPWC as the change in weight between baseline (<12 weeks of pregnancy) and one year postpartum, both measured by the investigators. Percent of GWG retained was calculated by multiplying 100 by the difference in weight between the last prenatal medical visit (investigator measured) and one year postpartum (investigator measured), divided by GWG.

Synthesis of the evidence

Table 27 presents the summary of the included studies and the risk of bias information are presented in **Table 28** and **Table 29**. Overall, most studies did not show an association between dietary patterns consumed during postpartum and PPWC.

- Stendell-Hollis et al.[210] compared the change in weight between participants randomized to two different diets: MED diet and the USDA MyPyramid diet. While both groups experienced a significant decrease in mean weight (kg) when compared to their respective baseline weight, the change in weight was not significantly different between the groups. This trial had a high risk of bias, primarily due to the deviation from intended intervention.
- Four PCS assessed dietary patterns using an index/score, (i.e., Med Diet score,[198] aMED,[207] AHEI-2010,[207] HEI-2005[211] and Nova ultra-processed[203]) none of which were associated with PPWC. In addition, Cummings et al.,[203] assessed percent GWG retained, which was also not associated with the Nova ultra-processed dietary pattern. All four studies had a high risk of bias because of concerns with confounding and missing data.
- Li et al.**[208]** showed that the “Plant food” dietary pattern was associated with greater PPWC at 42 d postpartum, but not at six mo postpartum. On the other hand, the “Diverse” dietary pattern was associated with lower PPWC at six mo only. There were no associations between the “Traditional northern” and “Marine-flour” dietary patterns and PPWC at 42 d or six mo postpartum. This study had a very high risk of bias because of concerns with confounding, missing data, exposure and outcome measurements.
- Østbye et al.[209] noted that the “Junk food” dietary pattern was associated with greater PPWC at 12, 18 and 24 mo postpartum, whereas the “Healthy food” dietary pattern was not associated with PPWC at any of these time points. Østbye et al. had a high risk of bias because of missing data and selection of reported results.

The lack of association between dietary patterns during postpartum and postpartum weight change in this body of evidence may be due to methodological limitations, as noted by high or very high risk of bias in all the studies. Specifically, many observational studies had issues with confounding and missing data. The RCT also had issues with deviation from the intended intervention. There was considerable heterogeneity in the dietary patterns which limited the ability to compare patterns across studies in the body of evidence. Further, there were differences in outcome assessment, including the number of measurements, the duration of follow-up, and whether the outcome was self-reported or investigator measured. There were concerns with precision, with only one trial being included which also had notable limitations. Further, studies were not entirely

generalizable since they did not reflect the diversity of the U.S. population. This body of evidence included both large and small studies with significant as well as null findings, so publication bias may have been less likely.

Conclusion statement and grade

The 2025 Dietary Guidelines Advisory Committee developed a conclusion statement to answer the question, “What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity?” based on their review of the body of evidence examining dietary patterns consumed during postpartum and postpartum weight change. (**Table 26**).

Table 26. Conclusion statement, grades for dietary patterns during postpartum and postpartum weight change

Conclusion Statement	A conclusion statement cannot be drawn about the relationship between dietary patterns consumed during postpartum and postpartum weight change because there are substantial concerns with consistency, precision, risk of bias and generalizability in the body of evidence.
Grade	Grade not assignable
Body of Evidence	7 articles: 1 RCT and 6 PCS
Rationale	The available evidence was too inconsistent to draw meaningful conclusions on the relationship between dietary patterns consumed during postpartum and postpartum weight change (PPWC). There was considerable heterogeneity in the dietary patterns, timing, and methodology of PPWC assessment. All studies had high or very high risk of bias. There were issues with precision, with only one trial being included which had notable limitations. Further, studies were not entirely generalizable since they did not reflect the diversity of the U.S. population.

Table 27. Evidence examining the relationship between dietary patterns consumed during postpartum and postpartum weight change[a]

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
RCT			
Index/Score			
Stendell-Hollis, 2013[210] **RCT, Parallel-arm, United States, University of Arizona** Baseline N=129; Analytic N=102 (Attrition: ~21%) • Age (y): 29.7±4.6 • Race/Ethnicity (%): Hispanic or Latino: 24.8; NHW: 75.2 • Socioeconomic position: ○ Education (%): College degree: 69.0 • Pre-pregnancy BMI: 25.5± 4.7 ○ ≥25 (%): 49.6 ○ Baseline BMI: 27.2±4.9 • Smoking (%): 0.0 • Human milk feeding status: ≥3 times/d for 6 mo after recruitment ○ Formula supplementation use: 26.8%	**Mediterranean-Style (MED) vs USDA MyPyramid Diet** FFQ at: Baseline (~17.5 wk postpartum); Follow-up (4 mo after baseline) **Dietary pattern description**: • MED: Plant-based diet with whole grains, fresh fruits and vegetables, legumes and nuts, fish and poultry, olive oil, and low-fat dairy products, limited intake of red meat and processed meats/foods (≤2 servings/mo). Participants instructed to consume study-provided walnuts (28 g/d), 1–2 tbsp/d of olive oil, and ≥7 servings/d of fruits and vegetables. Participants encouraged to consume ≥6 servings/d of whole grains, ≥2 servings/d of fish per week, and to increase consumption of legumes while limiting the intake of whole fat dairy products, red meats, processed foods, desserts, and non-olive oil fat sources • USDA MyPyramid Diet: Emphasized healthy eating choices. Intake of nuts, the use of olive oil, and an increase in fruits and vegetables were de-emphasized in order to differentiate from the MED diet Total MED diet score differed between groups at follow-up **Outcome and assessment methods**: PPWC assessed at: Baseline (~17.5 wk postpartum) to follow-up (4 mo after baseline). Weight measured by investigators.	**Postpartum weight change:** Mann-Whitney U-test Mean diff, kg MED: -2.31±3.42 USDA: -3.11±3.35 p=0.581	**Limitations**: Issues with deviation from intended intervention and some concerns with selection of the reported results **Funding:** California Walnut Commission; Nutritional Sciences Department at the University of Arizona; USDA
Cohort Studies			
Index/Score			

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Acosta-Manzano, 2022[198] **PCS, Spain, GESTAFIT** Analytic N =114 • Age (y): 33±5 • Socioeconomic position: ○ Education (%): <University: 36.4; University degree: 63.6 • Pre-pregnancy BMI: 23.7±3.9 • GWG (kg): Prepregnancy to Week 33: 10.8±4.9 • Smoking: Cigarettes/d (Median (IQR)): 0 (0, 0)	**Mediterranean Diet Score** (continuous) FFQ at: 6 wk postpartum **Dietary pattern description**: • Positive components: fruits; vegetables; fish • Negative components: red meat/subproducts • Unclear: whole-grain cereals; potatoes; pulses; olive oil; poultry; dairy products **Outcome and assessment methods:** PPWC assessed at: Pre-pregnancy to 6 wk postpartum Pre-pregnancy weight self-reported. Postpartum weight measured by investigators.	**Postpartum weight change** Linear regression β (SE), kg 0.01 (0.12), p=0.91 Adj R^2=0.03 TEI adjustment: p=0.93	**Key confounders accounted for:** Smoking status, Physical activity, Pre-pregnancy BMI and/or GWG **Key confounders not accounted for**: Parity, Race and/or Ethnicity, Maternal age, Socioeconomic Position, Human milk feeding status **Other covariates:** Weeks between birth and postpartum assessment, in-bed time, sleep (duration, awakening time after onset, efficiency, quality), upper body muscle strength, cardiorespiratory fitness **Limitations**: Issues with confounding, selection of participants and missing data and some concerns with selection of the reported results **Funding:** University of Granada, the Spanish Ministry of Economy and Competitiveness, the Spanish Ministry of Education, Culture and Sports, Instituto de Salud Carlos III, European Social Fund

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Boghossian, 2013[207] **PCS, United States, IFPS II** Analytic N =1136 • Age (y): aMED T1: 28.4±5.2; aMED T3: 30.2±5.4, p<0.001 • Race/Ethnicity (%): NHW: 86.0; NHB: 3.5; Hispanic: 5.2; AAPI/Other: 5.4 • Socioeconomic position: ○ Education (%): aMED T1: ≤High school: 23.0; Graduate degree: 8.5; aMED T3: ≤High school: 12.7; Graduate degree: 14.4, p<0.001 ○ Poverty level (<185% of federal poverty) (%): aMED T1: 40.4; aMED T3: 31.3, p=0.012 • Pre-pregnancy BMI: (%): <25: 52.7; ≥30: 22.2 • GWG (%): Inadequate: 18.1; Adequate: 36.9; Excessive: 45.1 • Smoking (%): aMED T1: 25.2; aMED T3: 7.1, p<0.001 • HMF status: HMF score (≤1y postpartum: 1 pt/wk exclusive HMF, 0.5 pt/wk partial HMF; >1y postpartum: 0.25 pt/wk any BF) 11-20 wk: aMED T1: 5.8±4.7; aMED T3: 8.3±4.7, p<0.001 21-34 wk: aMED T1: 9.4±8.5; aMED T3: 14.9±8.4, p<0.001 35-48 wk: aMED T1: 11.6±10.8; aMED T3: 18.0±11.1, p<0.001 49-62 wk: aMED T1: 13.4±13.0; aMED T3: 21.1±13.7, p<0.001	**aMED** (categorical tertiles of adherence) FFQ at: ~4 mo postpartum **Dietary pattern description**: • Positive components: vegetables (excluding potatoes), legumes, fruit, nuts, whole grains, fish, ratio of monounsaturated fat to saturated fat • Negative components: red and processed meat **Outcome and assessment methods:** Total PPWC and substantial PPWC assessed at: Pre-pregnancy to 21-34 wk, to 35-48 wk, and to 49-62 wk postpartum All weight measures self-reported. Total PPWC defined as difference between pre-pregnancy weight and weight at each follow-up time point. Substantial PPWC defined as ≥4.55 kg above pre-pregnancy weight.	**Total Postpartum weight change** Linear mixed model Mean diff (95% CI), kg T2 vs. T1: 0.41 (-0.49, 1.30), p=0.37 T3 vs. T1: -0.26 (-1.36, 0.84), p=0.65 **Substantial Postpartum weight change** Generalized estimating equations OR (95% CI) T2 vs. T1: 1.14 (0.84, 1.57), p=0.40 T3 vs. T1: 1.09 (0.74, 1.60), p=0.68	**Key confounders accounted for:** Smoking status, Race and/or Ethnicity, Age, Socioeconomic position, Pre-pregnancy BMI and/or GWG, Human milk feeding status **Key confounders not accounted for**: Physical activity **Other covariates:** Postpartum time, marital status, TEI, Parity **Limitations**: Issues with missing data and some concerns with confounding, selection of participants, outcome measurements and selection of reported result

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Boghossian, 2013 cont.	**AHEI-2010** (continuous tertiles of adherence) FFQ at: ~4 mo postpartum **Dietary pattern description:** • Positive components: vegetables (excluding potatoes), whole fruit, whole grains, nuts and legumes, % energy intake from PUFAs, long-chain (n-3) fats • Negative components: SSB and fruit juice, red and processed meat, % energy from trans-fat, sodium **Outcome and assessment methods:** Total PPWC and substantial PPWC assessed at: Pre-pregnancy to 21-34 wk, to 35-48 wk, and to 49-62 wk postpartum All weight measures self-reported. Total PPWC defined as difference between pre-pregnancy weight and weight at each follow-up time point. Substantial PPWC defined as ≥4.55 kg above pre-pregnancy weight.	**Total Postpartum weight change** Linear mixed model Mean diff (95% CI), kg T2 vs. T1: 0.24 (20.70, 1.18), p=0.62 T3 vs. T1: 0.64 (20.34, 1.61), p=0.20 **Substantial Postpartum weight change** Generalized estimating equations OR (95% CI) T2 vs. T1: 0.99 (0.73, 1.33), p=0.94 T3 vs. T1: 1.28 (0.94, 1.74), p=0.12	**Key confounders accounted for:** Smoking status, Age, Socioeconomic position, Pre-pregnancy BMI and/or GWG, HMF status **Key confounders not accounted for**: Physical activity **Other covariates:** Postpartum time, marital status, TEI **Limitations**: Issues with missing data and some concerns with confounding, selection of participants, outcome measurements and selection of reported result **Funding:** NIH; FDA; CDC

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Cummings, 2022[203] **PCS, United States, PEAS** Analytic N=321 • Age (y): 30.5±4.7 • Race/Ethnicity (%): White: 71; Black: 17, Asian: 5, Other or multiracial: 6; Hispanic: 9 • Socioeconomic position: ○ Income-Poverty Ratio: 3.84±1.97 ○ Education (%): College degree: 72 • Pre-pregnancy BMI (%): <18.5: 0.0; ≥25: 25.1; >30: 27.1 • GWG (%): Inadequate: 19; Adequate: 34; Excessive: 47 • Smoking (%): Current: 2; Former: 18	**Nova** * (continuous adherence, % energy intake z-scored) ASA24 at: ~2mo, 6mo, 1y postpartum **Dietary pattern description**: • Positive components: 'instant' foods; ready-to-heat pre-prepared pies, pasta, and pizza dishes; mass-produced packaged breads; reconstituted meats; sweet or savory packaged snacks; confectionery desserts; sweetened drinks **Outcome and assessment methods:** PPWR, PPWC assessed at ~1y postpartum PPWR (%) calculated as difference in weight from last prenatal medical visit to 1y postpartum divided by GWG, multiplied by 100. PPWC (kg) calculated by subtracting weight at baseline (<12 GW) from weight at 1y postpartum. Weight, height measured by investigators, and from prenatal medical records.	**Postpartum weight retention** Linear regression, % per-SD UPF during postpartum β±SE (95% CI) -4.33±3.39 (-11, 2.34), p=0.202 **Postpartum weight change** Linear regression, kg per-SD UPF during postpartum β±SE (95% CI) -0.44±0.36 (-1.14, 0.27), p=0.222	**Key confounders accounted for:** Age, Physical activity, Pre-pregnancy BMI and/or GWG (PPWR only), Socioeconomic position, Smoking status **Key confounders not accounted for**: Race and/or /Ethnicity, Parity, Human milk feeding status **Other covariates:** TEI, time **Limitations**: Issues with confounding and some concerns with exposure measurement, missing data and selection of reported result **Funding:** NICHD, NIH

* Not an abbreviation

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Wiltheiss, 2013[211] **PCS, United States, KAN-DO** Analytic N =276 • Age (y): CG: 33.7±4.3; IG: 33.3±4.6 • Race/Ethnicity (%): White/Other: CG: 83; IG: 84; Black: CG: 17; IG: 16 • Socioeconomic position: ○ Household Income (%): ≤$15,000: CG: 6; IG: 6; ≥$60,000: CG: 64; IG: 60 ○ Education (%): ≤12th grade: CG: 9; IG: 7; Graduate school: CG: 28; IG: 33 ○ Employment (%): Full time: CG: 30; IG: 29; Part time: CG: 21; IG: 18; Not paid for work: CG: 49; IG: 53 • Pre-pregnancy BMI: ≥25: 100% ○ Pre-pregnancy weight (kg): CG: 82.7±13.1; IG: 81.7±15.5 • GWG (kg): CG: 14.4±5.8; IG: 14.9±6.8 • Smoking (%): CG: 3.0; IG: 5.0 • HMF status (%): Exclusive HMF: CG: 50; IG: 44; Mixed feeding: CG: 14; IG: 20; Exclusive FF: CG: 36; IG: 36	**HEI-2005** (continuous adherence) 24 hr Recall at: ~5 mo postpartum (range: 2-7 mo postpartum) **Dietary pattern description:** • Positive components: total fruit, whole fruit, total vegetables, dark green and orange vegetables and legumes, total grains, whole grains, milk, meat and beans, oils • Negative components: saturated fat, sodium, calories from solid fats, alcoholic beverages, and added sugars **Outcome and assessment methods:** PPWC assessed at: ~5 mo postpartum to ~15 mo postpartum Weight measured by investigators.	**Postpartum weight change** Multivariate regression, kg p=0.07	**Key confounders accounted for:** Smoking status, Race and/or Ethnicity, Age, Socioeconomic position, Pre-pregnancy BMI and/or GWG, HMF status **Key confounders not accounted for**: Physical activity **Other covariates:** Trial arm assignment, Marital status, Depression, TEI, Parity **Limitations**: Some concerns with confounding, exposure measurement, selection of participants, missing data and selection of the reported results **Funding:** NIDDK, NIH
Factor/Cluster Analysis			

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Li, 2020[208] **PCS, China, MICS** Analytic N =504 • Age (y): (%): 21–29: 43.3; 30-34: 42.1; 35-45: 14.5 • Socioeconomic position: ○ Education (%): ≤High school: 19.7; ≥Bachelor's: 60.6 ○ Family income per capita (%): ≤3,000 yuan/mo: 21.7; ≥6,000 yuan/mo: 37.3 • HMF status (%): HMF: 48.7; Mixed feeding: 51.3	**Plant food DP, Diverse DP, Traditional northern DP, & Marine-flour DP** (continuous adherence) FFQ at: 0–3 mo or 6–8 mo postpartum, recalling diet at 1 mo postpartum **Dietary pattern description**: • Plant food DP: Higher intake of rice and vegetables • Diverse DP: Higher intake of starchy roots, fruit, livestock meat, aquatic products • Traditional northern DP: Higher intake of poultry, eggs, soup • Marine-flour DP: Higher intake of flour, coarse food grains, marine fish **Outcome and assessment methods:** PPWC assessed at: Pre-pregnancy to 42 d and to 6 mo postpartum Pre-pregnancy weight taken from antenatal records. Weight at 42 d postpartum recalled by participants at 0-3 mo or 6-8 mo. Weight at 6 mo measured by investigators. PPWC calculated as weight at 42 d or 6 mo postpartum minus pre-pregnancy weight.	**Postpartum weight change at 42 d** Linear regression β (95% CI), kg Plant food DP: 0.11 (0.15, 0.80), p=0.004 Diverse DP: -0.05 (-0.56, 0.10), p=0.18 Traditional northern DP: -0.004 (-0.34, 0.31), p=0.92 Marine-flour DP: 0.07 (-0.02, 0.66), p=0.06 **Postpartum weight change at 6 mo** Linear regression β (95% CI), kg Plant food DP: 0.09 (-0.14, 1.14), p=0.12 Diverse DP: -0.14 (-2.21, -0.21), p=0.02 Traditional northern DP: -0.11 (-1.38, 0.01), p=0.054 Marine-flour DP: -0.05 (-0.97, 0.36), p=0.37	**Key confounders accounted for:** Age, Socioeconomic position, Pre-pregnancy BMI and/or GWG, Human milk feeding status **Key confounders not accounted for**: Parity, Smoking status, Race and/or Ethnicity, Physical activity **Other covariates:** Delivery mode, puerperal caregiver, professional dietary counselling **Limitations**: Issues with confounding, missing data, exposure and outcomes measurements and some concerns with selection of participants and selection of the reported results **Funding:** No external funding

Study Characteristics	Intervention or Exposure and Outcome	Results	Confounding and Funding
Østbye, 2012[209] **PCS, United States, AMP** Analytic N =348 • Age (y): 30.9±5.6 • Race/Ethnicity (%): White: 52.7; Black: 45.1; Other: 2.2 • Socioeconomic position: Education (%): ≤High school: 20.7; ≥College degree: 54.9 • Pre-pregnancy BMI: ≥25: 100% ○ Baseline BMI: 33.0±6.4 (%): 25-29.9: 40.0; ≥40: 13.1 • GWG (kg): 14.9±8.7 (%): Inadequate: 19.6; Excessive: 59.6 • Smoking (%): ~5.8 • Human milk feeding status: HMF score (0 pt/mo exclusive FF, 1 pt/mo mixed feeding, 2 pt/mo exclusive HMF) at 12 mo postpartum: 8.2±8.7 ○ 0: 33.8%; 18-14: 19.1%	**Junk food DP & Healthy food DP** (continuous adherence) FFQ at: 6 wk, 12 mo, 18 mo, and 24 mo postpartum **Dietary pattern description**: • Junk food DP: Higher intake of soda, sweetened drinks, french fries and chips, fast food • Healthy food DP: Higher intake of milk, fruit, vegetables **Outcome and assessment methods:** PPWC assessed at: 6 wk to 12 mo, 18 mo, and 24 mo postpartum Weight measured by investigators. PPWC defined as weight change from baseline to each follow-up time point.	**Postpartum weight change at 12 mo** Repeated measures mixed model β (SE), kg per 1 SD score increase Junk food DP: 0.90 (0.4), p<0.05 Healthy food DP: 0.02 (0.4), p>0.05 **Postpartum weight change at 18 mo** Repeated measures mixed model β (SE), kg per 1 SD score increase Junk food DP: 1.20 (0.4), p<0.01 Healthy food DP: - 0.35 (0.4), p>0.05 **Postpartum weight change at 24 mo** Repeated measures mixed model β (SE), kg per 1 SD score increase Junk food DP: 1.34 (0.4), p<0.01 Healthy food DP: - 0.36 (0.3), p>0.05 Sensitivity analysis excluding all participants who became pregnant again during follow-up were very similar (Data NR)	**Key confounders accounted for:** Race and/or ethnicity, Age, Socioeconomic position, Physical activity, Pre-pregnancy BMI and/or GWG, Human milk feeding status **Key confounders not accounted for**: Smoking status **Other covariates:** Marital status, Pregnancy since baseline, Trial arm assignment, Hormonal contraception, Parity **Limitations**: Issues with missing data and selection of the reported results **Funding:** NIDDK, NIH

Table 28. Risk of bias for randomized controlled trials examining dietary patterns consumed during postpartum and postpartum weight change [b]

Article	Randomization	Deviations from intended interventions (effect of assignment or per-protocol)	Missing outcome data	Outcome measurement	Selection of the reported result	Overall risk of bias
Stendell-Hollis, 2013[210]	LOW	HIGH	LOW	LOW	SOME CONCERNS	HIGH

[a] Abbreviations: AAPI: Asian American Pacific Islander; adj: adjusted; aMED: alternate Mediterranean Diet Score; AMP: Active Mothers Postpartum; BMI: body mass index; CG: control group; d: day(s); DP: dietary pattern; FF: formula feeding; FFQ: food frequency questionnaire; GESTAFIT: GWG: gestational weight gain; HEI: Healthy Eating Index; HMF: human milk feeding; hr: hour; IFPS: Infant Feeding Practices Study; IG: intervention group; IQR: interquartile range; KAN-DO: Kids and Adults Now - Defeat Obesity; kg: kilogram(s); MICS: Mother-Infant Cohort Study; mo: month(s); NHB: non-Hispanic Black; NHW: non-Hispanic White; NICHD: *Eunice Kennedy Shriver* National Institute of Child Health and Human Development; NIDDK: National Institute of Diabetes and Digestive and Kidney Diseases; NIH: National Institutes of Health; NR: not reported; OR: odds ratio; PCS: prospective cohort study; PPWC: postpartum weight change; PPWR: postpartum weight retention; pt: point(s); RCT: randomized controlled trial; SD: standard deviation; SE: standard error; T#: tertile; TEI: total energy intake; wk: week(s); y: year(s)

[b] Possible ratings of low, some concerns, or high determined using the "Cochrane Risk-of-bias 2.0" (RoB 2.0) (August 2016 version)" (Higgins JPT, Sterne JAC, Savović J. A revised tool for assessing risk of bias in randomized trials In: Chandler J, McKenzie J, Boutron I, Welch V (editors). Cochrane Methods. *Cochrane Database of Systematic Reviews* 2016, Issue 10 (Suppl 1). dx.doi.org/10.1002/14651858.CD201601.)

Table 29. Risk of bias for observational studies examining dietary patterns consumed during postpartum and postpartum weight change[a]

Article	Confounding	Exposure measurement	Selection of participants	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall risk of bias
Acosta-Manzano, 2022[198]	HIGH	LOW	HIGH	LOW	HIGH	LOW	SOME CONCERNS	HIGH
Boghossian, 2013[207]	SOME CONCERNS	LOW	SOME CONCERNS	LOW	HIGH	SOME CONCERNS	SOME CONCERNS	HIGH
Li, 2020[208]	HIGH	HIGH	SOME CONCERNS	LOW	HIGH	HIGH	SOME CONCERNS	VERY HIGH
Østbye, 2012[209]	SOME CONCERNS	LOW	LOW	LOW	HIGH	LOW	HIGH	HIGH
Wiltheiss, 2013[211]	SOME CONCERNS	SOME CONCERNS	SOME CONCERNS	LOW	SOME CONCERNS	LOW	SOME CONCERNS	HIGH
Cummings, 2022[203]	HIGH	SOME CONCERNS	LOW	LOW	SOME CONCERNS	LOW	SOME CONCERNS	HIGH

[a] Possible ratings of low, some concerns, high, very high, not applicable, or no information were determined using the "Risk of Bias in Non-randomized Studies of Exposures (ROBINS-E)" tool (ROBINS-E Development Group (Higgins J, Morgan R, Rooney A, et al. Risk Of Bias In Non-randomized Studies - of Exposure (ROBINS-E). Launch version, 1 June 2022. Available from: https://www.riskofbias.info/welcome/robins-e-tool.) *Low risk of bias except for concerns about uncontrolled confounding.

Summary of conclusion statements and grades

The 2025 Dietary Guidelines Advisory Committee answered the systematic review question, “What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity?”, with the following conclusion statement[s].*The grades reflect the strength of the evidence underlying the conclusion statements.

Infants and young children up to age 24 months

- A conclusion statement cannot be drawn about the relationship between dietary patterns consumed by infants and young children up to age 24 months and growth, body composition, and risk of obesity because of substantial concerns with consistency. (Grade: Grade Not Assignable)

Children and adolescents

- Dietary patterns consumed by children and adolescents that are characterized by higher intakes of vegetables, fruit, legumes, nuts, whole grains, fish/seafood, dairy (low-fat, unsweetened) and lower intakes of red and processed meats, sugar-sweetened beverages, and sugar-sweetened or savory/salty snack foods are associated with favorable growth patterns, and lower adiposity and risk of obesity later in childhood and early adulthood. This conclusion statement is based on evidence graded as limited. (Grade: Limited)
- Dietary patterns consumed by children and adolescents that are characterized by higher intakes of red and processed meats, refined grains, fried potatoes, sugar-sweetened beverages, and sugar-sweetened or savory/salty snack foods and lower intakes of vegetables, fruit, and whole grains are associated with unfavorable growth patterns, and higher adiposity and risk of obesity later in childhood and early adulthood. This conclusion statement is based on evidence graded as limited. (Grade: Limited)

Adults and older adults

- Dietary patterns consumed by adults and older adults that are characterized by higher intakes of vegetables, fruits, legumes, nuts, whole grains, fish/seafood; and lower intakes of meats (including red and processed meats), refined grains and sugar-sweetened foods and beverages are associated with lower adiposity (body fat, body weight, BMI, and/or waist circumference) and lower risk of obesity. These dietary patterns also included higher intakes of unsaturated fats and lower intakes of saturated fats and sodium. This conclusion statement is based on evidence graded as moderate. (Grade: Moderate)

Pregnancy

- Dietary patterns consumed during pregnancy may be associated with a lower risk of excessive gestational weight gain. These patterns tend to emphasize higher intakes of vegetables, fruits, legumes, nuts, whole grains, fish and dairy and lower intakes of added sugars. This conclusion statement is based on evidence graded as limited. (Grade: Limited)
- A conclusion statement cannot be drawn about the relationship between dietary patterns consumed during pregnancy and risk of inadequate gestational weight gain because there are substantial concerns with consistency in the body of evidence. (Grade: Grade Not Assignable)

Postpartum

- A conclusion statement cannot be drawn about the relationship between dietary patterns consumed during postpartum and postpartum weight change because there are substantial concerns with consistency, precision, risk of bias and generalizability in the body of evidence in the body of evidence. (Grade Not Assignable)

Research recommendations

- Conduct repeat measures of dietary patterns using validated dietary assessment tools and methods, preferably at multiple times throughout the entire course of follow-up and provide better description of the foods and/or components consumed as part of the dietary pattern while consistently incorporating diet quality. Studies examining dietary patterns based on a single diet assessment (often at baseline only) and outcome measure do not capture changes in dietary intake and outcomes over time.

* A conclusion statement is carefully constructed, based on the evidence reviewed, to answer the systematic review question. A conclusion statement does not draw implications and should not be interpreted as dietary guidance.

- For children under the age of 2 years, create consistency across research in terms of analytical methods used to derive, assign, and examine dietary patterns consumed from birth to 12 months, and 12 to 24 months of age that include human milk and/or infant formula.
    - Use valid dietary assessment methods (i.e., 24-hour recalls) and apply tools consistently to identify dietary patterns, such as Toddlers HEI-2020, in relation to health outcomes to more comprehensively inform the development of dietary recommendations.
    - Provide greater specificity when describing the components such as ‘commercial baby food’, ‘baby snacks’, and ‘textured foods’, that often comprise dietary patterns unique to this life stage.
- Examine dietary patterns consumed earlier in childhood, preferably during ages 2 to 5 years, in relation to changes in growth patterns, body composition, and risk of obesity later in childhood through adolescence and early adulthood. Limited studies are available that administer dietary assessments in infants and young children up to age 24 months, adolescents, older adults, and individuals during pregnancy and postpartum.
- Conduct well-controlled, randomized interventions, particularly in the United States with diverse populations, to examine the effect of dietary patterns consumed in early childhood (e.g., 2 to 5 years) throughout adolescence and growth, body composition, and risk of obesity outcomes across the lifespan.
- Conduct well-controlled, randomized interventions, particularly in the United States with diverse populations, to examine the effect of dietary patterns consumed, particularly in younger adults ages 19 to 65 years, and body composition, and risk of obesity later in adulthood.
- Collect outcome measures objectively for growth, body composition, and risk of obesity [e.g., PEAPOD] and use consistent cut-off standards. Studies that rely on self-report of outcome measures and do not apply standard cut-offs to capture growth, body composition, and risk of obesity pose higher risk of bias due to outcome measurement error and may limit the comparability across findings.
- For studies including individuals who are pregnant,
    - collect data on weight multiple times during pregnancy to better understand their longitudinal associations, rather than one-time measurements. It is ideal to include weight change measurements that are assessed by the investigator, rather than self-reported.
    - assess weight change from earlier in pregnancy or preferably pre-pregnancy, rather than from mid- or late-pregnancy
    - administer dietary assessments as early as possible in pregnancy and use assessment methods that have been validated in pregnant populations.
- Collect detailed lifestyle information, especially physical activity, particularly in observational studies
- Control for confounding factors that impact the relationship between dietary patterns and growth, body composition, and risk of obesity, particularly with respect to:
    - total energy intake and the role it plays, such as why and how total energy intake was controlled for while considering developmental stage/level relative to growth.
    - race and/or ethnicity of participants
    - anthropometry at baseline
- Consider effect modification or mediating factors, including social determinants of health such as food insecurity status and socioeconomic position of participants.

- Include diverse populations with varying distributions of race and/or ethnicity and/or socioeconomic background, report the distribution of these factors, as well as how or if these factors may impact results. Studies that do not provide these details limit the ability to determine generalizability across findings.
- Take systems-level approaches to examining dietary patterns consumed and changes in growth, body composition, and risk of obesity to better understand other contextual and environmental factors impacting these relationships synergistically.

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203. Cummings JR, Lipsky LM, Schwedhelm C, Liu A, Nansel TR. Associations of ultra-processed food intake with maternal weight change and cardiometabolic health and infant growth. *Int J Behav Nutr Phys Act*. May 26 2022;19(1):61. doi:10.1186/s12966-022-01298-w
204. Hu J, Gao M, Ma Y, et al. The Association between Dietary Patterns and Pre-Pregnancy BMI with Gestational Weight Gain: The "Born in Shenyang" Cohort. *Nutrients*. Jun 20 2022;14(12)doi:10.3390/nu14122551
205. Alves-Santos NH, Cocate PG, Eshriqui I, et al. Dietary patterns and their association with adiponectin and leptin concentrations throughout pregnancy: a prospective cohort. *British Journal of Nutrition*. 2018;119(3):320-329.
206. Silva-del Valle MA, Sanchez-Villegas A, Serra-Majem L. Association between the adherence to the Mediterranean diet and overweight and obesity in pregnant women in Gran Canaria. *Nutr Hosp*. May-Jun 2013;28(3):654-9. doi:10.3305/nh.2013.28.3.6377
207. Boghossian NS, Yeung EH, Lipsky LM, Poon AK, Albert PS. Dietary patterns in association with postpartum weight retention. *Am J Clin Nutr*. Jun 2013;97(6):1338-45. doi:10.3945/ajcn.112.048702
208. Li N, Su X, Liu T, et al. Dietary patterns of Chinese puerperal women and their association with postpartum weight retention: Results from the mother-infant cohort study. *Matern Child Nutr*. Jan 2021;17(1):e13061.
209. Ostbye T, Peterson BL, Krause KM, Swamy GK, Lovelady CA. Predictors of postpartum weight change among overweight and obese women: results from the Active Mothers Postpartum study. *J Womens Health (Larchmt)*. Feb 2012;21(2):215-22. doi:10.1089/jwh.2011.2947
210. Stendell-Hollis NR, Thompson PA, West JL, Wertheim BC, Thomson CA. A comparison of Mediterranean-style and MyPyramid diets on weight loss and inflammatory biomarkers in postpartum breastfeeding women. *J Womens Health (Larchmt)*. Jan 2013;22(1):48-57. doi:10.1089/jwh.2012.3707
211. Wiltheiss GA, Lovelady CA, West DG, Brouwer RJ, Krause KM, Ostbye T. Diet quality and weight change among overweight and obese postpartum women enrolled in a behavioral intervention program. *J Acad Nutr Diet*. Jan 2013;113(1):54-62. doi:10.1016/j.jand.2012.08.012
212. Augustin H, Winkvist A, Bärebring L. Poor Dietary Quality is Associated with Low Adherence to Gestational Weight Gain Recommendations among Women in Sweden. *Nutrients*. Jan 25 2020;12(2)doi:10.3390/nu12020317

Appendices

Appendix 1: Abbreviations

Table A 1. List of abbreviations

Abbreviation	Full name
BMI	Body mass index
GWG	Gestational weight gain
GWGR	Gestational weight gain rate
HDI	Human Development Index

Abbreviation	Full name
HHS	United States Department of Health and Human Services
HMF	Human milk feeding
NESR	Nutrition Evidence Systematic Review
PPWC	Postpartum weight change
PPWR	Postpartum weight retention
RCT	Randomized controlled trial
SEP	Socioeconomic position
USDA	United States Department of Agriculture
UPF	Ultra-processed food

Appendix 2: Conclusion statements from the existing systematic review(s)

Table A 2. Conclusion statements from the existing systematic review(s) for the research question: What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity?

Citation	Conclusion statement and grade
Dietary Patterns Technical Expert Collaborative and NESR Staff. A Series of Systematic Reviews on the Relationship Between Dietary Patterns and Health Outcomes. March 2014. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://nesr.usda.gov/sites/default/files/2019-06/DietaryPatternsReport-FullFinal2.pdf	There is moderate evidence that in adults increased adherence to dietary patterns scoring high in fruits, vegetables, whole grains, legumes, unsaturated oils, and fish; low in total meat, saturated fat, cholesterol, sugar sweetened foods and drinks and sodium; and moderate in dairy products and alcohol is associated with more favorable outcomes related to body weight or risk of obesity, with some reports of variation based on gender, race, or body weight status. (Grade: II - Moderate) (Index Analysis) There is moderate evidence that adherence to a dietary pattern that emphasizes vegetables, fruits, and whole grains is associated with modest benefits in preventing weight gain or promoting weight loss in adults.(Grade: II - Moderate) (Other Methods) Limited and inconsistent evidence from epidemiological studies examining dietary patterns derived using factor or cluster analysis in adults found that consumption of a dietary pattern characterized by vegetables, fruits, whole grains, and reduced-fat dairy products tends to be associated with more favorable body weight status over time than consumption of a dietary pattern characterized by red meat, processed meats, sugar-sweetened foods and drinks, and refined grains. (Grade: III - Limited) (Factor or Cluster Analysis) There are a number of methodological differences among the studies examining the relationship between dietary patterns derived using reduced rank regression and body weight status. The disparate nature of these studies made it difficult to compare results, and therefore, no conclusions were drawn. (Grade: IV - Not Assignable) (Reduced Rank Regression)
English LK, Obbagy JE, Wong YP, Psota TL, Nadaud P, Johns K, Terry N, Butte NF, Dewey KG, Fleischer DM, Fox MK, Greer FR, Krebs NF, Scanlon KS, Casavale KO, Spahn JM, Stoody E. Types and Amounts of Complementary Foods and Beverages and Growth, Size, and Body Composition: A Systematic Review. April 2019. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.PB242018.SR0306	No conclusion could be made about the relationship between distinct dietary patterns during the complementary feeding period and growth, size, body composition, and/or prevalence/incidence of malnutrition, overweight or obesity. (Grade: Grade Not Assignable)

Citation	Conclusion statement and grade
Boushey C, Ard J, Bazzano L, Heymsfield S, Mayer-Davis E, Sabaté J, Snetselaar L, Van Horn L, Schneeman B, English LK, Bates M, Callahan E, Butera G, Terry N, Obbagy J. Dietary Patterns and Growth, Size, Body Composition, and/or Risk of Overweight or Obesity: A Systematic Review. July 2020. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.DGAC2020.SR0101	The 2020 Dietary Guidelines Advisory Committee reviewed newly published evidence using a systematic evidence scan and determined that the conclusion drawn by the 2015 Dietary Guidelines Advisory Committee generally reflects the current state of science. Moderate evidence indicates dietary patterns emphasizing vegetables, fruits, and whole grains; seafood and legumes; moderate in dairy products (particularly low and non-fat dairy) and alcohol; lower in meats (including red and processed meats), and low in sugar-sweetened foods and beverages, and refined grains are associated with favorable outcomes related to body weight, (including lower BMI, waist circumference, or percent body fat) or risk of obesity. Components of the dietary patterns associated with these favorable outcomes include higher intakes of unsaturated fats and lower intakes of saturated fats, cholesterol, and sodium. (2015 Dietary Guidelines Advisory Committee Grade: Moderate) Limited evidence suggests that dietary patterns consumed by children or adolescents that are lower in fruits, vegetables, whole grains, and low-fat dairy while being higher in added sugars, refined grains, fried potatoes, and processed meats are associated with higher fat-mass index and BMI later in adolescence. (Grade: Limited) No evidence is available to determine a relationship between diets based on macronutrient distribution consumed during childhood and growth, size, body composition, and risk of overweight/obesity. (Grade: Grade not assignable) No conclusion could be made about the relationship between distinct dietary patterns during the complementary feeding period and growth, size, body composition, and/or prevalence/incidence of malnutrition, overweight or obesity. (Grade: Grade Not Assignable)
Donovan S, Dewey K, Novotny R, Stang J, Taveras E, Kleinman R, Raghavan R, Nevins J, Scinto-Madonich S, Kim JH, Terry N, Butera G, Obbagy J. Dietary Patterns during Pregnancy and Gestational Weight Gain: A Systematic Review. July 2020. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.DGAC2020.SR0201	Limited evidence suggests that certain dietary patterns during pregnancy are associated with a lower risk of excessive gestational weight gain during pregnancy. These patterns are higher in vegetables, fruits, nuts, legumes, fish, and lower in added sugar, and red and processed meat. (Grade: Limited)
Donovan S, Dewey K, Novotny R, Stang J, Taveras E, Kleinman R, Raghavan R, Nevins J, Scinto-Madonich S, Kim JH, Terry N, Butera G, Obbagy J. Dietary Patterns during Lactation and Postpartum Weight Loss: A Systematic Review. July 2020. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.DGAC2020.SR0202	Insufficient evidence is available to determine the relationship between dietary patterns during lactation and postpartum weight loss. (Grade: Grade not assignable)

Appendix 3: Inclusion and exclusion criteria comparison between existing* and updated systematic reviews

Table A 3. Inclusion and exclusion criteria comparison between existing and updated systematic reviews for the research question: What is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity?

Category	Existing Review	Updated Review	Change and Rationale
Study design	Included: • Randomized controlled trials • Non-randomized controlled trials (including quasi-experimental and controlled before and after studies) • Quasi-experimental studies (i.e., prospective cohort studies) Excluded: • Nested case-control studies • Case-control studies • Uncontrolled trials • Case-control studies • Cross-sectional studies • Uncontrolled before-and-after studies • Narrative reviews • Systematic reviews • Meta-analyses	Included: • Randomized controlled trials • Non-randomized controlled trials† • Prospective cohort studies • Retrospective cohort studies • Nested case-control studies Excluded: • Uncontrolled trials‡ • Case-control studies • Cross-sectional studies • Ecological studies • Narrative reviews • Systematic reviews • Meta-analyses • Modeling and simulation studies • Mendelian randomization studies	Study design criteria were modified to enable focus on the stronger body of evidence

* Dietary Patterns Technical Expert Collaborative and NESR Staff. A Series of Systematic Reviews on the Relationship Between Dietary Patterns and Health Outcomes. March 2014. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://nesr.usda.gov/sites/default/files/2019-06/DietaryPatternsReport-FullFinal2.pdf

† Including quasi-experimental and controlled before-and-after studies

‡ Including uncontrolled before-and-after studies

Category	Existing Review	Updated Review	Change and Rationale
Publication date	Included: • January 1980 – August 2013 Excluded: • Before January 1980, after August 2013	Included: • August 2013 – May 2023* Excluded: • Before August 2013, after May 2023	Dates were modified to enable focus on the most recent evidence.
Population: Study participants	Included: • Human Excluded: • Non-human	Included: • Human Excluded: • Non-human	No change
Population: Life stage	Included: • At intervention/exposure and outcome: ○ Children, adolescents, and adults aged 2 years and older Excluded: • At intervention/exposure and outcome: ○ Infants and toddlers (birth up to 24 months)	Included: • At intervention/exposure: ○ Infants and toddlers (birth up to 24 months) ○ Children and adolescents (2 up to 19 years) ○ Adults and older adults (19 years and older) ○ Individuals during pregnancy ○ Individuals during postpartum • At outcome: ○ Children and adolescents (2 up to 19 years) ○ Adults and older adults (19 years and older) Excluded: ○ N/A	No change other than formatting; In 2020, a separate question on complementary feeding addressed the infants and toddlers life stage and a separate question on dietary patterns during pregnancy and lactation addressed gestational weight gain and postpartum weight loss
Population: Health Status	Included: • Subjects who were healthy or at elevated chronic disease risk Excluded:	Included: • Studies that exclusively enroll participants not diagnosed with a disease† • Studies that enroll some participants: ○ diagnosed with a disease; ○ with severe undernutrition, failure to thrive/underweight, stunting, or wasting;	No change other than to clarify intent

* This review update date range encompasses the original systematic review date range, which included articles published from January 1980 to August 2013

† Studies that enroll participants who are at risk for chronic disease will be included

Category	Existing Review	Updated Review	Change and Rationale
	• Low-calorie intervention (defined as <1,600 kcal/day for women and <2,000 kcal/day for men) • Subjects who were hospitalized, diagnosed with disease, and/or receiving medical treatment	○ born preterm,* with low birth weight,† and/or small for gestational age; ○ and/or with the outcome of interest ○ who became pregnant using Assisted Reproductive Technologies; ○ with multiple gestation pregnancies; ○ pre- or post-bariatric surgery; ○ and/or receiving pharmacotherapy to treat obesity Excluded: • Studies that exclusively enroll participants: ○ diagnosed with a disease;‡ ○ hospitalized for an illness, injury, or surgery;§ ○ with severe undernutrition, failure to thrive/underweight, stunting, or wasting; ○ born preterm,[11] with low birth weight,[12] and/or small for gestational age ○ who became pregnant using Assisted Reproductive Technologies; ○ with multiple gestation pregnancies; ○ pre- or post-bariatric surgery; ○ and/or receiving pharmacotherapy to treat obesity	
Intervention/exposure	Included: • A description of the dietary pattern(s) consumed by subjects (i.e., the quantities, proportions, variety, or combination of different foods, drinks, and nutrients (when available) in diets, and the frequency with which they are habitually consumed), including, at a minimum, a description of the foods and beverages in the pattern)	Included: • Studies that examine consumption of and/or adherence to a dietary pattern [i.e., the quantities, proportions, variety, or combination of different foods, drinks, and nutrients (when available) in diets, and the frequency with which they are habitually consumed], including, at a minimum, a description of the foods and beverages in the pattern of each intervention/exposure and comparator group	No change other than formatting to clarify intent of the criteria.

* Gestational age <37 weeks and 0/7 days

† Birth weight <2500g

‡ Studies that exclusively enroll participants with obesity were included

§ Studies that exclusively enroll participants post-cesarean section were included

Category	Existing Review	Updated Review	Change and Rationale
	• Dietary patterns may be measured or derived using a variety of approaches, such as adherence to a priori patterns (indices/scores), data driven patterns (factor or cluster analysis), reduced rank regression, or other methods, including clinical trials. Excluded: • Studies that do not provide a description of the dietary pattern, which at minimum, must include the foods and beverages in the pattern (i.e., studies that examine a labeled dietary pattern, but do not describe the foods and beverages consumed).	• Dietary patterns may be measured or derived using a variety of approaches, such as adherence to a priori patterns (indices/scores), data driven patterns (factor or cluster analysis), reduced rank regression, or other methods, including clinical trials • Multi-component intervention in which the isolated effect of the dietary pattern on the outcome(s) of interest is provided or can be determined Excluded: • Studies that do not provide a description of the dietary pattern, which at minimum, must include the foods and beverages in the pattern (i.e., studies that examine a labeled dietary pattern, but do not describe the foods and beverages consumed in each intervention/exposure and comparator group) • Multi-component intervention in which the isolated effect of the dietary pattern on the outcome(s) of interest is not analyzed or cannot be determined (e.g., due to multiple intervention components within groups)	
Comparator	Included: • Adherence to a different dietary pattern • Different levels of adherence to a dietary pattern Excluded: • N/A	Included: • Consumption of and/or adherence to a different dietary pattern • Different levels of consumption of and/or adherence to a dietary pattern Excluded: • Consumption of and/or adherence to a similar dietary pattern of which only a specific component or food source is different between groups	No change other than to clarify the intent of the criteria.

Outcome(s)	Included:
	
	• Overweight
	
	• BMI
	
	• Percent Body Fat
	
	• Waist Circumference
		Included:
		
		• Growth (in infants, toddlers, children, adolescents)
		  ○ Height, length/stature-for-age
		  ○ Weight, weight-for-age
		  ○ Stunting, failure to thrive, wasting
			Gestational weight gain outcome criteria were adjusted to focus on the most clinically meaningful measure.
			
			Criteria were added that explicitly exclude studies that

Category	Existing Review	Updated Review	Change and Rationale
	• Body Weight • Obesity Excluded: • N/A	○ BMI-for-age, weight-for-length/stature ○ Body circumferences (arm, neck, thigh)Head circumference • Body composition (in infants, toddlers, children, adolescents, adults, older adults) ○ Skinfold thickness ○ Fat mass, ectopic fat ○ Fat-free mass or lean mass ○ Waist circumference, waist-to-hip-ratio • Risk of obesity (in children, adolescents, adults, older adults) ○ BMI ○ Underweight ○ Normal weight ○ Overweight and/or obesity ○ Weight gain ○ Weight loss and maintenance (in adults, older adults) • Pregnancy and postpartum-related weight change (in individuals during pregnancy or postpartum) ○ Adequacy of total gestational weight gain (i.e., in relation to recommendations based on pre-pregnancy BMI) ○ Postpartum weight change Excluded: • Gestational weight gain only during certain time periods or trimesters of pregnancy • Absolute total gestational weight gain (i.e., not in relation to recommendations based on pre-pregnancy BMI)	only examine unintentional weight loss to clarify intent of the criteria.

Category	Existing Review	Updated Review	Change and Rationale
		• Weight loss that is specifically classified as unintentional weight loss (e.g., a component of Frailty)	
Confounders	Included • n/a Excluded • n/a	Included: • Studies that control for one or more of the key confounders listed in the analytic framework Excluded: • Studies that do not control for any of the key confounders listed in the analytic framework	Criteria were added to enable focus on a stronger body of evidence.
Study duration	Included • n/a Excluded • n/a	Included • Intervention length ≥12 weeks Excluded • Intervention length <12 weeks	Study duration criteria were modified to enable focus on a stronger body of evidence
Size of study groups	Included • Randomized or nonrandomized controlled trial with at least 30 subjects per study arm and a follow-up rate of at least 80 percent, or a prospective cohort study Excluded • Studies with less than 30 subjects per study arm or a follow-up rate of less than 80 percent	Included • For intervention studies: ○ ≥30 participants per study group for between-subject analyses, ○ or a power calculation indicating that the study is appropriately powered for the outcome(s) of interest • For observational studies: ○ An analytic sample size of ≥1,000 participants (for adults, older adults) Excluded • For intervention studies: ○ <30 participants per study group for between-subject analyses, ○ and no power calculation indicating that the study is appropriately powered for the outcome(s) of interest	Size of study groups criteria were modified to enable focus on a stronger body of evidence

Category	Existing Review	Updated Review	Change and Rationale
		• For observational studies: ○ An analytic sample size of <1,000 participants (for adults, older adults)	
Publication status	Included • Peer-reviewed articles published in research journals Excluded • Non-peer reviewed articles, unpublished data or manuscripts, pre-prints, reports, and conference abstracts or proceedings	Included • Peer-reviewed articles published in research journals Excluded • Non-peer reviewed articles, unpublished data or manuscripts, pre-prints, reports, and conference abstracts or proceedings	No change
Language	Included • Published in English Excluded • Not published in English	Included • Published in English Excluded • Not published in English	No change
Country*	Included • Subject populations from countries with high or very high human development, according to the 2011 Human Development Index Excluded • Studies conducted in countries classified as medium or low on the 2011 Human Development Index.	Included • Studies conducted in countries classified as high or very high on the Human Development Index the year(s) the intervention/exposure data were collected Excluded • Studies conducted in countries classified as medium or low on the Human Development Index the year(s) the intervention/exposure data were collected	NESR now applies the Human Development Index classification from the year in which the intervention/exposure data were collected.

* The classification of countries on the Human Development Index (HDI) is based on the UN Development Program Human Development Report Office (http://hdr.undp.org/en/data) for the year the study intervention occurred or data were collected. If the study does not report the year(s) in which the intervention/exposure data were collected, the HDI classification for the year of publication is applied. Studies conducted prior to 1990 are classified based on 1990 HDI classifications. If the year is more recent than the available HDI values, then the most recent HDI classifications are used. If a country is not listed in the HDI, then the current country classification from the World Bank is used (The World Bank. World Bank country and lending groups. Available from: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world- country-and-lending-groups)

Appendix 4: Literature search strategy

Searches from existing reviews

Review A identified articles published between January 1980 and July 2016. For the complete search documentation, refer to:

English LK, Obbagy JE, Wong YP, et al. Types and Amounts of Complementary Foods and Beverages and Growth, Size, and Body Composition: A Systematic Review. April 2019. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.PB242018.SR0306.

Review B identified articles published between January 1980 and October 21, 2019. For the complete search documentation, refer to:

Boushey C, Ard J, Bazzano L, Heymsfield S, et al. Dietary Patterns and Growth, Size, Body Composition, and/or Risk of Overweight or Obesity: A Systematic Review. July 2020. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.DGAC2020.SR0101

Review C identified articles published between January 2000 and November 7, 2019. For the complete search documentation, refer to:

Donovan S, Dewey K, Novotny R, et al. Dietary Patterns during Pregnancy and Gestational Weight Gain: A Systematic Review. July 2020. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://doi.org/10.52570/NESR.DGAC2020.SR0201

Search for the current review

This search encompasses terms from both searches from existing reviews. The search was first run on September 12, 2021, and then periodically run using NESR's continuous evidence monitoring methods* through May 2023.

Database: PubMed
Provider: U.S. National Library of Medicine
Date(s) Searched: September 12, 2021 (initial search); September 21, 2021, 2021 – May 31, 2023 (continuous evidence monitoring)
Dates Covered: October 21, 2019 - May 31, 2023

* USDA Nutrition Evidence Systematic Review Branch. Chapter 10: Continuous Evidence Monitoring. In: *USDA Nutrition Evidence Systematic Review: Methodology Manual*. February 2023. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. Available at: https://nesr.usda.gov/methodology-overview.

Table A 4. Search for PubMed

Search #	Concept	String
#1	Growth, body composition, and risk or obesity	"Adipose Tissue"[Mesh] OR "Body Composition"[Mesh] OR "Body Weights and Measures"[MeSH:NoExp] OR "Body Fat Distribution"[Mesh] OR "Body Mass Index"[Mesh] OR "Body Size"[Mesh] OR "Skinfold Thickness"[Mesh] OR "Waist-Hip Ratio"[Mesh] OR "Overnutrition"[Mesh] OR "Growth"[Mesh:NoExp] OR anthropometr*[tiab] OR body fat[tiab] OR fat mass[tiab] OR fat free mass[tiab] OR lean mass[tiab] OR obese[tiab] OR obesity[tiab] OR underweight[tiab] OR overweight[tiab] OR weight status[tiab] OR head circumference[tiab] OR arm circumference[tiab] OR calf circumference[tiab] OR neck circumference[tiab] OR thigh circumference[tiab] OR waist circumference[tiab] OR waist to hip ratio[tiab] OR waist hip ratio[tiab] OR body mass index[tiab] OR BMI[tiab] OR adipos*[tiab] OR body weight[tiab] OR body height[tiab] OR body size[tiab] OR body composition[tiab] OR overnutrition[tiab] OR wasting[tiab] OR healthy weight[tiab] OR skin fold[tiab] OR skin folds[tiab] OR skinfold[tiab] OR skinfolds[tiab] OR "Weight Reduction Programs"[Mesh] OR "Body-Weight Trajectory"[Mesh] OR "Weight Gain"[MeSH] OR "Weight Loss"[MeSH:NoExp] OR “Diet, Reducing"[Mesh] OR weight gain*[tiab] OR diet reduc*[tiab] OR weight cycling[tiab] OR weight decreas*[tiab] OR weight watch*[tiab] OR weight control*[tiab] OR weight retention[tiab] OR weight management[tiab] OR (weight[tiab] AND (maint*[tiab] OR reduc*[tiab] OR loss*[tiab] OR chang*[tiab])) OR “Growth Charts”[Mesh] OR growth chart*[tiab]OR stunting[tiab] OR stunted[tiab] OR weight for height[tiab] OR stature for age[tiab] OR weight for age[tiab] OR height for age[tiab] OR length for age[tiab] OR weight for length[tiab] OR failure to thrive[tiab]
#2	Dietary patterns	("dietary pattern*"[tiab] OR "diet pattern*"[tiab] OR "eating pattern*"[tiab] OR "food pattern*"[tiab] OR "diet quality"[tiab] OR "dietary quality"[tiab] OR "diet variety"[tiab] OR "dietary variety"[tiab] OR "varied diet"[tiab] OR "dietary guideline*"[tiab] OR "dietary recommendation*"[tiab] OR "dietary intake*"[tiab] OR "eating style*"[tiab] OR "Diet, Mediterranean"[Mesh] OR "Mediterranean Diet*"[tiab] OR "Dietary Approaches To Stop Hypertension"[Mesh] OR "Dietary Approaches To Stop Hypertension Diet*"[tiab] OR "DASH diet*"[tiab] OR "Diet, Gluten-Free"[Mesh] OR "Gluten Free diet*"[tiab] OR "prudent diet*"[tiab] OR "Diet, Paleolithic"[Mesh] OR "Paleolithic Diet*"[tiab] OR "Diet, Vegetarian"[Mesh] OR "vegetarian diet*"[tiab] OR "vegan diet*"[tiab] OR "Diet, Healthy"[Mesh] OR "healthy diet*"[tiab] OR "plant based diet*"[tiab] OR "Diet, Western"[Mesh] OR "western diet*"[tiab] OR "Nordic Diet*"[tiab] OR "Okinawan diet*"[tiab] OR "Diet, Fat-Restricted"[Mesh] OR "Diet, High-Fat"[Mesh] OR "high-fat diet*"[tiab] OR "low fat diet*"[tiab] OR "Diet, Sodium-Restricted"[Mesh] OR "low-sodium diet*"[tiab] OR "low salt diet*"[tiab] OR "diet score*"[tiab] OR "diet quality score*"[tiab] OR "diet quality index*"[tiab] OR "diet quality indices"[tiab] OR kidmed[tiab] OR "diet index*"[tiab] OR "diet indices"[tiab] OR "dietary index*"[tiab] OR "dietary indices"[tiab] OR "food score*"[tiab] OR MedDietScore[tiab] OR "healthy eating index*"[tiab] OR "healthy eating indices"[tiab]) OR ((guideline adherence*[tiab] AND (diet[tiab] OR dietary[tiab] OR food[tiab] OR beverage*[tiab] OR nutrition*[tiab]))
#3		#1 AND #2
#4	Limits	#3 NOT ("Animals"[Mesh] NOT ("Animals"[Mesh] AND "Humans"[Mesh])) NOT (editorial[ptyp] OR comment[ptyp] OR commentary[tiab] OR news[ptyp] OR letter[ptyp] OR review[ptyp] OR systematic review[ptyp] OR systematic review[ti] OR meta-analysis[ptyp] OR meta-analysis[ti] OR meta-analyses[ti] OR protocol[ti] OR protocols[ti] OR retracted publication[ptyp] OR retraction of publication[ptyp] OR retraction of publication[tiab] OR retraction notice[ti] OR “retracted publication”[ti] OR "Congress"[Publication Type] OR "Consensus Development Conference"[Publication Type] OR “conference abstract*”[tiab] OR “conference proceeding*”[tiab] OR “conference paper*”[tiab] OR "practice guideline"[ptyp] OR "practice guideline"[ti]) Language: English Publication date: October 21, 2019 – May 31, 2023

Database: Embase

Provider: Elsevier
Date(s) Searched: September 12, 2021 (initial search); September 21, 2021 – May 31, 2023 (continuous evidence monitoring)
Dates Covered: October 21, 2019 - May 31, 2023

Table A 5. Search for Embase

Search #	Concept	String
#1	Growth, body composition, and risk or obesity	'adipose tissue'/exp OR 'body composition'/exp OR 'anthropometry'/de OR 'body mass'/exp OR 'anthropometric parameters'/exp OR 'skinfold thickness'/exp OR 'overnutrition'/exp OR 'growth'/de OR 'anthropometr*':ab,ti OR 'body fat':ab,ti OR 'fat mass':ab,ti OR 'fat free mass':ab,ti OR 'lean mass':ab,ti OR 'obese':ab,ti OR 'obesity':ab,ti OR 'underweight':ab,ti OR 'overweight':ab,ti OR 'weight status':ab,ti OR 'head circumference':ab,ti OR 'arm circumference':ab,ti OR 'calf circumference':ab,ti OR 'neck circumference':ab,ti OR 'thigh circumference':ab,ti OR 'waist circumference':ab,ti OR 'waist to hip ratio':ab,ti OR 'waist hip ratio':ab,ti OR 'body mass index':ab,ti OR 'BMI':ab,ti OR 'adipos*':ab,ti OR 'body weight':ab,ti OR 'body height':ab,ti OR 'body size':ab,ti OR 'body composition':ab,ti OR 'overnutrition':ab,ti OR 'wasting':ab,ti OR 'healthy weight':ab,ti OR 'skin fold*':ab,ti OR 'skinfold*':ab,ti OR 'body weight management'/exp OR 'body weight change'/exp OR 'weight gain*':ab,ti OR 'diet reduc*':ab,ti OR 'weight cycling':ab,ti OR 'weight watch*':ab,ti OR 'weight control*':ab,ti OR 'weight retention':ab,ti OR 'weight management':ab,ti OR (weight NEAR/4 (decreas* OR gain* OR maint* OR reduc* OR loss* OR chang*)):ab,ti OR 'weight chart'/exp OR 'growth chart*':ab,ti OR stunting:ab,ti OR stunted:ab,ti OR 'weight for height':ab,ti OR 'stature for age':ab,ti OR 'weight for age':ab,ti OR 'height for age':ab,ti OR 'length for age':ab,ti OR 'weight for length':ab,ti OR ' failure to thrive':ab,ti
#2	Dietary patterns	'feeding behavior'/de OR 'mediterranean diet'/exp OR 'dash diet'/exp OR 'gluten free diet'/exp OR 'paleolithic diet'/de OR 'vegetarian diet'/exp OR 'healthy diet'/exp OR 'western diet'/de OR 'low carbohydrate diet'/exp OR 'low fat diet'/de OR 'lipid diet'/exp OR 'protein restriction'/exp OR 'sodium restriction'/exp OR 'nordic diet'/de OR 'protein diet'/exp OR 'dietary pattern*':ab,ti OR 'diet pattern*':ab,ti OR 'eating pattern*':ab,ti OR 'food pattern*':ab,ti OR 'diet quality':ab,ti OR 'dietary quality':ab,ti OR 'diet variety':ab,ti OR 'dietary variety':ab,ti OR 'varied diet':ab,ti OR 'dietary guideline*':ab,ti OR 'dietary recommendation*':ab,ti OR 'dietary intake*':ab,ti OR 'eating style*':ab,ti OR 'Mediterranean Diet*':ab,ti OR 'Dietary Approaches To Stop Hypertension Diet*':ab,ti OR 'DASH diet*':ab,ti OR 'Gluten Free diet*':ab,ti OR 'prudent diet*':ab,ti OR 'Paleolithic Diet*':ab,ti OR 'vegetarian diet*':ab,ti OR 'vegan diet*':ab,ti OR 'healthy diet*':ab,ti OR 'plant based diet*':ab,ti OR 'western diet*':ab,ti OR 'Nordic Diet*':ab,ti OR 'Okinawan Diet*':ab,ti OR 'high-fat diet*':ab,ti OR 'low fat diet*':ab,ti OR 'low-sodium diet*':ab,ti OR 'low salt diet*':ab,ti OR 'diet score*':ab,ti OR 'diet quality score*':ab,ti OR 'diet quality index*':ab,ti OR kidmed:ab,ti OR 'diet index*':ab,ti OR 'dietary index*':ab,ti OR 'food score*':ab,ti OR MedDietScore:ab,ti OR 'healthy eating index':ab,ti OR ('guideline adherence*' AND (diet OR dietary OR food OR beverage* OR nutrition*)):ab,ti
#3		#1 AND #2
#4	Limiters	#3 AND ([article]/lim OR [article in press]/lim) NOT ([animals]/lim NOT ([animals]/lim AND [humans]/lim)) AND [english]/lim NOT ([conference abstract]/lim OR [conference paper]/lim OR [conference review]/lim OR [editorial]/lim OR [erratum]/lim OR [letter]/lim OR [note]/lim OR 'retraction of publication':ab,ti OR 'retraction notice':ti OR 'retracted publication':ab,ti OR [review]/lim OR [systematic review]/lim OR [meta analysis]/lim OR 'practice guideline':ti) AND [2019-2023]/py

Database: Cochrane Central Register of Controlled Trials (CENTRAL)

Provider: John Wiley & Sons
Date(s) Searched: September 12, 2021 (initial search); September 21, 2021 – May 31, 2023 (continuous evidence monitoring)
Dates Covered: October 21, 2019 - May 31, 2023

Table A 6. Search for Cochrane CENTRAL

Search #	Concept	String
#1	Growth, body composition, and risk or obesity	[mh "Adipose Tissue"] OR [mh "Body Composition"] OR [mh ^"Body Weights and Measures"] OR [mh "Body Fat Distribution"] OR [mh "Body Mass Index"] OR [mh "Body Size"] OR [mh "Skinfold Thickness"] OR [mh "Waist-Hip Ratio"] OR [mh Overnutrition] OR [mh ^Growth] OR (anthropometr* OR “body fat” OR “fat mass” OR “fat free mass” OR “lean mass” OR obese OR obesity OR underweight OR overweight OR “weight status” OR “head circumference” OR “arm circumference” OR “calf circumference” OR “neck circumference” OR “thigh circumference” OR “waist circumference” OR “waist to hip ratio” OR “waist hip ratio” OR “body mass index” OR BMI OR adipos* OR “body weight” OR “body height” OR “body size” OR “body composition” OR overnutrition OR wasting OR “healthy weight” OR “skin fold” OR “skin folds” OR skinfold OR skinfolds):ti,ab,kw OR [mh "Weight Reduction Programs"] OR [mh "Body-Weight Trajectory"] OR [mh "Weight Gain"] OR [mh ^“Weight Loss”] OR [mh "Diet, Reducing"] OR (“diet reduc*” OR “weight cycling” OR “weight watch*” OR “weight control*” OR “weight retention” OR “weight management”):ti,ab,kw OR ((weight NEAR/4 (decreas* OR gain* OR maint* OR reduc* OR loss* OR chang*)) OR [mh “Growth Charts”] OR “growth chart*” OR stunting OR stunted OR “weight for height” OR “stature for age” OR “weight for age” OR “height for age” OR “length for age” OR “weight for length” OR “ failure to thrive”):ti,ab,kw
#2	Dietary patterns	[mh "Diet, Mediterranean"] OR [mh "Dietary Approaches To Stop Hypertension"] OR [mh "Diet, Gluten-Free"] OR [mh "Diet, Paleolithic"] OR [mh "Diet, Vegetarian"] OR [mh "Diet, Healthy"] OR [mh "Diet, Western"] OR [mh "Diet, Fat-Restricted"] OR [mh "Diet, High-Fat"] OR [mh "Diet, Sodium-Restricted"] OR [mh "Guideline Adherence"] OR ("dietary pattern" OR "dietary patterns" OR "diet pattern” OR "diet patterns” OR "eating pattern" OR "eating patterns" OR "food pattern" OR "food patterns” OR "diet quality" OR "dietary quality" OR "diet variety” OR "dietary variety” OR "varied diet” OR "dietary guideline" OR "dietary guidelines" OR "dietary recommendation" OR "dietary recommendations” OR "dietary intake" OR "dietary intakes" OR "eating style" OR "eating styles" OR "Mediterranean Diet" OR "Mediterranean Diets" OR "Dietary Approaches To Stop Hypertension Diet" OR "Dietary Approaches To Stop Hypertension Diets" OR "DASH diet" OR "DASH diets" OR "Gluten Free diet" OR "Gluten Free diets" OR "prudent diet" OR "prudent diets" OR "Paleolithic Diet" OR "Paleolithic Diets" OR "vegetarian diet" OR "vegetarian diets" OR "vegan diet" OR "vegan diets" OR "healthy diet" OR "healthy diets" OR "plant based diet" OR "plant based diets" OR "Western diet" OR "Western diets" OR "Nordic Diet" OR "Nordic Diets" OR "Okinawan Diet" OR "Okinawan Diets" OR "high-fat diet" OR "high-fat diets" OR "low fat diet" OR "low fat diets" OR "low-sodium diet" OR "low-sodium diets" OR "low salt diet" OR "low salt diets" OR "diet score" OR "diet scores" OR "diet quality score" OR "diet quality scores" OR "diet quality index" OR "diet quality indexes" OR "diet quality indices" OR kidmed OR "diet index" OR "diet indexes" OR "diet indices" OR "dietary index” OR "dietary indexes" OR "dietary indices" OR "food score" OR "food scores" OR MedDietScore OR "healthy eating index" OR "healthy eating indexes" OR "healthy eating indices"):ti,ab,kw OR ("guideline adherence" NEAR/2 (diet OR dietary OR food OR beverage* OR nutrition*)):ti,ab,kw
#3		#1 AND #2 In Trials (Word variations have been searched); year first published 2019-2023

Database: CINAHL

Provider: EBSCO
Date(s) Searched: September 12, 2021 (initial search); September 21, 2021 – May 31, 2023 (continuous evidence monitoring)
Dates Covered: October 21, 2019 - May 31, 2023

Table A 7. Search for CINAHL

Search #	Concept	String
#1	Growth, body composition, and risk or obesity	(MH “Adipose Tissue+”) OR (MH "Body Composition+") OR (MH "Body Weights and Measures") OR (MH "Arm Circumference") OR (MH "Body Height") OR (MH "Body Mass Index") OR (MH "Body Size") OR (MH "Body Weight+") OR (MH "Crown-Rump Length") OR (MH "Waist Circumference") OR (MH "Waist-Hip Ratio") OR (MH "Skinfold Thickness") OR (MH "Obesity+") OR (MH "Overnutrition") OR (MH "Growth") OR (TI anthropometr* OR “body fat” OR “fat mass” OR “fat free mass” OR “lean mass” OR obese OR obesity OR underweight OR overweight OR “weight status” OR “head circumference” OR “arm circumference” OR “calf circumference” OR “neck circumference” OR “thigh circumference” OR “waist circumference” OR “waist to hip ratio” OR “waist hip ratio” OR “body mass index” OR BMI OR adipos* OR “body weight” OR “body height” OR “body size” OR “body composition” OR overnutrition OR wasting OR “healthy weight” OR “skin fold” OR “skin folds” OR skinfold OR skinfolds) OR (AB anthropometr* OR “body fat” OR “fat mass” OR “fat free mass” OR “lean mass” OR obese OR obesity OR underweight OR overweight OR “weight status” OR “head circumference” OR “arm circumference” OR “calf circumference” OR “neck circumference” OR “thigh circumference” OR “waist circumference” OR “waist to hip ratio” OR “waist hip ratio” OR “body mass index” OR BMI OR adipos* OR “body weight” OR “body height” OR “body size” OR “body composition” OR overnutrition OR wasting OR “healthy weight” OR “skin fold” OR “skin folds” OR skinfold OR skinfolds) OR (MH “Weight Reduction Programs”) OR (MH "Body Weight Changes") OR (MH "Weight Gain+") OR (MH "Weight Loss") OR (MH "Diet, Reducing") OR (TI “diet reduc*” OR “weight cycling” OR “weight watch*” OR “weight control*” OR “weight retention” OR “weight management”) OR (AB “diet reduc*” OR “weight cycling” OR “weight watch*” OR “weight control*” OR “weight retention” OR “weight management”) OR (TI (weight N4 (decreas* OR gain* OR maint* OR reduc* OR loss* OR chang*))) OR (AB (weight N4 (decreas* OR gain* OR maint* OR reduc* OR loss* OR chang*))) OR (TI “growth chart*” OR stunting OR stunted OR “weight for height” OR “stature for age” OR “weight for age” OR “height for age” OR “length for age” OR “weight for length” OR “failure to thrive”) OR (AB “growth chart*” OR stunting OR stunted OR “weight for height” OR “stature for age” OR “weight for age” OR “height for age” OR “length for age” OR “weight for length” OR “failure to thrive”)
#2	Dietary patterns	(MH "Mediterranean Diet") OR (MH "DASH Diet") OR (MH “Diet, Gluten-Free") OR (MH "Diet, Paleolithic") OR (MH "Vegetarianism") OR (MH "Diet, Western") OR (MH "Diet, Fat-Restricted") OR (MH "Diet, Sodium-Restricted") OR (MH "Restricted Diet") OR (MH "Diet, High Protein") OR (MH "Diet, Nordic”) OR (MH "Plant-Based Diet") OR (TI "dietary pattern*" OR "diet pattern*" OR "eating pattern*" OR "food pattern*" OR "diet quality" OR "dietary quality" OR "diet variety" OR "dietary variety" OR "varied diet" OR "dietary guideline*" OR "dietary recommendation*" OR "dietary intake*" OR "eating style*" OR "Mediterranean Diet*" OR "Dietary Approaches To Stop Hypertension Diet*" OR "DASH diet*" OR "Gluten Free diet*" OR "prudent diet*" OR "Paleolithic Diet*" OR “Okinawan diet” OR "vegetarian diet*" OR "vegan diet*" OR "healthy diet*" OR "plant based diet*" OR "western diet*" OR "Nordic Diet*" OR "high-fat diet*" OR "low fat diet*" OR "low-sodium diet*" OR "low salt diet*" OR "diet score*" OR "diet quality score*" OR "diet quality index*" OR kidmed OR "diet index*" OR "dietary index*" OR "food score*" OR MedDietScore OR "healthy eating index") OR (AB "dietary pattern*" OR "diet pattern*" OR "eating pattern*" OR "food pattern*" OR "diet quality" OR "dietary quality" OR "diet variety" OR "dietary variety" OR "varied diet" OR "dietary guideline*" OR "dietary recommendation*" OR "dietary intake*" OR "eating style*" OR "Mediterranean Diet*" OR "Dietary Approaches To Stop Hypertension Diet*" OR "DASH diet*" OR "Gluten Free diet*" OR "prudent diet*" OR "Paleolithic Diet*" OR “Okinawan diet” OR "vegetarian diet*" OR "vegan diet*" OR "healthy diet*" OR "plant based diet*" OR "western diet*" OR "Nordic Diet*" OR "high-fat diet*" OR "low fat diet*" OR "low-sodium diet*" OR "low salt diet*" OR "diet score*" OR "diet quality score*" OR "diet quality index*" OR kidmed OR "diet index*" OR "dietary index*" OR "food score*" OR MedDietScore OR "healthy eating index") OR ((MH "Guideline Adherence") OR (TI "guideline adherence*") OR (AB "guideline adherence*")) AND ((TI diet OR dietary OR food OR beverage* OR nutrition*) OR (AB diet OR dietary OR food OR beverage* OR nutrition*))
#3		S1 AND S2

Search #	Concept	String
#4	Limiters	S3 NOT ((MH "Animals+") OR (MH "Animal Studies")) NOT ((MH "Literature Review") OR (MH "Meta Analysis") OR (MH "Systematic Review") OR (MH "News") OR (MH "Retracted Publication") OR (MH "Retraction of Publication”)) English, Apply equivalent subjects Published Date: October 2019 – September 2023

Appendix 5: Excluded articles

The following table lists the 1,298 full-text articles excluded after full-text screening for this systematic review question. At least one reason for exclusion is provided for each article, though this may not reflect all possible reasons. Information about articles excluded after title and abstract screening is available upon request.

The existing systematic evidence scan for this question in adults and older adults included 54 articles. However, after applying the inclusion and exclusion criteria established for the update to that review, 41 remained eligible for inclusion. The following articles were excluded from the existing systematic review (rationale):

- Babio N, Toledo E, Estruch R, et al. Mediterranean diets and metabolic syndrome status in the PREDIMED randomized trial. CMAJ. 2014;186(17):E649-657. doi:10.1503/cmaj.140764. (Data Overlap)
- Casas R, Sacanella E, Urpi-Sarda M, et al. Long-term immunomodulatory effects of a Mediterranean diet in adults at high risk of cardiovascular disease in the PREvencion con DIeta MEDiterranea (PREDIMED) randomized controlled trial. J Nutr. 2016;146(9):1684-1693. doi:10.3945/jn.115.229476. (Data Overlap)
- Casas R, Sacanella E, Urpi-Sarda M, et al. The effects of the Mediterranean diet on biomarkers of vascular wall inflammation and plaque vulnerability in subjects with high risk for cardiovascular disease. A randomized trial. PLoS One. 2014;9(6):e100084. doi:10.1371/journal.pone.0100084. (Data Overlap)
- Czekajlo A, Rozanska D, Zatonska K, Szuba A, Regulska-Ilow B. Association between dietary patterns and metabolic syndrome in the selected population of Polish adults-results of the PURE Poland Study. Eur J Public Health. 2019;29(2):335-340. doi:10.1093/eurpub/cky207. (study design)
- Daly RM, O'Connell SL, Mundell NL, Grimes CA, Dunstan DW, Nowson CA. Protein-enriched diet, with the use of lean red meat, combined with progressive resistance training enhances lean tissue mass and muscle strength and reduces circulating IL-6 concentrations in elderly women: a cluster randomized controlled trial. Am J Clin Nutr. 2014;99(4):899-910. doi:10.3945/ajcn.113.064154. (Intervention/Exposure)
- Davis CR, Hodgson JM, Woodman R, Bryan J, Wilson C, Murphy KJ. A Mediterranean diet lowers blood pressure and improves endothelial function: results from the MedLey randomized intervention trial. Am J Clin Nutr. 2017;105(6):1305-1313. doi:10.3945/ajcn.116.146803. (Data Overlap)
- Eguaras S, Toledo E, Buil-Cosiales P, et al. Does the Mediterranean diet counteract the adverse effects of abdominal adiposity? Nutr Metab Cardiovasc Dis. 2015;25(6):569-574. doi:10.1016/j.numecd.2015.03.001. (Outcome)
- Eguaras S, Toledo E, Hernandez-Hernandez A, Cervantes S, Martinez-Gonzalez MA. Better adherence to the Mediterranean diet could mitigate the adverse consequences of obesity on cardiovascular disease: the SUN Prospective Cohort. Nutrients. 2015;7(11):9154-9162. doi:10.3390/nu7115457. (Outcome)
- Gardner CD, Trepanowski JF, Del Gobbo LC, et al. Effect of low-fat vs low-carbohydrate diet on 12-month weight loss in overweight adults and the association with genotype pattern or insulin secretion: the DIETFITS randomized clinical trial. JAMA. 2018;319(7):667-679. doi:10.1001/jama.2018.0245. (Comparator)
- Hruby A, Jacques PF. Dietary protein and changes in markers of cardiometabolic health across 20 years of follow-up in middle-aged Americans. Public Health Nutr. 2018;21(16):2998-3010. doi:10.1017/s1368980018001854. (Intervention/Exposure)
- Kafeshani M, Janghorbani M, Salehi R, Kazemi M, Entezari MH. Dietary Approaches to Stop Hypertension influence on insulin receptor substrate-1gene expression: a randomized controlled clinical trial. J Res Med Sci. 2015;20(9):832-837. doi:10.4103/1735-1995.170596. (Size of study groups)

Table A 8. List of excluded articles with rationale.

Number	Citation	Rationale
1	Abaj F, Mirzababaei A, Hosseininasab D, Bahrampour N, Clark CCT, Mirzaei K. Interactions between Caveolin-1 polymorphism and Plant-based dietary index on metabolic and inflammatory markers among women with obesity. Sci Rep. May 31 2022;12(1):9088. doi:10.1038/s41598-022-12913-y	Study design
2	Abdelbasset WK, Nambi G, Alsubaie SF, et al. A Low-Fat Diet Combined with Moderate-Intensity Aerobic Exercise is More Effective than a Low-Fat Diet or Aerobic Exercise Alone on Dyslipidemia and Depression Status in Obese Patients: A Randomized Controlled Trial. Endocr Metab Immune Disord Drug Targets. Apr 6 2021;21(12):2289-2295. doi:10.2174/1871530321666210406161226	Intervention or Exposure; Duration of Intervention
3	Abdou RM, El Hawary GS, Saab AA. Effect of gestational Mediterranean diet intervention on newborn fat mass and cord blood leptin level. Article. Egyptian Pediatric Association Gazette. 2020;68(1)	Country
4	Abubakari A, Asumah MN, Abdulai NZ. Effect of maternal dietary habits and gestational weight gain on birth weight: an analytical cross-sectional study among pregnant women in the Tamale Metropolis. Article. Pan Afr Med J. 2023;44:19. doi:10.11604/pamj.2023.44.19.38036	Study design; Country
5	Adam LM, Jarman M, Barker M, Manca DP, Lawrence W, Bell RC. Use of healthy conversation skills to promote healthy diets, physical activity and gestational weight gain: Results from a pilot randomised controlled trial. Patient Educ Couns. Jun 2020;103(6):1134-1142. doi:10.1016/j.pec.2020.01.001	Comparator
6	Adams EL, Caccavale LJ, LaRose JG, Raynor HA, Bean MK. Home Food Environment Changes and Dietary Intake during an Adolescent Behavioral Weight Loss Intervention Differ by Food Security Status. Article. Nutrients. Feb 25 2022;14(5)doi:10.3390/nu14050976	Intervention or Exposure; Outcome; Comparator
7	Afolabi HA, Zakariya ZB, Ahmed Shokri A, et al. A prospective study on the relationship between frequency of food intake and the risk of obesity among patients visiting husm. Article. Obesity Medicine. 2020;18	Study design
8	Agbozo F, Abubakari A, Der J, Jahn A. Maternal Dietary Intakes, Red Blood Cell Indices and Risk for Anemia in the First, Second and Third Trimesters of Pregnancy and at Predelivery. Nutrients. Mar 15 2020;12(3)doi:10.3390/nu12030777	Outcome; Country

Number	Citation	Rationale
9	Aghayan M, Hosseinpour-Niazi S, Bakhshi B, Mirmiran P, Azizi F. Trends in dietary food groups and Dietary Approach to Stop Hypertension (DASH) score among adults: A longitudinal study from the Tehran Lipid and Glucose Study, 2006-2017. Nutrition. Sep 2021;89:111284. doi:10.1016/j.nut.2021.111284	Outcome
10	Agnoli C, Sieri S, Ricceri F, et al. Macronutrient composition of the diet and long-term changes in weight and waist circumference in the EPIC-Italy cohort. Nutr Metab Cardiovasc Dis. Jan 4 2021;31(1):67-75. doi:10.1016/j.numecd.2020.08.007	Intervention or Exposure
11	Agostinis-Sobrinho C, Kievisiene J, Dubey V, et al. Cardiovascular health behavior and blood pressure in adolescents: A longitudinal analysis. Nutr Metab Cardiovasc Dis. Jul 2022;32(7):1766-1773. doi:10.1016/j.numecd.2022.04.009	Outcome; Comparator
12	Aguiar-Bloemer AC, Japur CC, Francisco LV, Diez-Garcia RW. Dietary quality differences between women with and without weight loss in nutritional treatment. Clin Nutr ESPEN. Dec 2019;34:110-115. doi:10.1016/j.clnesp.2019.08.003	Intervention or Exposure; Outcome; Comparator
13	Ahmad S, Moorthy MV, Demler OV, et al. Assessment of Risk Factors and Biomarkers Associated With Risk of Cardiovascular Disease Among Women Consuming a Mediterranean Diet. Article. JAMA Netw Open. Dec 7 2018;1(8):e185708. doi:10.1001/jamanetworkopen.2018.5708	Outcome
14	Ainscough KM, Kennelly MA, Lindsay KL, et al. An observational analysis of meal patterns in overweight and obese pregnancy: exploring meal pattern behaviours and the association with maternal and fetal health measures. Ir J Med Sci. May 2020;189(2):585-594. doi:10.1007/s11845-019-02099-0	Intervention or Exposure
15	Ainscough KM, O'Brien EC, Lindsay KL, et al. Nutrition, Behavior Change and Physical Activity Outcomes From the PEARS RCT-An mHealth-Supported, Lifestyle Intervention Among Pregnant Women With Overweight and Obesity. Front Endocrinol (Lausanne). 2019;10:938. doi:10.3389/fendo.2019.00938	Intervention or Exposure - Foods/Beverages Not Reported; Outcome

Number	Citation	Rationale
16	Ait-Hadad W, Bedard A, Chanoine S, et al. Healthy diet associated with better asthma outcomes in elderly women of the French Asthma-E3N study. Eur J Nutr. Aug 2022;61(5):2555-2569. doi:10.1007/s00394-022-02815-0	Study design; Outcome
17	Ait-Hadad W, Bedard A, Delvert R, et al. Plant-Based Diets and the Incidence of Asthma Symptoms among Elderly Women, and the Mediating Role of Body Mass Index. Nutrients. Dec 22 2022;15(1)doi:10.3390/nu15010052	Outcome
18	Aittola K, Karhunen L, Mannikko R, et al. Enhanced Eating Competence Is Associated with Improved Diet Quality and Cardiometabolic Profile in Finnish Adults with Increased Risk of Type 2 Diabetes. Article. Nutrients. Nov 11 2021;13(11)doi:10.3390/nu13114030	Intervention or Exposure
19	Aji AS, Lipoeto NI, Yusrawati Y, et al. Association between pre-pregnancy body mass index and gestational weight gain on pregnancy outcomes: a cohort study in Indonesian pregnant women. BMC Pregnancy Childbirth. Jun 15 2022;22(1):492. doi:10.1186/s12884-022-04815-8	Intervention or Exposure
20	Akbari-Sedigh A, Asghari G, Yuzbashian E, Dehghan P, Imani H, Mirmiran P. Association of dietary pattern with carotid intima media thickness among children with overweight or obesity. Article. Diabetol Metab Syndr. Sep 11 2019;11(1):77. doi:10.1186/s13098-019-0472-4	Study design
21	Akkartal S, Gezer C. Is Nutrition Knowledge Related to Diet Quality and Obesity? Ecol Food Nutr. Mar-Apr 2020;59(2):119-129. doi:10.1080/03670244.2019.1675654	Study design
22	Al Aamri KS, Alrawahi AH, Al Busaidi N, et al. The effect of low-carbohydrate ketogenic diet in the management of obesity compared with low caloric, low-fat diet. Article in Press. Clin Nutr ESPEN. Jun 2022;49:522-528. doi:10.1016/j.clnesp.2022.02.110	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
23	Al Abdrabalnabi A, Rajaram S, Bitok E, et al. Effects of Supplementing the Usual Diet with a Daily Dose of Walnuts for Two Years on Metabolic Syndrome and Its Components in an Elderly Cohort. Journal: Article. Nutrients. Feb 11 2020;12(2)doi:10.3390/nu12020451	Intervention or Exposure
24	Alae-Carew C, Scheelbeek P, Carrillo-Larco RM, Bernabe-Ortiz A, Checkley W, Miranda JJ. Analysis of dietary patterns and cross-sectional and longitudinal associations with hypertension, high BMI and type 2 diabetes in Peru. Public Health Nutr. Apr 2020;23(6):1009-1019. doi:10.1017/S1368980019002313	Size or Power
25	Alaghehband FR, Erkkila AT, Rikkonen T, Sirola J, Kroger H, Isanejad M. Association of Baltic Sea and Mediterranean diets with frailty phenotype in older women, Kuopio OSTPRE-FPS study. Eur J Nutr. Mar 2021;60(2):821-831. doi:10.1007/s00394-020-02290-5	Study design; Outcome
26	Alamolhoda SH, Simbar M, Mirmiran P, Mirabi P. Effect of low trans-fatty acid intakes on preeclampsia: A randomized controlled trial. Article. J Res Med Sci. 2020;25(1):112. doi:10.4103/jrms.JRMS_149_19	Intervention or Exposure
27	Albert SL, Massar RE, Correa L, et al. Change in cardiometabolic risk factors in a pilot safety-net plant-based lifestyle medicine program. Front Nutr. 2023;10:1155817. doi:10.3389/fnut.2023.1155817	Intervention or Exposure - Foods/Beverages Not Reported
28	Alexandrou C, Henriksson H, Henstrom M, et al. Effectiveness of a Smartphone App (MINISTOP 2.0) integrated in primary child health care to promote healthy diet and physical activity behaviors and prevent obesity in preschool-aged children: randomized controlled trial. Int J Behav Nutr Phys Act. Feb 21 2023;20(1):22. doi:10.1186/s12966-023-01405-5	Intervention or Exposure
29	Aljefree NM, Almoraie NM, Shatwan IM. Association of two types of dietary pattern scores with cardiovascular disease risk factors and serum 25 hydroxy vitamin D levels in Saudi Arabia. Food Nutr Res. 2021;65doi:10.29219/fnr.v65.5481	Study design

Number	Citation	Rationale
30	Aller EE, van Baak MA. Evaluation of an 18-month commercial multidisciplinary obesity treatment programme. Article. Clin Obes. Feb 2016;6(1):33-41. doi:10.1111/cob.12122	Study design; Publication status
31	Aller R, Izaola O, Primo D, de Luis DA. The effect of single-nucleotide polymorphisms at the ADIPOQ gene locus rs1501299 on metabolic parameters after 9 mo of a high-protein/low-carbohydrate versus a standard hypocaloric diet. Journal Article; Randomized Controlled Trial. Nutrition. Sep 2019;65:44-49. doi:10.1016/j.nut.2019.02.012	Intervention or Exposure - Foods/Beverages Not Reported
32	Almanza-Aguilera E, Hernaez A, Corella D, et al. Transcriptional response to a Mediterranean diet intervention exerts a modulatory effect on neuroinflammation signaling pathway. Article. Nutr Neurosci. Feb 2022;25(2):256-265. doi:10.1080/1028415X.2020.1749334	Size or Power
33	Al-Nimr RI, Wright KCS, Aquila CL, Petersen CL, Gooding TL, Batsis JA. Intensive nutrition counseling as part of a multi-component weight loss intervention improves diet quality and anthropometrics in older adults with obesity. Clin Nutr ESPEN. 2020;40doi:10.1016/j.clnesp.2020.09.00	Study design
34	Alonso-Bernáldez M, Palou-March A, Zamanillo-Campos R, Palou A, Palou M, Serra F. A Diet Profiling Algorithm (DPA) to Rank Diet Quality Suitable to Implement in Digital Tools-A Test Study in a Cohort of Lactating Women.. . . 15:.	Study design; Outcome
35	Amani R, Parohan M, Jomehzadeh N, Haghighizadeh MH. Dietary and Biochemical Characteristics Associated with Normal-Weight Obesity. Int J Vitam Nutr Res. Nov 2019;89(5-6):331-336. doi:10.1024/0300-9831/a000477	Study design
36	Amerikanou C, Kleftaki SA, Valsamidou E, Tzavara C, Gioxari A, Kaliora AC. Dietary Patterns, Cardiometabolic and Lifestyle Variables in Greeks with Obesity and Metabolic Disorders. Nutrients. Nov 28 2022;14(23)doi:10.3390/nu14235064	Study design

Number	Citation	Rationale
37	Amil S, Lemieux I, Poirier P, Lamarche B, Despres JP, Almeras N. Targeting Diet Quality at the Workplace: Influence on Cardiometabolic Risk. Nutrients. Jun 30 2021;13(7)doi:10.3390/nu13072283	Study design; Comparator
38	Aminianfar A, Soltani S, Hajianfar H, Azadbakht L, Shahshahan Z, Esmaillzadeh A. The association between dietary glycemic index and load and risk of gestational diabetes mellitus: A prospective study. Diabetes Res Clin Pract. Dec 2020;170:108469. doi:10.1016/j.diabres.2020.108469	Intervention or Exposure
39	Amoah S, Ennin R, Sagoe K, et al. Feasibility of a Culturally Adapted Dietary Weight-Loss Intervention among Ghanaian Migrants in Berlin, Germany: The ADAPT Study. Int J Environ Res Public Health. Jan 9 2021;18(2)doi:10.3390/ijerph18020510	Study design; Comparator
40	Anand C, Kranz RM, Husain S, et al. Bridging the gap between science and society: long-term effects of the Healthy Lifestyle Community Programme (HLCP, cohort 1) on weight and the metabolic risk profile: a controlled study. BMJ Nutr Prev Health. 2022;5(1):44-54. doi:10.1136/bmjnph-2021-000340	Duration of Intervention; Comparator
41	Anand SS, Gupta M, Teo KK, et al. Causes and consequences of gestational diabetes in South Asians living in Canada: results from a prospective cohort study. Article. CMAJ Open. Aug 9 2017;5(3):E604-E611. doi:10.9778/cmajo.20170027	Outcome
42	Ancira-Moreno M, O'Neill MS, Rivera-Dommarco JA, et al. Dietary patterns and diet quality during pregnancy and low birthweight: The PRINCESA cohort. Matern Child Nutr. Jul 2020;16(3):e12972. doi:10.1111/mcn.12972	Outcome
43	Ancira-Moreno M, Vadillo-Ortega F, Rivera-Dommarco JA, et al. Gestational weight gain trajectories over pregnancy and their association with maternal diet quality: Results from the PRINCESA cohort. Article. Nutrition. Sep 2019;65:158-166. doi:10.1016/j.nut.2019.02.002	Data overlap
44	Andersen E, van der Ploeg HP, van Mechelen W, et al. Contributions of changes in physical activity, sedentary time, diet and body weight to changes in cardiometabolic risk. Int J Behav Nutr Phys Act. Dec 20 2021;18(1):166. doi:10.1186/s12966-021-01237-1	Intervention or Exposure

Number	Citation	Rationale
45	Andrade MEdC, Lyra CdO, AraÚJo FRd, Bagni UV. Influence of federal feeding programs on the anthropometric indicators of nutritional status of adolescents. Article. Revista de Nutrição. 2022;35doi:10.1590/1678-9865202235e210046	Intervention or Exposure
46	Andre P, Proctor G, Driollet B, et al. The role of overweight in the association between the Mediterranean diet and the risk of type 2 diabetes mellitus: a mediation analysis among 21 585 UK biobank participants. Int J Epidemiol. Oct 1 2020;49(5):1582-1590. doi:10.1093/ije/dyaa103	Outcome
47	Andueza N, Martin-Calvo N, Navas-Carretero S, Cuervo M. The ALINFA Intervention Improves Diet Quality and Nutritional Status in Children 6 to 12 Years Old. Nutrients. May 18 2023;15(10)doi:10.3390/nu15102375	Duration of Intervention
48	Angali KA, Shahri P, Borazjani F. Maternal dietary pattern in early pregnancy is associated with gestational weight gain and hyperglycemia: A cohort study in South West of Iran. Diabetes Metab Syndr. Nov-Dec 2020;14(6):1711-1717. doi:10.1016/j.dsx.2020.08.008	Outcome
49	Anleu E, Reyes M, Araya BM, Flores M, Uauy R, Garmendia ML. Effectiveness of an Intervention of Dietary Counseling for Overweight and Obese Pregnant Women in the Consumption of Sugars and Energy. Journal Article; Randomized Controlled Trial. Nutrients. Feb 13 2019;11(2)doi:10.3390/nu11020385	Intervention or Exposure
50	Aparecida Silveira E, Danesio de Souza J, Dos Santos Rodrigues AP, Lima RM, de Souza Cardoso CK, de Oliveira C. Effects of Extra Virgin Olive Oil (EVOO) and the Traditional Brazilian Diet on Sarcopenia in Severe Obesity: A Randomized Clinical Trial. Journal Article; Randomized Controlled Trial. Nutrients. May 21 2020;12(5)doi:10.3390/nu12051498	Intervention or Exposure - Foods/Beverages Not Reported
51	Arapaki A, Paltoglou G, Ziogou G, et al. 185 The effect of dietary patterns on excessive gestational weight gain in a sample of greek women. European Journal of Obstetrics & Gynecology & Reproductive Biology. 2022;270:N.PAG-N.PAG.	Publication status

Number	Citation	Rationale
52	Ard JD, Lewis KH, Rothberg A, et al. Effectiveness of a Total Meal Replacement Program (OPTIFAST Program) on Weight Loss: Results from the OPTIWIN Study. Article. Obesity (Silver Spring). Jan 2019;27(1):22-29. doi:10.1002/oby.22303	Intervention or Exposure
53	Arjmand G, Abbas-Zadeh M, Eftekhari MH. Effect of MIND diet intervention on cognitive performance and brain structure in healthy obese women: a randomized controlled trial. Sci Rep. Feb 21 2022;12(1):2871. doi:10.1038/s41598-021-04258-9	Outcome
54	Aronica L, Rigdon J, Offringa LC, Stefanick ML, Gardner CD. Examining differences between overweight women and men in 12-month weight loss study comparing healthy low-carbohydrate vs. low-fat diets. Int J Obes (Lond). Jan 2021;45(1):225-234. doi:10.1038/s41366-020-00708-y	Intervention or Exposure
55	Arredondo A, Torres C, Orozco E, et al. Socio-economic indicators, dietary patterns, and physical activity as determinants of maternal obesity in middle-income countries: Evidences from a cohort study in Mexico. Article. Int J Health Plann Manage. Jan 2019;34(1):e713-e725. doi:10.1002/hpm.2684	Study design
56	Arslanian KJ, Fidow UT, Atanoa T, et al. Effect of maternal nutrient intake during 31-37 weeks gestation on offspring body composition in Samoa. Ann Hum Biol. Dec 2020;47(7-8):587-596. doi:10.1080/03014460.2020.1820078	Intervention or Exposure; Outcome
57	Arvizu M, Afeiche MC, Hansen S, Halldorsson TF, Olsen SF, Chavarro JE. Fat intake during pregnancy and risk of preeclampsia: a prospective cohort study in Denmark. Article. Eur J Clin Nutr. Jul 2019;73(7):1040-1048. doi:10.1038/s41430-018-0290-z	Intervention or Exposure; Outcome
58	Asano M, Kushida M, Yamamoto K, Tomata Y, Tsuji I, Tsuduki T. Abdominal Fat in Individuals with Overweight Reduced by Consumption of a 1975 Japanese Diet: A Randomized Controlled Trial. Historical Article; Journal Article; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. Obesity (Silver Spring). Jun 2019;27(6):899-907. doi:10.1002/oby.22448	Duration of Intervention
59	Ashwin D, Gibson L, Hagemann E, D'Vaz N, Bear N, Silva D. The impact a Mediterranean Diet in the third trimester of pregnancy has on neonatal body fat percentage. J Dev Orig Health Dis. Aug 2022;13(4):500-507. doi:10.1017/S2040174421000556	Outcome

Number	Citation	Rationale
60	Assaf-Balut C, Garcia De La Torre N, Bordiu E, et al. Consumption of fat-free dairy products is not associated with a lower risk of maternofetal adverse events. Article. BMJ Open Diabetes Research and Care. 2020;8(1)	Intervention or Exposure; Outcome
61	Assaf-Balut C, Garcia de la Torre N, Duran A, et al. An Early, Universal Mediterranean Diet-Based Intervention in Pregnancy Reduces Cardiovascular Risk Factors in the "Fourth Trimester". Article. J Clin Med. Sep 19 2019;8(9)doi:10.3390/jcm8091499	Study design
62	Assaf-Balut C, Garcia de la Torre N, Fuentes M, et al. A High Adherence to Six Food Targets of the Mediterranean Diet in the Late First Trimester is Associated with a Reduction in the Risk of Materno-Foetal Outcomes: The St. Carlos Gestational Diabetes Mellitus Prevention Study. Article. Nutrients. Dec 31 2018;11(1)doi:10.3390/nu11010066	Study design; Outcome
63	Astuti T, Marbun R, Surmita. The Effectiveness of Nutrition Education, Counseling and Exercise on Desirable Dietary Pattern Score and Weight Loss in Obese Teenagers. Journal: Conference Abstract. Annals of Nutrition and Metabolism. 2019;75(3):367-368.	Publication status
64	Atakora L, Poston L, Hayes L, Flynn AC, White SL. Influence of GDM Diagnosis and Treatment on Weight Gain, Dietary Intake and Physical Activity in Pregnant Women with Obesity: Secondary Analysis of the UPBEAT Study. Nutrients. Jan 30 2020;12(2)doi:10.3390/nu12020359	Intervention or Exposure
65	Atar FA, Verep S. Dietary advices for patients with metabolic syndrome and obesity. World J Urol. May 2023;41(5):1211-1214. doi:10.1007/s00345-022-04250-6	Study design
66	Atkinson SA, Maran A, Dempsey K, et al. Be Healthy in Pregnancy (BHIP): A Randomized Controlled Trial of Nutrition and Exercise Intervention from Early Pregnancy to Achieve Recommended Gestational Weight Gain. Article. Nutrients. Feb 15 2022;14(4)doi:10.3390/nu14040810	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
67	Author N/A. To study the role of whole food, plant based diet in reducing weight in obese patients in comparison with the standard weight reducing diet. http://www.who.int/trialsearch/Trial2.aspx?TrialID=CTRI/2020/08/027057. 2020.	Publication status
68	Author N/A. A quasi-experimental study of a health educational intervention targeting parents of overweight and obese pre-school children in Shanghai, China. Obesity reviews. 2020. 21:.	Publication status
69	Author N/A. Assessing compliance with Paleolithic diet by calculating Paleolithic Diet Fraction as the fraction of intake from Paleolithic food groups. Journal: Article. Clinical nutrition experimental. 2019;25:29-35.	Health Status- 100% CVD
70	Author N/A. Diet for the Maintenance of Weight Loss and Metabolic Health in Obese Postmenopausal Women. https://clinicaltrialsgov/show/NCT04136093. 2019	Publication status
71	Author N/A. Gut microbiota shift and low fibre intake in post gestational diabetes women. Journal: Conference Abstract. Gut. 2019;68:A96-.	Publication status
72	Author N/A. Low Carbohydrate Diet Versus Low Fat Diet in Reversing the Metabolic Syndrome Using NCEP ATP III Criteria. https://clinicaltrialsgov/show/NCT04681924. 2020	Country; Publication status
73	Author N/A. Quality of Diet in Preschool Population. https://clinicaltrialsgov/show/NCT04301180. 2020	Publication status
74	Author N/A. Randomized Controlled Multi-center Study of the New Nordic Diet in Gestational Diabetes Mellitus. https://clinicaltrialsgov/show/NCT04169243. 2019	Study design; Publication status
75	Author N/A. Retraction and republication—Effect of a high-fat Mediterranean diet on bodyweight and waist circumference: a prespecified secondary outcomes analysis of the PREDIMED randomised controlled trial (The Lancet Diabetes & Endocrinology	Publication status

Number	Citation	Rationale
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76	Author N/A. The development, implementation and evaluation of a weight loss intervention for overweight/obese primary school educators at selected schools within the Metro North District in Western Cape Province, South Africa: a randomized controlled trial. http://wwwwhoint/trialsearch/Trial2aspx?TrialID=PACTR201910535635886. 2019;	Publication status
77	Author N/A. The Effect of Lifestyle Intervention for Hypertriglyceridemia on the Pathogenesis of Adverse Pregnancy Outcome. https://clinicaltrialsgov/show/NCT04275622. 2020	Publication status
78	Author N/A. The Effect of the DASH Diet Containing Meat on Muscle and Metabolic Health in Older Adults. https://clinicaltrialsgov/show/NCT04127240. 2019	Publication status
79	Author N/A. Traditional Korean diet can alter the urine organic acid profile, which may reflect the metabolic influence of the diet. Research Article. J nutr health. 2020;53(3):231-243.	Duration of Intervention; Language
80	Author N/A. Vegetarian Kids Shown to Have Similar Growth, Nutrition vs Those Who Eat Meat. Today's Dietitian. 2022;24(5):53-53.	Publication status
81	Autoren Pletsch-Borba L, Wernicke C, Apostoloupoulou K, et al. Determinants of adherence to a high-protein and high-unsaturated fatty acids dietary intervention: 1-year results of the NutriAct randomized controlled multi-center trial. Journal: Conference Abstract. Diabetologie und stoffwechsel. 2021;16(SUPPL 1):S83-S84.	Publication status
82	Avnon T, Paz Dubinsky E, Lavie I, Ben-Mayor Bashi T, Anbar R, Yogev Y. The impact of a vegan diet on pregnancy outcomes. J Perinatol. May 2021;41(5):1129-1133. doi:10.1038/s41372-020-00804-x	Outcome

Number	Citation	Rationale
83	Aziz S, Rehman H. Mechanism and benefits of ketogenic diet for weight loss and health. Article. Rawal Medical Journal. 2019;44(4):880-883.	Study design
84	Azrak MA, Fasano MV, Avico AJ, et al. Prolonged body weight gain, lifestyle changes and health-related quality of life in children during the COVID-19 pandemic lockdown: A follow-up study. Article. Eur J Clin Nutr. Apr 2023;77(4):460-467. doi:10.1038/s41430-022-01252-w	Intervention or Exposure
85	Babili MG, Amerikanou C, Papada E, Christopoulos G, Tzavara C, Kaliora AC. The effect of prenatal maternal physical activity and lifestyle in perinatal outcome: results from a Greek study. Eur J Public Health. Apr 1 2020;30(2):328-332. doi:10.1093/eurpub/ckz223	Outcome
86	Baden MY, Satija A, Hu FB, Huang T. Change in Plant-Based Diet Quality Is Associated with Changes in Plasma Adiposity-Associated Biomarker Concentrations in Women. Journal: Article. J Nutr. Apr 1 2019;149(4):676-686. doi:10.1093/jn/nxy301	Outcome
87	Badr HE, Saunders T, Carter A, Reyes Castillo L, Bayoumy O, Barrett M. Impact of Lifestyle Modification on Quality of Life in Patients with Metabolic Syndrome: Findings from the CHANGE Program Intervention Study in Prince Edward Island, Canada. Metab Syndr Relat Disord. Nov 2022;20(9):532-542. doi:10.1089/met.2022.0056	Study design; Intervention or Exposure
88	Bakırhan H, Pehlivan M, Özyürek F, Özkaya V, Yousefirad N. Diet, Sleep and Depression: Does Adherence to the Mediterranean Diet Matter? Article. Journal of Turkish Sleep Medicine. 2022;9(2):172-179. doi:10.4274/jtsm.galenos.2022.15046	Study design; Outcome
89	Bansal S, Connolly M, Harder T. Impact of a Whole-Foods, Plant-Based Nutrition Intervention on Patients Living with Chronic Disease in an Underserved Community. Am J Lifestyle Med. May-Jun 2022;16(3):382-389. doi:10.1177/15598276211018159	Study design
90	Barbosa C, Costa A, Hetherington MM, Oliveira A. Association of early feeding practices with dietary patterns of 7-year-olds from the birth cohort Generation XXI. Appetite. Apr 1 2022;171:105909. doi:10.1016/j.appet.2021.105909	Outcome

Number	Citation	Rationale
91	Barchitta M, Magnano San Lio R, La Rosa MC, et al. The Effect of Maternal Dietary Patterns on Birth Weight for Gestational Age: Findings from the MAMI-MED Cohort. Nutrients. Apr 16 2023;15(8)doi:10.3390/nu15081922	Did not account for at least 1 key confounder
92	Barker K, Davy B. Is Consumption of Ultra-Processed Foods Associated with Cardiometabolic Risk? Scan's Pulse. Winter2021 2021;41(1):1-5.	Publication status
93	Barnaba L, Intorre F, Azzini E, et al. Evaluation of adherence to Mediterranean diet and association with clinical and biological markers in an Italian population. Nutrition. Sep 2020;77:110813. doi:10.1016/j.nut.2020.110813	Study design; Outcome
94	Barnard ND, Alwarith J, Rembert E, et al. A Mediterranean Diet and Low-Fat Vegan Diet to Improve Body Weight and Cardiometabolic Risk Factors: A Randomized, Cross-over Trial. J Am Nutr Assoc. Feb 2022;41(2):127-139. doi:10.1080/07315724.2020.1869625	Intervention or Exposure - Foods/Beverages Not Reported
95	Barrea L, Muscogiuri G, Savastano S, Colao A, Project OP. Cut-off for the Mediterranean diet score to identify subjects with morning chronotype in middle-aged Italian adults. Article. Minerva Endocrinol (Torino). Mar 2022;47(1):129-131. doi:10.23736/S2724-6507.21.03411-8	Publication status
96	Barrea L, Muscogiuri G, Savastano S, Colao A, Project OP. What about Mediterranean diet as tool to improve sleep quality in obesity? Minerva Endocrinol (Torino). Jun 2022;47(2):253-255. doi:10.23736/S2724-6507.21.03410-6	Publication status
97	Barreto J, Assis AMO, de Santana MLP, Pitangueira JCD, Cunha CM, Costa PRF. Influence of sugar consumption from foods with different degrees of processing on anthropometric indicators of children and adolescents after 18 months of follow-up. Br J Nutr. Dec 14 2022;128(11):2267-2277. doi:10.1017/S0007114522000411	Intervention or Exposure

Number	Citation	Rationale
98	Barros L, Lopes C, Oliveira A. Child and family characteristics are associated with a dietary variety index in 4-year-old children from the Generation XXI cohort. Article. Nutr Res. Mar 2019;63:76-85. doi:10.1016/j.nutres.2018.12.001	Study design
99	Bartha V, Exner L, Schweikert D, et al. Effect of the Mediterranean diet on gingivitis: A randomized controlled trial. J Clin Periodontol. Feb 2022;49(2):111-122. doi:10.1111/jcpe.13576	Duration of Intervention
100	Basri H, Hadju V, Zulkifli A, et al. Dietary diversity, dietary patterns and dietary intake are associated with stunted children in Jeneponto District, Indonesia. Gac Sanit. 2021;35 Suppl 2:S483-S486. doi:10.1016/j.gaceta.2021.10.077	Intervention or Exposure; Country
101	Basu A, Chien LC, Alman AC, Snell-Bergeon JK. Associations of dietary patterns and nutrients with coronary artery calcification and pericardial adiposity in a longitudinal study of adults with and without type 1 diabetes. Eur J Nutr. Oct 2021;60(7):3911-3925. doi:10.1007/s00394-021-02564-6	Outcome
102	Basu A, Feng D, Planinic P, Ebersole JL, Lyons TJ, Alexander JM. Dietary Blueberry and Soluble Fiber Supplementation Reduces Risk of Gestational Diabetes in Women with Obesity in a Randomized Controlled Trial. Article. J Nutr. May 11 2021;151(5):1128-1138. doi:10.1093/jn/nxaa435	Intervention or Exposure
103	Baudry J, Pointereau P, Seconda L, et al. Improvement of diet sustainability with increased level of organic food in the diet: findings from the BioNutriNet cohort. Article. Am J Clin Nutr. Apr 1 2019;109(4):1173-1188. doi:10.1093/ajcn/nqy361	Intervention or Exposure
104	Bayerle P, Beyer S, Tegtbur U, et al. Exercise Capacity, Iron Status, Body Composition, and Mediterranean Diet in Patients with Chronic Heart Failure. Nutrients. Dec 21 2022;15(1)doi:10.3390/nu15010036	Health Status- 100% CVD
105	Beaudry KM, Ludwa IA, Thomas AM, Ward WE, Falk B, Josse AR. First-year university is associated with greater body weight, body composition and adverse dietary changes in males than females. Article. PLoS One. Jul 3 2019;14(7):e0218554. doi:10.1371/journal.pone.0218554	Intervention or Exposure

Number	Citation	Rationale
106	Bédard, A.,Northstone, K.,John Henderson, A.,Shaheen, S. O.. Mediterranean diet during pregnancy and childhood respiratory and atopic outcomes: Birth cohort study. European Respiratory Journal. 2020. 55:.	Health Status
107	Bell LK, Schammer C, Devenish G, et al. Dietary Patterns and Risk of Obesity and Early Childhood Caries in Australian Toddlers: Findings from an Australian Cohort Study. Nutrients. Nov 19 2019;11(11)doi:10.3390/nu11112828	Study design
108	Bell M, Duncan MJ, Patte KA, Roy BD, Ditor DS, Klentrou P. Changes in Body Mass, Physical Activity, and Dietary Intake during the COVID-19 Pandemic Lockdowns in Canadian University Students. Biology (Basel). Feb 17 2023;12(2)doi:10.3390/biology12020326	Intervention or Exposure; Outcome
109	Bellikci-Koyu E, Sarer-Yurekli BP, Karagozlu C, Aydin-Kose F, Ozgen AG, Buyuktuncer Z. Probiotic kefir consumption improves serum apolipoprotein A1 levels in metabolic syndrome patients: a randomized controlled clinical trial. Nutr Res. Jun 2022;102:59-70. doi:10.1016/j.nutres.2022.02.006	Intervention or Exposure
110	Bel-Serrat S, Ojeda-Rodriguez A, Heinen MM, et al. Clustering of Multiple Energy Balance-Related Behaviors in School Children and its Association with Overweight and Obesity-WHO European Childhood Obesity Surveillance Initiative (COSI 2015(-)2017). Article. Nutrients. Feb 27 2019;11(3)doi:10.3390/nu11030511	Study design; Intervention or Exposure
111	Bennet L, Fawad A, Struck J, Larsson SL, Bergmann A, Melander O. The effect of a randomised controlled lifestyle intervention on weight loss and plasma proneurotensin. Article. BMC Endocr Disord. Oct 31 2022;22(1):264. doi:10.1186/s12902-022-01183-4	Intervention or Exposure - Foods/Beverages Not Reported
112	Ben-Yacov O, Godneva A, Rein M, et al. Gut microbiome modulates the effects of a personalised postprandial-targeting (PPT) diet on cardiometabolic markers: a diet intervention in pre-diabetes. Article in Press. Gut. Aug 2023;72(8):1486-1496. doi:10.1136/gutjnl-2022-329201	Intervention or Exposure; Outcome

Number	Citation	Rationale
113	Ben-Yacov O, Godneva A, Rein M, et al. Personalized Postprandial Glucose Response-Targeting Diet Versus Mediterranean Diet for Glycemic Control in Prediabetes. Diabetes Care. Sep 2021;44(9):1980-1991. doi:10.2337/dc21-0162	Intervention or Exposure - Foods/Beverages Not Reported; Comparator
114	Bergia RE, Giacco R, Hjorth T, et al. Differential Glycemic Effects of Low- versus High-Glycemic Index Mediterranean-Style Eating Patterns in Adults at Risk for Type 2 Diabetes: The MEDGI-Carb Randomized Controlled Trial. Article. Nutrients. Feb 8 2022;14(3)doi:10.3390/nu14030706	Outcome; Comparator
115	Bernhart JA, Turner-McGrievy GM, Wilson MJ, Sentman C, Wilcox S, Rudisill C. NEW Soul in the neighborhood-reach and effectiveness of a dissemination and implementation feasibility study. Transl Behav Med. Apr 3 2023;13(3):123-131. doi:10.1093/tbm/ibac080	Comparator
116	Bernhart JA, Turner-McGrievy GM, Wirth MD, Shivappa N, Hebert JR. The IMAGINE Intervention: Impacting Physical Activity, Body Fat, Body Mass Index, and Dietary Inflammatory Index. Transl J Am Coll Sports Med. Winter 2022;7(1)doi:10.1249/tjx.0000000000000181	Study design; Intervention or Exposure; Comparator
117	Bernier E, Plante AS, Robitaille J, et al. First-trimester diet quality in association with maternal subcutaneous and visceral adipose tissue thicknesses and glucose homeostasis during pregnancy. Int J Food Sci Nutr. Mar 2023;74(2):268-278. doi:10.1080/09637486.2023.2171371	Outcome
118	Berthy F, Brunin J, Allès B, et al. Association between adherence to the EAT-Lancet diet and risk of cancer and cardiovascular outcomes in the prospective NutriNet-Sante cohort. Annals of Nutrition and Metabolism. Aug 2023;79:391-391.	Outcome

Number	Citation	Rationale
119	Bethancourt HJ, Kratz M, O'Connor K. A short-term religious "fast" from animal products has a minimal impact on cardiometabolic health biomarkers irrespective of concurrent shifts in distinct plant-based food groups. Article. Am J Clin Nutr. Sep 1 2019;110(3):722-732. doi:10.1093/ajcn/nqz153	Duration of Intervention
120	Beunza JJ, Toledo E, Hu FB, et al. Adherence to the Mediterranean diet, long-term weight change, and incident overweight or obesity: the Seguimiento Universidad de Navarra (SUN) cohort. Article. Am J Clin Nutr. Dec 2010;92(6):1484-93. doi:10.3945/ajcn.2010.29764	Data overlap
121	Beydoun MA, Nkodo A, Fanelli-Kuczmarski MT, et al. Longitudinal Associations between Monetary Value of the Diet, DASH Diet Score and the Allostatic Load among Middle-Aged Urban Adults. Article. Nutrients. Oct 3 2019;11(10)doi:10.3390/nu11102360	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
122	Bhupathiraju SN, Sawicki CM, Goon S, et al. A healthy plant-based diet is favorably associated with cardiometabolic risk factors among participants of South Asian ancestry. Am J Clin Nutr. Oct 6 2022;116(4):1078-1090. doi:10.1093/ajcn/nqac174	Size or Power
123	Bhutani S, vanDellen MR, Cooper JA. Longitudinal Weight Gain and Related Risk Behaviors during the COVID-19 Pandemic in Adults in the US. Article. Nutrients. Feb 19 2021;13(2):1-14. doi:10.3390/nu13020671	Intervention or Exposure
124	Bibiloni MDM, Fernandez-Blanco J, Pujol-Plana N, et al. [Reversion of overweight and obesity in Vilafranca del Penedes child population: ACTIVA'T Program (2012)]. Journal Article; Randomized Controlled Trial. Gac Sanit. Mar-Apr 2019;33(2):197-202. Reversion de sobrepeso y obesidad en poblacion infantil de Vilafranca del Penedes: Programa ACTIVA'T (2012). doi:10.1016/j.gaceta.2017.10.002	Study design
125	Biddulph C, Holmes M, Tran TD, et al. Associations between Maternal Nutrition and the Concentrations of Human Milk Oligosaccharides in a Cohort of Healthy Australian Lactating Women. Article. Nutrients. Apr 26 2023;15(9)doi:10.3390/nu15092093	Intervention or Exposure; Outcome

Number	Citation	Rationale
126	Bijlholt M, Ameye L, van Uytsel H, Devlieger R, Bogaerts A. Evolution of Postpartum Weight and Body Composition after Excessive Gestational Weight Gain: The Role of Lifestyle Behaviors-Data from the INTER-ACT Control Group. Article. Int J Environ Res Public Health. Jun 11 2021;18(12)doi:10.3390/ijerph18126344	Intervention or Exposure
127	Black MM, Hager ER, Wang Y, et al. Toddler obesity prevention: A two-generation randomized attention-controlled trial. Matern Child Nutr. Jan 2021;17(1):e13075. doi:10.1111/mcn.13075	Intervention or Exposure
128	Blancas-Sanchez IM, Del Rosal Jurado M, Aparicio-Martinez P, et al. A Mediterranean-Diet-Based Nutritional Intervention for Children with Prediabetes in a Rural Town: A Pilot Randomized Controlled Trial. Nutrients. Sep 1 2022;14(17)doi:10.3390/nu14173614	Size or Power
129	Blondal BS, Geirsdottir OG, Beck AM, et al. HOMEFOOD randomized trial-beneficial effects of 6-month nutrition therapy on body weight and physical function in older adults at risk for malnutrition after hospital discharge. Eur J Clin Nutr. Jan 2023;77(1):45-54. doi:10.1038/s41430-022-01195-2	Intervention or Exposure - Foods/Beverages Not Reported
130	Blumenthal JA, Smith PJ, Mabe S, et al. Longer Term Effects of Diet and Exercise on Neurocognition: 1-Year Follow-up of the ENLIGHTEN Trial. J Am Geriatr Soc. Mar 2020;68(3):559-568. doi:10.1111/jgs.16252	Comparator
131	Bogataj Jontez N, Kenig S, Sik Novak K, Petelin A, Jenko Praznikar Z, Mohorko N. Habitual low carbohydrate high fat diet compared with omnivorous, vegan, and vegetarian diets. Front Nutr. 2023;10:1106153. doi:10.3389/fnut.2023.1106153	Study design
132	Boleslawska I, Kowalowka M, Dobrzynska M, Karazniewicz-Lada M, Przyslawski J. Differences in the Concentration of Vitamin D Metabolites in Plasma Due to the Low-Carbohydrate-High-Fat Diet and the Eastern European Diet-A Pilot Study. Nutrients. Aug 13 2021;13(8)doi:10.3390/nu13082774	Duration of Intervention; Outcome

Number	Citation	Rationale
133	Boonpor J, Petermann-Rocha F, Parra-Soto S, et al. Types of diet, obesity, and incident type 2 diabetes: Findings from the UK Biobank prospective cohort study. Diabetes Obes Metab. Jul 2022;24(7):1351-1359. doi:10.1111/dom.14711	Outcome
134	Boriak KR, Vesnina LE. Relationship of the Eating Behavior Features with Anthropometric Indicators and Energy Value of the Diet in Young People with Normal Weight and Overweight. Article. Wiad Lek. 2020;73(12 cz 1):2586-2590.	Study design; Intervention or Exposure
135	Bourke S, Morton JM, Williams P. Effect of JumpstartMD, a Commercial Low-Calorie Low-Carbohydrate Physician-Supervised Weight Loss Program, on 22,407 Adults. Article. J Obes. 2020;2020:8026016. doi:10.1155/2020/8026016	Study design; Intervention or Exposure
136	Boutros GH, Landry-Duval MA, Garzon M, Karelis AD. Is a vegan diet detrimental to endurance and muscle strength? Eur J Clin Nutr. Nov 2020;74(11):1550-1555. doi:10.1038/s41430-020-0639-y	Study design; Intervention or Exposure - Foods/Beverages Not Reported
137	Bozbulut R, Soysal Acar AS, Doger E, Orhun Camurdan M, Bideci A. The relationship between alexithymia, health literacy, and diet quality in obese adolescents. Article. J Pediatr Endocrinol Metab. Feb 23 2023;36(2):137-146. doi:10.1515/jpem-2022-0405	Outcome
138	Bozkurt YE, Temeltas G, Muezzinoglu T, Ucer O. Mediterranean Diet and Overactive Bladder. Int Neurourol J. Jun 2022;26(2):129-134. doi:10.5213/inj.2142118.059	Study design; Outcome
139	Bragg AE, Crowe-White KM, Ellis AC, et al. Changes in Cardiometabolic Risk Among Older Adults with Obesity: An Ancillary Analysis of a Randomized Controlled Trial Investigating Exercise Plus Weight Maintenance and Exercise Plus Intentional Weight Loss by Caloric Restriction. J Acad Nutr Diet. Feb 2022;122(2):354-362. doi:10.1016/j.jand.2021.07.009	Intervention or Exposure

Number	Citation	Rationale
140	Brauchmann J, Bau AM, Mensink GBM, et al. Dietary Patterns in Adolescent Obesity as Predictors of Long-Term Success Following an Intensive Inpatient Lifestyle Programme. Int J Environ Res Public Health. Dec 10 2022;19(24)doi:10.3390/ijerph192416613	Intervention or Exposure
141	Brazo Sayavera J, Crochemore-Silva I, Bizzozero Peroni B, Gonzalez-Galvez N, de Camargo EM, Lopez-Gil JF. Inequalities in the association between adherence to the Mediterranean diet and physical fitness in the young population during the COVID-19 lockdown. Article. Nutr Hosp. Apr 20 2023;40(2):391-399. Desigualdades en la asociacion entre la adherencia a la dieta mediterranea y la condicion fisica en la poblacion joven durante el confinamiento de la COVID-19. doi:10.20960/nh.04225	Study design; Outcome
142	Brinkworth GD, Wycherley TP, Taylor PJ, Thompson CH. A Health Care Professional Delivered Low Carbohydrate Diet Program Reduces Body Weight, Haemoglobin A1c, Diabetes Medication Use and Cardiovascular Risk Markers-A Single-Arm Intervention Analysis. Article. Nutrients. Oct 20 2022;14(20)doi:10.3390/nu14204406	Study design; Intervention or Exposure - Foods/Beverages Not Reported; Duration of Intervention
143	Bromage S, Daria T, Lander RL, et al. Diet and Nutrition Status of Mongolian Adults. Nutrients. May 22 2020;12(5)doi:10.3390/nu12051514	Size or Power
144	Bros-Konopielko M, Bialek A, Oleszczuk-Modzelewska L, Zaleskiewicz B, Rozanska-Waledziak A, Czajkowski K. Nutritional, Anthropometric and Sociodemographic Factors Affecting Fatty Acids Profile of Pregnant Women's Serum at Labour-Chemometric Studies. Nutrients. Aug 25 2021;13(9)doi:10.3390/nu13092948	Intervention or Exposure; Outcome
145	Brum SZ, Franchini B, Moura AP. Body Composition, Nutritional Intake Assessment, and Perceptions about Diet for Health and Performance: An Exploratory Study for Senior Futsal Players. Nutrients. Mar 16 2023;15(6)doi:10.3390/nu15061428	Study design

Number	Citation	Rationale
146	Bruno R, Petrella E, Bertarini V, Pedrielli G, Neri I, Facchinetti F. Adherence to a lifestyle programme in overweight/obese pregnant women and effect on gestational diabetes mellitus: a randomized controlled trial. Matern Child Nutr. Jul 2017;13(3)doi:10.1111/mcn.12333	Outcome
147	Buckingham-Schutt LM, Ellingson LD, Vazou S, Campbell CG. The Behavioral Wellness in Pregnancy study: a randomized controlled trial of a multi-component intervention to promote appropriate weight gain. Journal Article; Randomized Controlled Trial; Research Support, Non-U.S. Gov't; Research Support, U.S. Gov't, Non-P.H.S. Am J Clin Nutr. Apr 1 2019;109(4):1071-1079. doi:10.1093/ajcn/nqy359	Intervention or Exposure; Comparator
148	Buckland G, Northstone K, Emmett PM, Taylor CM. The inflammatory potential of the diet in childhood is associated with cardiometabolic risk in adolescence/young adulthood in the ALSPAC birth cohort. Article. Eur J Nutr. Oct 2022;61(7):3471-3486. doi:10.1007/s00394-022-02860-9	Intervention or Exposure - Foods/Beverages Not Reported
149	Bulunç NH, Yıldız E. The Relationship between Biochemical and Hemoglobin Results and Quality Index Scores of the Mediterranean Diet of Pregnant Women in the First and the Third Trimester. Article. Progress in Nutrition. 2021;23(4)doi:10.23751/pn.v23i4.11333	Intervention or Exposure; Outcome
150	Burton ET, Smith WA. Mindful Eating and Active Living: Development and Implementation of a Multidisciplinary Pediatric Weight Management Intervention. Nutrients. May 14 2020;12(5)doi:10.3390/nu12051425	Study design; Intervention or Exposure
151	Cacau LT, Bensenor IM, Goulart AC, et al. Adherence to the Planetary Health Diet Index and Obesity Indicators in the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil). Article. Nutrients. Oct 20 2021;13(11)doi:10.3390/nu13113691	Study design
152	Cai L, Dai M, Lin L, et al. Incidence of childhood overweight and obesity and its association with weight-related attitudes and behaviors in China: a national longitudinal study. Article. Int J Behav Nutr Phys Act. Nov 3 2018;15(1):108. doi:10.1186/s12966-018-0737-6	Intervention or Exposure; Publication date

Number	Citation	Rationale
153	Cai Q, Dekker LH, Vinke PC, et al. Diet quality and incident chronic kidney disease in the general population: The Lifelines Cohort Study. Article. Clin Nutr. Sep 2021;40(9):5099-5105. doi:10.1016/j.clnu.2021.07.033	Outcome
154	Cai R, Chao J, Li D, Zhang M, Kong L, Wang Y. Effect of community-based lifestyle interventions on weight loss and cardiometabolic risk factors in obese elderly in China: A randomized controlled trial. Journal Article; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. Exp Gerontol. Dec 2019;128:110749. doi:10.1016/j.exger.2019.110749	Intervention or Exposure - Foods/Beverages Not Reported
155	Calleja M, Caetano Feitoza N, Falk B, et al. Increased dairy product consumption as part of a diet and exercise weight management program improves body composition in adolescent females with overweight and obesity-A randomized controlled trial. Pediatr Obes. Dec 2020;15(12):e12690. doi:10.1111/ijpo.12690	Intervention or Exposure - Foods/Beverages Not Reported
156	Callender C, Johnson B, Musaad S, Thompson D. Baseline Diet Quality Using the Healthy Eating Index-2015 for African American Girls in an Online Obesity Prevention Program. Journal of the Academy of Nutrition & Dietetics. 2022;122(10):A122-A122.	Publication status
157	Calvo-Malvar M, Benitez-Estevez AJ, Sanchez-Castro J, Leis R, Gude F. Effects of a Community-Based Behavioral Intervention with a Traditional Atlantic Diet on Cardiometabolic Risk Markers: A Cluster Randomized Controlled Trial ("The GALIAT Study"). Nutrients. Apr 7 2021;13(4)doi:10.3390/nu13041211	Outcome
158	Campanella A, Iacovazzi PA, Misciagna G, et al. The Effect of Three Mediterranean Diets on Remnant Cholesterol and Non-Alcoholic Fatty Liver Disease: A Secondary Analysis. Journal Article; Randomized Controlled Trial. Nutrients. Jun 4 2020;12(6)doi:10.3390/nu12061674	Outcome
159	Cano-Ibanez N, Bueno-Cavanillas A, Martinez-Gonzalez MA, et al. Effect of changes in adherence to Mediterranean diet on nutrient density after 1-year of follow-up: results from the PREDIMED-Plus Study. Eur J Nutr. Sep 2020;59(6):2395-2409. doi:10.1007/s00394-019-02087-1	Outcome

Number	Citation	Rationale
160	Cano-Ibanez N, Martinez-Galiano JM, Luque-Fernandez MA, Martin-Pelaez S, Bueno-Cavanillas A, Delgado-Rodriguez M. Maternal Dietary Patterns during Pregnancy and Their Association with Gestational Weight Gain and Nutrient Adequacy. Int J Environ Res Public Health. Oct 28 2020;17(21)doi:10.3390/ijerph17217908	Study design
161	Cano-Ibanez N, Quintana-Navarro GM, Alcala-Diaz JF, et al. Long-term effect of a dietary intervention with two-healthy dietary approaches on food intake and nutrient density in coronary patients: results from the CORDIOPREV trial. Eur J Nutr. Sep 2022;61(6):3019-3036. doi:10.1007/s00394-022-02854-7	Health Status- 100% CVD
162	Cano-Ibanez N, Serra-Majem L, Martin-Pelaez S, et al. Association between the Prime Diet Quality Score and depressive symptoms in a Mediterranean population with metabolic syndrome. Cross-sectional and 2-year follow-up assessment from PREDIMED-PLUS study. Article in Press. Br J Nutr. Sep 28 2022;128(6):1170-1179. doi:10.1017/S0007114521004323	Outcome
163	Cao YJ, Wang HJ, Zhang B, et al. Associations of fat and carbohydrate intake with becoming overweight and obese: an 11-year longitudinal cohort study. Br J Nutr. Oct 14 2020;124(7):715-728. doi:10.1017/S0007114520001579	Intervention or Exposure
164	Carbert NS, Brussoni M, Geller J, Masse LC. Moderating effects of family environment on overweight/obese adolescents' dietary behaviours. Article. Appetite. Mar 1 2019;134:69-77. doi:10.1016/j.appet.2018.12.034	Study design; Outcome
165	Carbone F, Ciaula AD, Pagano S, et al. Anti-ApoA-1 IgGs predict resistance to waist circumference reduction after Mediterranean diet. Eur J Clin Invest. Mar 2021;51(3):e13410. doi:10.1111/eci.13410	Intervention or Exposure; Comparator
166	Cardenas-Fuentes G, Lassale C, Martinez-Gonzalez MA, et al. Anthropometric Variables as Mediators of the Association of Changes in Diet and Physical Activity With Inflammatory Profile. J Gerontol A Biol Sci Med Sci. Oct 13 2021;76(11):2021-2029. doi:10.1093/gerona/glab072	Outcome; Comparator

Number	Citation	Rationale
167	Carter S, Parsons C, Ward K, Clynes M, Dennison EM, Cooper C. Body mass index, prudent diet score and social class across three generations: evidence from the Hertfordshire Intergenerational Study. BMJ Nutr Prev Health. 2021;4(1):36-41. doi:10.1136/bmjnph-2020-000178	Intervention or Exposure; Comparator
168	Casas R, Castro-Barquero S, Crovetto F, et al. Maternal Dietary Inflammatory Index during Pregnancy Is Associated with Perinatal Outcomes: Results from the IMPACT BCN Trial. Article. Nutrients. May 29 2022;14(11)doi:10.3390/nu14112284	Intervention or Exposure; Outcome
169	Casas R. Moving towards a Healthier Dietary Pattern Free of Ultra-Processed Foods. Article. Nutrients. Dec 28 2021;14(1)doi:10.3390/nu14010118	Study design; Publication status
170	Casperson SL, Jahns L, Duke SE, et al. Incorporating the Dietary Guidelines for Americans Vegetable Recommendations into the Diet Alters Dietary Intake Patterns of Other Foods and Improves Diet Quality in Adults with Overweight and Obesity. J Acad Nutr Diet. Jul 2022;122(7):1345-1354 e1. doi:10.1016/j.jand.2022.03.008	Duration of Intervention; Comparator
171	Castellana F, Zupo R, Bortone I, et al. Traditional Old Dietary Pattern of Castellana Grotte (Apulia) Is Associated with Healthy Outcomes. Nutrients. Oct 12 2020;12(10)doi:10.3390/nu12103097	Size or Power
172	Castro EA, Carraca EV, Cupeiro R, et al. The Effects of the Type of Exercise and Physical Activity on Eating Behavior and Body Composition in Overweight and Obese Subjects. Article. Nutrients. Feb 20 2020;12(2)doi:10.3390/nu12020557	Intervention or Exposure
173	Castro TG, Gerritsen S, Teixeira JA, et al. An index measuring adherence to New Zealand Infant Feeding Guidelines has convergent validity with maternal socio-demographic and health behaviours and with children's body size. Br J Nutr. Apr 14 2022;127(7):1073-1085. doi:10.1017/S0007114521001720	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
174	Castro-Barquero S, Casas R, Rimm EB, et al. Loss of Visceral Fat is Associated with a Reduction in Inflammatory Status in Patients with Metabolic Syndrome. Mol Nutr Food Res. Feb 2023;67(4):e2200264. doi:10.1002/mnfr.202200264	Intervention or Exposure; Comparator
175	Castro-Barquero S, Ribo-Coll M, Lassale C, et al. Mediterranean Diet Decreases the Initiation of Use of Vitamin K Epoxide Reductase Inhibitors and Their Associated Cardiovascular Risk: A Randomized Controlled Trial. Article. Nutrients. Dec 19 2020;12(12):1-14. doi:10.3390/nu12123895	Intervention or Exposure; Outcome
176	Cea-Soriano L, Pulido J, Franch-Nadal J, et al. Mediterranean diet and diabetes risk in a cohort study of individuals with prediabetes: propensity score analyses. Article in Press. Diabet Med. Jun 2022;39(6):e14768. doi:10.1111/dme.14768	Outcome
177	Chairistanidou C, Karatzi K, Karaglani E, et al. Diet quality in association to lipidaemic profile in adults of families at high-risk for type 2 diabetes in Europe: The Feel4Diabetes study. Nutr Metab Cardiovasc Dis. May 2022;32(5):1175-1185. doi:10.1016/j.numecd.2022.01.036	Outcome
178	Chaltiel D, Julia C, Adjibade M, Touvier M, Hercberg S, Kesse-Guyot E. Adherence to the new French dietary guidelines and risk of overweight and obesity. Proceedings of the Nutrition Society. 2020;79(OCE2):E232-E232. doi:10.1017/s0029665120001809	Publication status
179	Champagne C, Miketinas D, Sacks F, Bray G. Weight loss, adherence, and dietary intakes of free-living adults consuming calorie-restricted diets varying in macronutrient composition: the POUNDS LOST Study. Journal: Conference Abstract. Proceedings of the Nutrition Society. 2020;79(OCE2):E310-E310. doi:10.1017/s002966512000258x	Publication status
180	Chang AR, Gummo L, Yule C, et al. Effects of a Dietitian-Led, Telehealth Lifestyle Intervention on Blood Pressure: Results of a Randomized, Controlled Trial. J Am Heart Assoc. Oct 4 2022;11(19):e027213. doi:10.1161/JAHA.122.027213	Intervention or Exposure

Number	Citation	Rationale
181	Chang SL, Lee KJ, Nfor ON, et al. Vegetarian Diets along with Regular Exercise: Impact on High-Density Lipoprotein Cholesterol Levels among Taiwanese Adults. Medicina (Kaunas). Feb 13 2020;56(2)doi:10.3390/medicina56020074	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
182	Charkamyani F, Khedmat L, Hosseinkhani A. Decreasing the main maternal and fetal complications in women undergoing in vitro fertilization (IVF) trained by nutrition and healthy eating practices during pregnancy. J Matern Fetal Neonatal Med. Jun 2021;34(12):1855-1867. doi:10.1080/14767058.2019.1651267	Health Status
183	Chaumont S, Quinquis L, Monnerie B, et al. A poor diet quality is associated with more gas-related symptoms and a decreased quality of life in French adults. Article. Br J Nutr. May 23 2022;129(4):1-27. doi:10.1017/S0007114522001593	Outcome
184	Chebet JJ, Thomson CA, Kohler LN, et al. Association of Diet Quality and Physical Activity on Obesity-Related Cancer Risk and Mortality in Black Women: Results from the Women's Health Initiative. Cancer Epidemiol Biomarkers Prev. Mar 2020;29(3):591-598. doi:10.1158/1055-9965.EPI-19-1063	Outcome
185	Chen B, Zeng J, Qin M, et al. The Association Between Plant-Based Diet Indices and Obesity and Metabolic Diseases in Chinese Adults: Longitudinal Analyses From the China Health and Nutrition Survey. Front Nutr. 2022;9:881901. doi:10.3389/fnut.2022.881901	Country
186	Chen GC, Arthur R, Mossavar-Rahmani Y, et al. Adherence to Recommended Eating Patterns Is Associated With Lower Risk of Peripheral Arterial Disease: Results From the Women's Health Initiative. Article. Hypertension. Aug 2021;78(2):447-455. doi:10.1161/HYPERTENSIONAHA.121.17432	Outcome

Number	Citation	Rationale
187	Chen LW, Aubert AM, Shivappa N, et al. Associations of maternal dietary inflammatory potential and quality with offspring birth outcomes: An individual participant data pooled analysis of 7 European cohorts in the ALPHABET consortium. PLoS Med. Jan 2021;18(1):e1003491. doi:10.1371/journal.pmed.1003491	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
188	Chen M, Xu Y, Wang X, Shan S, Cheng G. Association between the prudent dietary pattern and blood pressure in Chinese adults is partially mediated by body composition. Front Nutr. Mar 23 2023;10:1131126. doi:10.3389/fnut.2023.1131126	Study design
189	Chen P, Yang Z, Fan Z, et al. Associations of adherence to Mediterranean-like diet pattern with incident rosacea: A prospective cohort study of government employees in China. Front Nutr. 2023;10:1092781. doi:10.3389/fnut.2023.1092781	Outcome
190	Chen Q, Wu W, Yang H, et al. A Vegetable Dietary Pattern Is Associated with Lowered Risk of Gestational Diabetes Mellitus in Chinese Women. Article. Diabetes Metab J. Dec 2020;44(6):887-896. doi:10.4093/dmj.2019.0138	Intervention or Exposure; Outcome
191	Chen Y, Kang M, Kim H, Xu W, Lee JE. Associations of dietary patterns with obesity and weight change for adults aged 18-65 years: Evidence from the China Health and Nutrition Survey (CHNS). PLoS One. 2023;18(1):e0279625. doi:10.1371/journal.pone.0279625	Country
192	Chen Y, Qin Y, Zhang Z, et al. Association of the low-carbohydrate dietary pattern with postpartum weight retention in women. Food Funct. Nov 1 2021;12(21):10764-10772. doi:10.1039/d1fo00935d	Study design
193	Chen Y, Zhou T, Sun D, et al. Distinct genetic subtypes of adiposity and glycemic changes in response to weight-loss diet intervention: the POUNDS Lost trial. Article. Eur J Nutr. Feb 2021;60(1):249-258. doi:10.1007/s00394-020-02244-x	Intervention or Exposure
194	Chen Z, Drouin-Chartier JP, Li Y, et al. Changes in Plant-Based Diet Indices and Subsequent Risk of Type 2 Diabetes in Women and Men: Three U.S. Prospective Cohorts. Diabetes Care. Mar 2021;44(3):663-671. doi:10.2337/dc20-1636	Study design; Outcome

Number	Citation	Rationale
195	Chen Z, Qian F, Liu G, et al. Prepregnancy plant-based diets and the risk of gestational diabetes mellitus: a prospective cohort study of 14,926 women. Am J Clin Nutr. Dec 1 2021;114(6):1997-2005. doi:10.1093/ajcn/nqab275	Outcome
196	Cheng J, Costacou T, Rockette-Wagner B, et al. Perceived and calculated diet quality improvements in a randomized mHealth weight loss trial. Article in Press. Behav Med. Apr-Jun 2024;50(2):164-169. doi:10.1080/08964289.2023.2178374	Outcome
197	Chiu THT, Chang CC, Lin CL, Lin MN. A Vegetarian Diet Is Associated with a Lower Risk of Cataract, Particularly Among Individuals with Overweight: A Prospective Study. Article. J Acad Nutr Diet. Apr 2021;121(4):669-677 e1. doi:10.1016/j.jand.2020.11.003	Outcome
198	Chiu THT, Chang HR, Wang LY, Chang CC, Lin MN, Lin CL. Vegetarian diet and incidence of total, ischemic, and hemorrhagic stroke in 2 cohorts in Taiwan. Neurology. Mar 17 2020;94(11):e1112-e1121. doi:10.1212/WNL.0000000000009093	Intervention or Exposure - Foods/Beverages Not Reported; Outcome; Country
199	Chlebowski RT, Aragaki AK, Anderson GL, et al. Low-fat dietary pattern and long-term breast cancer incidence and mortality: The Women's Health Initiative randomized clinical trial. Journal: Conference Abstract. Journal of Clinical Oncology. May 20 2019;37(15_suppl):520-520. doi:10.1200/JCO.2019.37.15_suppl.520	Outcome
200	Chmurzynska A, Mlodzik-Czyzewska MA, Galinski G, et al. Polymorphism of CD36 Determines Fat Discrimination but Not Intake of High-Fat Food in 20- to 40-Year-Old Adults. Article. J Nutr. Aug 1 2020;150(8):2016-2022. doi:10.1093/jn/nxaa136	Intervention or Exposure
201	Chmurzynska A, Muzsik A, Krzyzanowska-Jankowska P, Madry E, Walkowiak J, Bajerska J. PPARG and FTO polymorphism can modulate the outcomes of a central European diet and a Mediterranean diet in centrally obese postmenopausal women. Journal Article; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. Nutr Res. Sep 2019;69:94-100. doi:10.1016/j.nutres.2019.08.005	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
202	Choi YJ, Crimmins EM, Ailshire JA. Food insecurity, food environments, and disparities in diet quality and obesity in a nationally representative sample of community-dwelling older Americans. Article. Prev Med Rep. Oct 2022;29:101912. doi:10.1016/j.pmedr.2022.101912	Study design
203	Christensen RAG, High S, Wharton S, et al. Sequential diets and weight loss: Including a low-carbohydrate high-fat diet with and without time-restricted feeding. Nutrition. Nov-Dec 2021;91-92:111393. doi:10.1016/j.nut.2021.111393	Intervention or Exposure - Foods/Beverages Not Reported
204	Chwyl C, Wright N, G MT-M, M LB, E MF. Remotely Delivered Behavioral Weight Loss Intervention Using an Ad Libitum Plant-Based Diet: Pilot Acceptability, Feasibility, and Preliminary Results. JMIR Form Res. Jun 23 2022;6(6):e37414. doi:10.2196/37414	Study design; Intervention or Exposure
205	Cincione IR, Graziadio C, Marino F, et al. Short-time effects of ketogenic diet or modestly hypocaloric Mediterranean diet on overweight and obese women with polycystic ovary syndrome. J Endocrinol Invest. Apr 2023;46(4):769-777. doi:10.1007/s40618-022-01943-y	Health Status; Duration of Intervention
206	Cipryan L, Dostal T, Litschmannova M, Hofmann P, Maffetone PB, Laursen PB. Effects of a Very Low-Carbohydrate High-Fat Diet and High-Intensity Interval Training on Visceral Fat Deposition and Cardiorespiratory Fitness in Overfat Individuals: A Randomized Controlled Clinical Trial. Front Nutr. Dec 21 2021;8:785694. doi:10.3389/fnut.2021.785694	Intervention or Exposure - Foods/Beverages Not Reported
207	Cipryan L, Dostal T, Plews DJ, Hofmann P, Laursen PB. Adiponectin/leptin ratio increases after a 12-week very low-carbohydrate, high-fat diet, and exercise training in healthy individuals: A non-randomized, parallel design study. Nutr Res. Mar 2021;87:22-30. doi:10.1016/j.nutres.2020.12.012	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
208	Clark JS, Dyer KA, Davis CR, et al. Adherence to a Mediterranean Diet for 6 Months Improves the Dietary Inflammatory Index in a Western Population: Results from the MedLey Study. Nutrients. Jan 11 2023;15(2)doi:10.3390/nu15020366	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
209	Cloetens L, Sedin Å, Landin-Olsson M. Can a Nordic diet be implemented as a new strategy for successful long-term weight loss maintenance in subjects with obesity? Journal: Conference Abstract. Proceedings of the Nutrition Society. 2020;79(OCE2):E87-E87. doi:10.1017/s002966512000035x	Publication status
210	Coates AM, Morgillo S, Yandell C, et al. Effect of a 12-Week Almond-Enriched Diet on Biomarkers of Cognitive Performance, Mood, and Cardiometabolic Health in Older Overweight Adults. Journal Article; Randomized Controlled Trial. Nutrients. Apr 23 2020;12(4)doi:10.3390/nu12041180	Intervention or Exposure; Comparator
211	Cobos-Palacios L, Munoz-Ubeda M, Ruiz-Moreno MI, et al. Lifestyle Modification Program on a Metabolically Healthy Elderly Population with Overweight/Obesity, Young-Old vs. Old-Old. CONSEQUENCES of COVID-19 Lockdown in This Program. Article. Int J Environ Res Public Health. Nov 13 2021;18(22)doi:10.3390/ijerph182211926	Study design; Intervention or Exposure; Comparator
212	Cobos-Palacios L, Ruiz-Moreno MI, Vilches-Perez A, et al. Metabolically healthy obesity: Inflammatory biomarkers and adipokines in elderly population. PLoS One. 2022;17(6):e0265362. doi:10.1371/journal.pone.0265362	Study design
213	Coelho DB, Lopes LMP, de Oliveira EC, et al. Baseline Diet Quality Is Related to Changes in the Body Composition and Inflammatory Markers: An Intervention Study Based on Resistance Training and Nutritional Advice. Biomed Res Int. Nov 25 2021;2021:6681823. doi:10.1155/2021/6681823	Size or Power

Number	Citation	Rationale
214	Cohen CC, Perng W, Sauder KA, et al. Maternal Diet Quality During Pregnancy and Offspring Hepatic Fat in Early Childhood: The Healthy Start Study. J Nutr. Apr 2023;153(4):1122-1132. doi:10.1016/j.tjnut.2023.01.039	Outcome
215	Collins T, Geana M, Overton K, et al. Use of a Smartphone App Versus Motivational Interviewing to Increase Walking Distance and Weight Loss in Overweight/Obese Adults With Peripheral Artery Disease: Pilot Randomized Trial. JMIR Form Res. Feb 3 2022;6(2):e30295. doi:10.2196/30295	Health Status- 100% CVD; Comparator
216	Comas Rovira M, Moreno Baro A, Burgaya Guiu N, et al. The influence of obesity and diet quality on fetal growth and perinatal outcome. Nutr Hosp. Dec 20 2022;39(6):1205-1211. Influencia de la obesidad y la calidad de la dieta en el crecimiento fetal y resultados perinatales. doi:10.20960/nh.04076	Outcome
217	Condorelli RA, Aversa A, Basile L, et al. Beneficial Effects of the Very-Low-Calorie Ketogenic Diet on the Symptoms of Male Accessory Gland Inflammation. Nutrients. Mar 4 2022;14(5)doi:10.3390/nu14051081	Intervention or Exposure; Comparator
218	Conradie C, Baumgartner J, Malan L, et al. A Priori and a Posteriori Dietary Patterns among Pregnant Women in Johannesburg, South Africa: The NuPED Study. Article. Nutrients. Feb 9 2021;13(2):1-23. doi:10.3390/nu13020565	Outcome
219	Constant A, Boulic G, Lommez A, Chaillou R, Guy-Grand B, Raffin S. Locally implemented prevention programs may reverse weight trajectories in half of children with overweight/obesity amid low child-staff ratios: results from a quasi-experimental study in France. BMC Public Health. Jun 15 2020;20(1):941. doi:10.1186/s12889-020-09080-y	Intervention or Exposure
220	Corsi S, Iodice S, Shannon O, et al. Mitochondrial DNA methylation is associated with Mediterranean diet adherence in a population of older adults with overweight and obesity. Proceedings of the Nutrition Society. 2020;79(OCE2):E95-E95. doi:10.1017/s0029665120000439	Publication status

Number	Citation	Rationale
221	Costa S, Pinto A, Santos AC, Oliveira A. The association of problematic eating behaviours with food quality and body mass index at 7 years of age. Article. Eur J Clin Nutr. Apr 2019;73(4):549-557. doi:10.1038/s41430-018-0169-z	Study design
222	Costanza J, Camanni M, Ferrari MM, et al. Assessment of pregnancy dietary intake and association with maternal and neonatal outcomes. Pediatr Res. Jun 2022;91(7):1890-1896. doi:10.1038/s41390-021-01665-6	Intervention or Exposure
223	Costello E, Goodrich J, Patterson WB, et al. Diet Quality Is Associated with Glucose Regulation in a Cohort of Young Adults. Nutrients. Sep 10 2022;14(18)doi:10.3390/nu14183734	Comparator
224	Courten BD, Karim MN, Hodge A. 715-P: Diet Scores Associated with Increases in General and Abdominal Obesity in the Melbourne Collaborative Cohort. Diabetes. 2020;69:N.PAG-N.PAG.	Publication status
225	Covington L, Armstrong B, Trude ACB, Black MM. Longitudinal Associations Among Diet Quality, Physical Activity and Sleep Onset Consistency With Body Mass Index z-Score Among Toddlers in Low-income Families. Ann Behav Med. Jun 28 2021;55(7):653-664. doi:10.1093/abm/kaaa100	Intervention or Exposure
226	Cozzi GD, Blanchard CT, Champion ML, et al. Factors Associated with Appropriate Gestational Weight Gain among Women with Obesity. Am J Perinatol. Feb 2022;39(3):272-280. doi:10.1055/s-0040-1715529	Intervention or Exposure
227	Crimarco A, Fielding-Singh P, Landry M, Gardner CD. Abstract P126: Identifying Successful Predictors Of Body Fat Reduction In The Dietfits Trial. Journal: Conference Abstract. Circulation. May 25 2021;143(Suppl_1)doi:10.1161/circ.143.suppl_1.P126	Intervention or Exposure; Publication status
228	Croll PH, Voortman T, Vernooij MW, et al. The association between obesity, diet quality and hearing loss in older adults. Article. Aging (Albany NY). Jan 4 2019;11(1):48-62. doi:10.18632/aging.101717	Outcome

Number	Citation	Rationale
229	Crovetto F, Crispi F, Casas R, et al. Effects of Mediterranean Diet or Mindfulness-Based Stress Reduction on Prevention of Small-for-Gestational Age Birth Weights in Newborns Born to At-Risk Pregnant Individuals: The IMPACT BCN Randomized Clinical Trial. JAMA. Dec 7 2021;326(21):2150-2160. doi:10.1001/jama.2021.20178	Outcome; Comparator
230	Crovetto M, Sepulveda MJ. Relationship between dietary energy intake, nutritional status and cardiovascular risk in adults from the communes of Quellon and Chonchi, Chiloe, Chile. J Prev Med Hyg. 2022;63(3):E435-E441. doi:10.15167/2421-4248/jpmh2022.63.3.2486	Study design; Intervention or Exposure
231	Cuevas-Sierra A, Milagro FI, Guruceaga E, et al. A weight-loss model based on baseline microbiota and genetic scores for selection of dietary treatments in overweight and obese population. Article in Press. Clin Nutr. Aug 2022;41(8):1712-1723. doi:10.1016/j.clnu.2022.06.008	Intervention or Exposure - Foods/Beverages Not Reported
232	Cummings JR, Faith MS, Lipsky LM, Liu A, Mooney JT, Nansel TR. Prospective relations of maternal reward-related eating, pregnancy ultra-processed food intake and weight indicators, and feeding mode with infant appetitive traits. Int J Behav Nutr Phys Act. Aug 3 2022;19(1):100. doi:10.1186/s12966-022-01334-9	Intervention or Exposure
233	Cummins CB, Bowen-Jallow K, Tasnim S, et al. One Size Does Not Fit All: Sociodemographic Factors Affecting Weight Loss in Adolescents. Article. Journal of Obesity. 2020;2020	Intervention or Exposure
234	Curci R, Bianco A, Franco I, et al. The Effect of Low Glycemic Index Mediterranean Diet and Combined Exercise Program on Metabolic-Associated Fatty Liver Disease: A Joint Modeling Approach. J Clin Med. Jul 26 2022;11(15)doi:10.3390/jcm11154339	Intervention or Exposure; Outcome; Comparator
235	Cyr-Scully A, Howard AG, Sanzone E, et al. Characterizing the urban diet: development of an urbanized diet index. Nutr J. Sep 9 2022;21(1):55. doi:10.1186/s12937-022-00807-8	Study design

Number	Citation	Rationale
236	Czekajło A, Różańska D, Zatońska K, Szuba A, Regulska-Ilow B. Association between dietary patterns and metabolic syndrome in the selected population of Polish adults-results of the PURE Poland Study. Article. European journal of public health. 2019;29(2):335-340.	Study design
237	Daily JW, Park S. Association of Plant-Based and High-Protein Diets with a Lower Obesity Risk Defined by Fat Mass in Middle-Aged and Elderly Persons with a High Genetic Risk of Obesity. Nutrients. Feb 20 2023;15(4)doi:10.3390/nu15041063	Study design; Outcome
238	Dakin M, Manneville F, Langlois J, et al. Longitudinal patterns of lifestyle behaviours in adolescence: a latent transition analysis. Br J Nutr. Aug 28 2021;126(4):621-631. doi:10.1017/S0007114520004316	Intervention or Exposure; Outcome; Comparator
239	Dalrymple KV, Flynn AC, Seed PT, et al. Associations between dietary patterns, eating behaviours, and body composition and adiposity in 3-year-old children of mothers with obesity. Pediatr Obes. May 2020;15(5):e12608. doi:10.1111/ijpo.12608	Study design
240	Dalrymple KV, Flynn AC, Seed PT, et al. Modifiable early life exposures associated with adiposity and obesity in 3-year old children born to mothers with obesity. Pediatr Obes. Nov 2021;16(11):e12801. doi:10.1111/ijpo.12801	Intervention or Exposure; Comparator
241	Dalrymple KV, Vogel C, Flynn AC, et al. Longitudinal dietary trajectories from pregnancy to 3 years post delivery in women with obesity: relationships with adiposity. Obesity (Silver Spring). Apr 2023;31(4):1159-1169. doi:10.1002/oby.23706	Outcome
242	Damsgaard CT, Papadaki A, Jensen SM, et al. Higher protein diets consumed ad libitum improve cardiovascular risk markers in children of overweight parents from eight European countries. Article. J Nutr. Jun 2013;143(6):810-7. doi:10.3945/jn.112.173427	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
243	Daniel GD, Chen H, Bertoni AG, et al. DASH diet adherence and cognitive function: Multi-ethnic study of atherosclerosis. Article. Clin Nutr ESPEN. Dec 2021;46:223-231. doi:10.1016/j.clnesp.2021.10.004	Outcome
244	Dardzinska JA, Malgorzewicz S, Szupryczynska N, et al. Adherence to the 2021 dietary guidelines of the European Society of Cardiology on cardiovascular disease prevention in residents of the Pomeranian Voivodeship with increased cardiovascular risk. Pol Arch Intern Med. Jun 23 2023;133(6)doi:10.20452/pamw.16418	Study design; Outcome
245	Das SK, Bukhari AS, Taetzsch AG, et al. Randomized trial of a novel lifestyle intervention compared with the Diabetes Prevention Program for weight loss in adult dependents of military service members. Article. Am J Clin Nutr. Oct 4 2021;114(4):1546-1559. doi:10.1093/ajcn/nqab259	Intervention or Exposure
246	Davis B, Liu YH, Stampley J, et al. The Association between Poor Diet Quality, Physical Fatigability and Physical Function in the Oldest-Old from the Geisinger Rural Aging Study. Geriatrics (Basel). Apr 15 2021;6(2)doi:10.3390/geriatrics6020041	Outcome
247	Davis BJK, Scrafford C, Bi X, Higgins KA, Barraj L, Murphy MM. Gestational Weight Gain, Diet Quality and Dairy Consumption: NHANES 2003-2012. Annals of Epidemiology. 2020;52:106-107.	Publication status
248	Davis JA, Mohebbi M, Collier F, et al. Diet quality and a traditional dietary pattern predict lean mass in Australian women: Longitudinal data from the Geelong Osteoporosis Study. Prev Med Rep. Mar 2021;21:101316. doi:10.1016/j.pmedr.2021.101316	Size or Power
249	De Amicis R, Foppiani A, Galasso L, et al. Weight Loss Management and Lifestyle Changes during COVID-19 Lockdown: A Matched Italian Cohort Study. Nutrients. Jul 14 2022;14(14)doi:10.3390/nu14142897	Study design; Intervention or Exposure; Comparator

Number	Citation	Rationale
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251	de Bona Coradi F, Anele CR, Goldani MZ, da Silva CH, Bernardi JR. Maternal diet quality and associations with body composition and diet quality of preschool children: A longitudinal study. PLoS One. 2023;18(5):e0284575. doi:10.1371/journal.pone.0284575	Intervention or Exposure
252	de Castro MBT, Cunha DB, Araujo MC, et al. High protein diet promotes body weight loss among Brazilian postpartum women. Article. Maternal and Child Nutrition. 2019;15(3)	Intervention or Exposure - Foods/Beverages Not Reported
253	De Giuseppe R, Bocchi M, Maffoni S, et al. Mediterranean Diet and Lifestyle Habits during Pregnancy: Is There an Association with Small for Gestational Age Infants? An Italian Single Centre Experience. Article. Nutrients. Jun 5 2021;13(6)doi:10.3390/nu13061941	Study design
254	De Giuseppe R, Calcaterra V, Biino G, et al. Unhealthy lifestyle and oxidative damage in childhood obesity. Eat Weight Disord. Apr 2020;25(2):481-486. doi:10.1007/s40519-018-0626-7	Study design; Intervention or Exposure
255	de Lira CRN, Akutsu R, Coelho LG, Zandonadi RP, Costa PRF. Dietary Patterns, Occupational Stressors and Body Composition of Hospital Workers: A Longitudinal Study Comparing before and during the COVID-19 Pandemic. Int J Environ Res Public Health. Jan 25 2023;20(3)doi:10.3390/ijerph20032166	Study design
256	de Luis D, Izaola O, Primo D, Aller R. A Randomized Trial with Two Hypocaloric Diets with Different Lipid Profiles and Effects on Serum Omentin-1 Levels in Obese Subjects. Article. Dis Markers. 2022;2022:6777283. doi:10.1155/2022/6777283	Intervention or Exposure

Number	Citation	Rationale
257	de Luis D, Izaola O, Primo D. APOA-5 Genetic Variant rs662799: Role in Lipid Changes and Insulin Resistance after a Mediterranean Diet in Caucasian Obese Subjects. Dis Markers. 2021;2021:1257145. doi:10.1155/2021/1257145	Study design; Comparator
258	de Luis DA, Izaola O, Primo D, Aller R. A circadian rhythm-related MTNR1B genetic variant (rs10830963) modulate body weight change and insulin resistance after 9months of a high protein/low carbohydrate vs a standard hypocaloric diet. Article. Journal of Diabetes and its Complications. 2020;34(4)	Intervention or Exposure - Foods/Beverages Not Reported
259	de Luis DA, Izaola O, Primo D, Aller R. Dietary-fat effect of the rs10830963 polymorphism in MTNR1B on insulin resistance in response to 3 months weight-loss diets. Endocrinol Diabetes Nutr (Engl Ed). Jan 2020;67(1):43-52. Efecto del polimorfismo rs10830963 MTNR1B y la composicion de grasa de la dieta en la resistencia a la insulina tras la perdida de peso durante 3 meses. doi:10.1016/j.endinu.2019.02.007	Intervention or Exposure - Foods/Beverages Not Reported
260	de Luis DA, Izaola O, Primo D, Aller R. Different effects of high-protein/low-carbohydrate versus standard hypocaloric diet on insulin resistance and lipid profile: Role of rs16147 variant of neuropeptide Y. Article. Diabetes Research and Clinical Practice. 2019;156	Intervention or Exposure
261	de Luis DA, Izaola O, Primo D, et al. Role of rs1501299 variant in the adiponectin gene on total adiponectin levels, insulin resistance and weight loss after a Mediterranean hypocaloric diet. Article. Diabetes Research and Clinical Practice. 2019;148:262-267.	Intervention or Exposure - Foods/Beverages Not Reported; Comparator
262	de Luis DA, Primo D, Izaola O, Aller R. Role of resistin (rs7139228) gene polymorphism with metabolic response after a hypocaloric mediterranean diet. Endocrinol Diabetes Nutr (Engl Ed). Feb 2023;70(2):88-97. doi:10.1016/j.endien.2022.10.004	Intervention or Exposure; Comparator

Number	Citation	Rationale
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264	de Luis DA, Primo D, Izaola O, Gomez E, Bachiller R. Serum Lipid and Adiponectin Improvements after a Mediterranean Dietary Pattern in Non-G-Allele Carriers of the Variant rs3774261. Lifestyle Genom. 2020;13(6):164-171. doi:10.1159/000508819	Study design
265	De Matteis C, Crudele L, Battaglia S, et al. Identification of a Novel Score for Adherence to the Mediterranean Diet That Is Inversely Associated with Visceral Adiposity and Cardiovascular Risk: The Chrono Med Diet Score (CMDS). Nutrients. Apr 15 2023;15(8)doi:10.3390/nu15081910	Study design
266	De Miguel-Etayo P, Moreno LA, Santabárbara J, et al. Diet quality index as a predictor of treatment efficacy in overweight and obese adolescents: The EVASYON study. Article. Clinical Nutrition. 2019;38(2):782-790.	Study design
267	de Paula Mancilha T, Massarani FA, Vieira F, Donangelo CM, Koury JC. Birth weight, skeletal maturity and dietary patterns are associated with body composition compartments differently in male and female physically active adolescents. Nutr Health. Dec 2023;29(4):665-672. doi:10.1177/02601060221096514	Study design
268	de Seymour JV, Beck KL, Conlon CA, et al. An Investigation of the Relationship Between Dietary Patterns in Early Pregnancy and Maternal/Infant Health Outcomes in a Chinese Cohort. Front Nutr. 2022;9:775557. doi:10.3389/fnut.2022.775557	Outcome
269	Deierlein AL, Ghassabian A, Kahn LG, et al. Dietary Quality and Sociodemographic and Health Behavior Characteristics Among Pregnant Women Participating in the New York University Children's Health and Environment Study. Front Nutr. 2021;8:639425. doi:10.3389/fnut.2021.639425	Outcome

Number	Citation	Rationale
270	Delgado-Floody P, Alvarez C, Caamano-Navarrete F, Jerez-Mayorga D, Latorre-Roman P. Influence of Mediterranean diet adherence, physical activity patterns, and weight status on cardiovascular response to cardiorespiratory fitness test in Chilean school children. Nutrition. Mar 2020;71:110621. doi:10.1016/j.nut.2019.110621	Study design
271	Deriš H, Tominac P, Vuckovic F, et al. Effects of low-calorie and different weight-maintenance diets on IgG glycome composition. Front Immunol. 2022;13:995186. doi:10.3389/fimmu.2022.995186	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
272	Detopoulou P, Dedes V, Pylarinou I, Syka D, Tzirogiannis K, Panoutsopoulos GI. Dietary acid load is associated with waist circumference in university students with low adherence to the Mediterranean diet: The potential role of ultra-processed foods. Article. Clin Nutr ESPEN. Aug 2023;56:43-51. doi:10.1016/j.clnesp.2023.05.005	Study design; Intervention or Exposure
273	Detopoulou P, Syka D, Koumi K, Dedes V, Tzirogiannis K, Panoutsopoulos GI. Clinical Application of the Food Compass Score: Positive Association to Mediterranean Diet Score, Health Star Rating System and an Early Eating Pattern in University Students. Diseases. Jul 7 2022;10(3)doi:10.3390/diseases10030043	Study design
274	Di Renzo L, Marchetti M, Rizzo G, et al. Adherence to Mediterranean Diet and Its Association with Maternal and Newborn Outcomes. Int J Environ Res Public Health. Jul 12 2022;19(14)doi:10.3390/ijerph19148497	Study design
275	Di Rosa C, Lattanzi G, Spiezia C, et al. Mediterranean Diet versus Very Low-Calorie Ketogenic Diet: Effects of Reaching 5% Body Weight Loss on Body Composition in Subjects with Overweight and with Obesity-A Cohort Study. Int J Environ Res Public Health. Oct 11 2022;19(20)doi:10.3390/ijerph192013040	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
276	Diaz-Lopez A, Diaz-Torres S, Martin-Lujan F, Basora J, Arija V. Prenatal adherence to the Mediterranean diet decreases the risk of having a small-for-gestational-age baby, ECLIPSES study. Sci Rep. Aug 13 2022;12(1):13794. doi:10.1038/s41598-022-17957-8	Outcome
277	Ding M, Strohmaier S, Schernhammer E, et al. Grand-maternal lifestyle during pregnancy and body mass index in adolescence and young adulthood: an intergenerational cohort study. Sci Rep. Sep 2 2020;10(1):14432. doi:10.1038/s41598-020-71461-5	Intervention or Exposure; Outcome
278	Ding Y, Xu F, Zhong C, et al. Association between Chinese Dietary Guidelines Compliance Index for Pregnant Women and Risks of Pregnancy Complications in the Tongji Maternal and Child Health Cohort. Nutrients. Mar 3 2021;13(3)doi:10.3390/nu13030829	Outcome
279	Dinu M, Colombini B, Pagliai G, et al. Effects of a dietary intervention with Mediterranean and vegetarian diets on hormones that influence energy balance: results from the CARDIVEG study. Int J Food Sci Nutr. May 2020;71(3):362-369. doi:10.1080/09637486.2019.1658723	Intervention or Exposure - Foods/Beverages Not Reported
280	Dinu M, Pagliai G, Cesari F, et al. Effects of a 3-month dietary intervention with a lacto-ovo-vegetarian diet on vitamin B(12) levels in a group of omnivores: results from the CARDIVEG (Cardiovascular Prevention with Vegetarian Diet) study. Article. Br J Nutr. Apr 14 2019;121(7):756-762. doi:10.1017/S0007114518003835	Study design; Comparator
281	Dinu M, Pagliai G, Colombini B, et al. Dietary intervention with vegetarian and mediterranean diets for cardiovascular prevention: effects on hormones involved in the energy balance. Journal: Conference Abstract. Nutrition, metabolism and cardiovascular diseases. 2019;29(8):881-.	Publication status
282	Dinu M, Pagliai G, Lotti S, Giangrandi I, Colombini B, Sofi F. Adherence to Mediterranean Diet Measured through Medi-Lite Score and Obesity: A Retrospective Study. Article. Nutrients. Jun 10 2021;13(6)doi:10.3390/nu13062007	Study design

Number	Citation	Rationale
283	Djoussé L, Zhou G, McClelland RL, et al. Egg consumption, overall diet quality, and risk of type 2 diabetes and coronary heart disease: A pooling project of US prospective cohorts. Article. Clinical Nutrition. 2021;40(5):2475-2482.	Intervention or Exposure; Outcome
284	Dolatkhah N, Toopchizadeh V, Barmaki S, et al. The effect of an anti-inflammatory in comparison with a low caloric diet on physical and mental health in overweight and obese women with knee osteoarthritis: a randomized clinical trial. Eur J Nutr. Mar 2023;62(2):659-672. doi:10.1007/s00394-022-03017-4	Duration of Intervention
285	Dolin CD, Gross RS, Deierlein AL, et al. Predictors of Gestational Weight Gain in a Low-Income Hispanic Population: Sociodemographic Characteristics, Health Behaviors, and Psychosocial Stressors. Int J Environ Res Public Health. Jan 4 2020;17(1)doi:10.3390/ijerph17010352	Intervention or Exposure
286	Dong H, Sun H, Cai C, et al. A low-carbohydrate dietary pattern characterised by high animal fat and protein during the first trimester is associated with an increased risk of gestational diabetes mellitus in Chinese women: a prospective cohort study. Br J Nutr. Dec 28 2021;126(12):1872-1880. doi:10.1017/S0007114521000611	Intervention or Exposure - Foods/Beverages Not Reported
287	Dorans KS, Bazzano LA, Qi L, et al. Effects of a Low-Carbohydrate Dietary Intervention on Hemoglobin A1c: A Randomized Clinical Trial. JAMA Netw Open. Oct 3 2022;5(10):e2238645. doi:10.1001/jamanetworkopen.2022.38645	Intervention or Exposure - Foods/Beverages Not Reported
288	Dorling JL, Martin CK, Yu Q, et al. Mediators of weight change in underserved patients with obesity: exploratory analyses from the Promoting Successful Weight Loss in Primary Care in Louisiana (PROPEL) cluster-randomized trial. Am J Clin Nutr. Oct 6 2022;116(4):1112-1122. doi:10.1093/ajcn/nqac179	Intervention or Exposure

Number	Citation	Rationale
289	Dostal T, Plews DJ, Hofmann P, Laursen PB, Cipryan L. Effects of a 12-Week Very-Low Carbohydrate High-Fat Diet on Maximal Aerobic Capacity, High-Intensity Intermittent Exercise, and Cardiac Autonomic Regulation: Non-randomized Parallel-Group Study. Article. Front Physiol. 2019;10(JUL):912. doi:10.3389/fphys.2019.00912	Intervention or Exposure - Foods/Beverages Not Reported
290	Drummen M, Adam TC, Macdonald IA, et al. Associations of changes in reported and estimated protein and energy intake with changes in insulin resistance, glycated hemoglobin, and BMI during the PREVIEW lifestyle intervention study. Am J Clin Nutr. Nov 8 2021;114(5):1847-1858. doi:10.1093/ajcn/nqab247	Intervention or Exposure; Duration of Intervention
291	Drummen M, Tischmann L, Gatta-Cherifi B, et al. High Compared with Moderate Protein Intake Reduces Adaptive Thermogenesis and Induces a Negative Energy Balance during Long-term Weight-Loss Maintenance in Participants with Prediabetes in the Postobese State: A PREVIEW Study. Article. J Nutr. Mar 1 2020;150(3):458-463. doi:10.1093/jn/nxz281	Intervention or Exposure; Duration of Intervention
292	Du S, Kim H, Rebholz CM. Higher Ultra-Processed Food Consumption Is Associated with Increased Risk of Incident Coronary Artery Disease in the Atherosclerosis Risk in Communities Study. Article. J Nutr. Dec 3 2021;151(12):3746-3754. doi:10.1093/jn/nxab285	Outcome
293	Dubois L, Bedard B, Goulet D, Prud'homme D, Tremblay RE, Boivin M. Eating behaviors, dietary patterns and weight status in emerging adulthood and longitudinal associations with eating behaviors in early childhood. Int J Behav Nutr Phys Act. Nov 16 2022;19(1):139. doi:10.1186/s12966-022-01376-z	Intervention or Exposure; Outcome
294	Dudum R, Juraschek SP, Appel LJ. Dose-dependent effects of lifestyle interventions on blood lipid levels: Results from the PREMIER trial. Journal Article; Multicenter Study; Randomized Controlled Trial; Research Support, N.I.H., Extramural. Patient Educ Couns. Oct 2019;102(10):1882-1891. doi:10.1016/j.pec.2019.05.005	Intervention or Exposure; Outcome
295	Dugas C, Bélanger M, Perron J, et al. Is a healthy diet associated with lower anthropometric and glycemic alterations in predisposed children born from mothers with gestational diabetes mellitus? Article. Nutrients. 2019;11(3)	Study design

Number	Citation	Rationale
296	Duggan C, Tapsoba JD, Shivappa N, et al. Changes in Dietary Inflammatory Index Patterns with Weight Loss in Women: A Randomized Controlled Trial. Cancer Prev Res (Phila). Jan 2021;14(1):85-94. doi:10.1158/1940-6207.CAPR-20-0181	Intervention or Exposure - Foods/Beverages Not Reported
297	Dusanov S, Svendsen M, Ruzzin J, et al. Effect of fatty fish or nut consumption on concentrations of persistent organic pollutants in overweight or obese men and women: A randomized controlled clinical trial. Journal Article; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. Nutr Metab Cardiovasc Dis. Mar 9 2020;30(3):448-458. doi:10.1016/j.numecd.2019.11.006	Intervention or Exposure
298	Easton JF, Roman Sicilia H, Stephens CR. Classification of diagnostic subcategories for obesity and diabetes based on eating patterns. Article. Nutr Diet. Feb 2019;76(1):104-109. doi:10.1111/1747-0080.12495	Study design; Intervention or Exposure
299	Ebbeling CB, Bielak L, Lakin PR, et al. Energy Requirement Is Higher During Weight-Loss Maintenance in Adults Consuming a Low- Compared with High-Carbohydrate Diet. Article. J Nutr. Aug 1 2020;150(8):2009-2015. doi:10.1093/jn/nxaa150	Intervention or Exposure - Foods/Beverages Not Reported
300	Ebbeling CB, Knapp A, Johnson A, et al. Effects of a low-carbohydrate diet on insulin-resistant dyslipoproteinemia-a randomized controlled feeding trial. Article in Press. Am J Clin Nutr. Jan 11 2022;115(1):154-162. doi:10.1093/ajcn/nqab287	Intervention or Exposure
301	Edwards CG, Zickgraf HF, Masterson TD, Rigby A. Use of a brief, retrospective Comprehensive Feeding Practices Questionnaire in a bariatric-surgery seeking adult population. Article. Eat Behav. Aug 2022;46:101655. doi:10.1016/j.eatbeh.2022.101655	Study design; Health Status- 100% Hospitalized/Surgical

Number	Citation	Rationale
302	El Mehadji D, Nadji Z, Zemri K, et al. The evolutionary profile of celiac disease via the compliance to the gluten-free diet in the western Algerian region. Article. Romanian Journal of Diabetes, Nutrition and Metabolic Diseases. 2022;29(1):67-73. doi:10.46389/rjd-2022-1076	Study design
303	Elliott LJ, Keown-Stoneman CDG, Birken CS, et al. Vegetarian Diet, Growth, and Nutrition in Early Childhood: A Longitudinal Cohort Study. Pediatrics. Jun 1 2022;149(6)doi:10.1542/peds.2021-052598	Intervention or Exposure - Foods/Beverages Not Reported
304	Embling R, Price M, Lee M, Jones A, Wilkinson L. Associations between dietary variety, portion size, and body weight: Prospective evidence from 35,449 UK Biobank participants. Appetite. 2022;179:N.PAG-N.PAG.	Publication status
305	Emond JA, Longacre MR, Titus LJ, et al. Fast food intake and excess weight gain over a 1-year period among preschool-age children. Pediatr Obes. Apr 2020;15(4):e12602. doi:10.1111/ijpo.12602	Intervention or Exposure
306	Eneli I, Xu J, Tindall A, et al. Using a Revised Protein-Sparing Modified Fast (rPSMF) for Children and Adolescents with Severe Obesity: A Pilot Study. Article. Int J Environ Res Public Health. Aug 23 2019;16(17)doi:10.3390/ijerph16173061	Intervention or Exposure
307	Epel E, Laraia B, Coleman-Phox K, et al. Effects of a Mindfulness-Based Intervention on Distress, Weight Gain, and Glucose Control for Pregnant Low-Income Women: A Quasi-Experimental Trial Using the ORBIT Model. Controlled Clinical Trial; Journal Article. Int J Behav Med. Oct 2019;26(5):461-473. doi:10.1007/s12529-019-09779-2	Intervention or Exposure - Foods/Beverages Not Reported
308	Erdem NZ, Bayraktaroglu E, Samanci RA, Gecgil-Demir E, Tarakci NG, Mert-Biberoglu F. The effect of intermittent fasting diets on body weight and composition. Article. Clin Nutr ESPEN. Oct 2022;51:207-214. doi:10.1016/j.clnesp.2022.08.030	Intervention or Exposure - Foods/Beverages

Number	Citation	Rationale
		Not Reported; Comparator
309	Erdem NZ, Ozelgun D, Taskin HE, Avsar FM. Comparison of a pre-bariatric surgery very low-calorie ketogenic diet and the Mediterranean diet effects on weight loss, metabolic parameters, and liver size reduction. Sci Rep. Nov 30 2022;12(1):20686. doi:10.1038/s41598-022-24959-z	Health Status- 100% Hospitalized/Surgical ; Duration of Intervention
310	Esfandiar Z, Hosseini-Esfahani F, Mirmiran P, Azizi F. Diet quality indices and the risk of type 2 diabetes in the Tehran Lipid and Glucose Study. BMJ Open Diabetes Res Care. Sep 2022;10(5)doi:10.1136/bmjdrc-2022-002818	Outcome
311	Esteves GP, Swinton P, Sale C, Gualano B, Roschel H, Dolan E. Use of factor analysis to model relationships between bone mass and physical, dietary, and metabolic factors in frail and pre-frail older adults. J Appl Physiol (1985). Jul 1 2023;135(1):146-153. doi:10.1152/japplphysiol.00129.2023	Study design
312	Evans WE, Raynor HA, Howie W, et al. Associations between lifestyle intervention-related changes in dietary targets and migraine headaches among women in the Women's Health and Migraine (WHAM) randomized controlled trial. Obes Sci Pract. Apr 2020;6(2):119-125. doi:10.1002/osp4.376	Comparator; Size or Power
313	Facchinetti F, Vijai V, Petrella E, et al. Food glycemic index changes in overweight/obese pregnant women enrolled in a lifestyle program: a randomized controlled trial. Journal Article; Randomized Controlled Trial. Am J Obstet Gynecol MFM. Aug 2019;1(3):100030. doi:10.1016/j.ajogmf.2019.100030	Intervention or Exposure; Comparator
314	Facchinetti F, Vijay V, Petrella E, et al. 78: impact of glycemic-index(GI) reduction on birthweight in overweight/obese pregnant women enrolled in a lifestyle program. Journal: Conference Abstract. American journal of obstetrics and gynecology. 2019;220(1):S62-.	Publication status

Number	Citation	Rationale
315	Fagnant HS, Armstrong NJ, Lutz LJ, et al. Self-reported eating behaviors of military recruits are associated with body mass index at military accession and change during initial military training. Appetite. Nov 1 2019;142:104348. doi:10.1016/j.appet.2019.104348	Intervention or Exposure; Outcome
316	Fan M, Jin Y. The Effects of Weight Perception on Adolescents' Weight-Loss Intentions and Behaviors: Evidence from the Youth Risk Behavior Surveillance Survey. Article. Int J Environ Res Public Health. Nov 17 2015;12(11):14640-68. doi:10.3390/ijerph121114640	Study design; Intervention or Exposure
317	Fanelli Kuczmarski M, Hossain S, Beydoun MA, Maldonando A, Evans MK, Zonderman AB. Association of DASH and Depressive Symptoms with BMI over Adulthood in Racially and Socioeconomically Diverse Adults Examined in the HANDLS Study. Nutrients. Dec 3 2019;11(12)doi:10.3390/nu11122934	Intervention or Exposure
318	Fanelli Kuczmarski M, Stave Shupe E, Pohlig RT, Rawal R, Zonderman AB, Evans MK. A Longitudinal Assessment of Diet Quality and Risks Associated with Malnutrition in Socioeconomic and Racially Diverse Adults. Article. Nutrients. Sep 2 2019;11(9)doi:10.3390/nu11092046	Intervention or Exposure - Foods/Beverages Not Reported
319	Fangupo LJ, Haszard JJ, Taylor BJ, Gray AR, Lawrence JA, Taylor RW. Ultra-Processed Food Intake and Associations With Demographic Factors in Young New Zealand Children. Article. J Acad Nutr Diet. Feb 2021;121(2):305-313. doi:10.1016/j.jand.2020.08.088	Outcome
320	Fantino M, Bichard C, Mistretta F, Bellisle F. Daily consumption of pistachios over 12 weeks improves dietary profile without increasing body weight in healthy women: A randomized controlled intervention. Appetite. Jan 1 2020;144:104483. doi:10.1016/j.appet.2019.104483	Intervention or Exposure; Comparator
321	Farhadnejad H, Mokhtari E, Teymoori F, et al. Association of the insulinemic potential of diet and lifestyle with risk of diabetes incident in Tehranian adults: a population based cohort study. Nutr J. Apr 23 2021;20(1):39. doi:10.1186/s12937-021-00697-2	Outcome

Number	Citation	Rationale
322	Farrell ET, Wirth MD, McLain AC, et al. Associations between the Dietary Inflammatory Index and Sleep Metrics in the Energy Balance Study (EBS). Nutrients. Jan 13 2023;15(2)doi:10.3390/nu15020419	Intervention or Exposure; Outcome
323	Fazzino TL, Dorling JL, Apolzan JW, Martin CK. Meal composition during an ad libitum buffet meal and longitudinal predictions of weight and percent body fat change: The role of hyper-palatable, energy dense, and ultra-processed foods. Article. Appetite. Dec 1 2021;167:105592. doi:10.1016/j.appet.2021.105592	Duration of Intervention
324	Feng J, Huang Y, Wang H, et al. Association between adherence to the Dietary Approaches to Stop Hypertension diet and serum uric acid. Sci Rep. Apr 18 2023;13(1):6347. doi:10.1038/s41598-023-31762-x	Study design
325	Fenton S, Burrows TL, Collins CE, Rayward AT, Murawski B, Duncan MJ. Efficacy of a Multi-Component m-Health Diet, Physical Activity, and Sleep Intervention on Dietary Intake in Adults with Overweight and Obesity: A Randomised Controlled Trial. Nutrients. Jul 19 2021;13(7)doi:10.3390/nu13072468	Intervention or Exposure; Outcome
326	Fernández CA, Potts K, Bazzano LA. Effect of ideal protein versus low-fat diet for weight loss: A randomized controlled trial. Article in Press. Obes Sci Pract. Jun 2022;8(3):299-307. doi:10.1002/osp4.567	Intervention or Exposure; Outcome
327	Fernández de la Puente M, Hernandez-Alonso P, Canudas S, et al. Modulation of Telomere Length by Mediterranean Diet, Caloric Restriction, and Exercise: Results from PREDIMED-Plus Study. Antioxidants (Basel). Oct 12 2021;10(10)doi:10.3390/antiox10101596	Intervention or Exposure - Foods/Beverages Not Reported
328	Fernández-Lázaro CI, Toledo E, Salas-Salvadó J, et al. PREDIMED-Plus trial: One-year changes in the quality of dietary carbohydrate intake and concurrent changes in cardiovascular risk factors. Journal: Conference Abstract. Annals of Nutrition and Metabolism. 2019;75:20-21.	Publication status

Number	Citation	Rationale
329	Fernández-Ruiz VE, Sole-Agusti M, Armero-Barranco D, Cauli O. Weight Loss and Improvement of Metabolic Alterations in Overweight and Obese Children Through the I(2)AO(2) Family Program: A Randomized Controlled Clinical Trial. Biol Res Nurs. Jul 2021;23(3):488-503. doi:10.1177/1099800420987303	Intervention or Exposure
330	Ferrara P, Sandullo F, Di Ruscio F, et al. The impact of lacto-ovo-/lacto-vegetarian and vegan diets during pregnancy on the birth anthropometric parameters of the newborn. Article. J Matern Fetal Neonatal Med. Dec 2020;33(23):3900-3906. doi:10.1080/14767058.2019.1590330	Outcome
331	Ferrara P, Sandullo F, Vecchio M, et al. Length-weight growth analysis up to 12 months of age in three groups according to the dietary pattern followed from pregnant mothers and children during the first year of life. Minerva Pediatr (Torino). Apr 16 2021;doi:10.23736/S2724-5276.21.06262-5	Intervention or Exposure; Outcome
332	Ferreira ALL, Freitas-Costa N, da Silva Rosa Freire S, et al. Association of pre-pregnancy maternal overweight/obesity and dietary intake during pregnancy with the concentrations of persistent organic pollutants in the human milk of women from Rio de Janeiro, Brazil. Environ Sci Pollut Res Int. Mar 2023;30(15):44999-45014. doi:10.1007/s11356-023-25308-x	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
333	Ferreira LB, Lobo CV, do Carmo AS, Souza R, Dos Santos LC. Dietary Patterns During Pregnancy and Their Association with Gestational Weight Gain and Anthropometric Measurements at Birth. Matern Child Health J. Jul 2022;26(7):1464-1472. doi:10.1007/s10995-022-03392-8	Study design
334	Figueroa R, Saltzman JA, Kang A, Mini FN, Davison KK, Taveras EM. Antenatal dietary concordance among mothers and fathers and gestational weight gain: a longitudinal study. BMC Public Health. Jul 6 2020;20(1):1071. doi:10.1186/s12889-020-09182-7	Intervention or Exposure

Number	Citation	Rationale
335	Fitzgerald MP, Hennigan K, O'Gorman CS, McCarron L. Obesity, diet and lifestyle in 9-year-old children with parentally reported chronic diseases: findings from the Growing Up in Ireland longitudinal child cohort study. Article. Ir J Med Sci. Feb 2019;188(1):29-34. doi:10.1007/s11845-018-1814-1	Study design; Intervention or Exposure
336	Fitzgibbon ML, Tussing-Humphreys L, Schiffer L, et al. Fit and Strong! Plus: Twelve and eighteen month follow-up results for a comparative effectiveness trial among overweight/obese older adults with osteoarthritis. Prev Med. Dec 2020;141:106267. doi:10.1016/j.ypmed.2020.106267	Intervention or Exposure; Comparator
337	Flor-Alemany M, Migueles JH, Acosta-Manzano P, Marin-Jimenez N, Baena-Garcia L, Aparicio VA. Assessing the Mediterranean diet adherence during pregnancy: Practical considerations based on the associations with cardiometabolic risk. Pregnancy Hypertens. Mar 2023;31:17-24. doi:10.1016/j.preghy.2022.11.007	Outcome
338	Flores AC, Heron C, Kim JI, et al. Prospective Study of Plant-Based Dietary Patterns and Diabetes in Puerto Rican Adults. J Nutr. Dec 3 2021;151(12):3795-3800. doi:10.1093/jn/nxab301	Outcome
339	Flores ME, Rivera-Pasquel M, Macias N, et al. Dietary patterns in Mexican preschool children are associated with stunting and overweight. Article in Press. Rev Saude Publica. 2021;55:53. doi:10.11606/s1518-8787.2021055002350	Study design
340	Flynn AC, Thompson JMD, Dalrymple KV, et al. Childhood dietary patterns and body composition at age 6 years: the Children of SCOPE study. Br J Nutr. Feb 26 2020;124(2):1-21. doi:10.1017/S0007114520000628	Study design
341	Forman EM, Manasse SM, Butryn ML, Crosby RD, Dallal DH, Crochiere RJ. Long-Term Follow-up of the Mind Your Health Project: Acceptance-Based versus Standard Behavioral Treatment for Obesity. Article. Obesity (Silver Spring). Apr 2019;27(4):565-571. doi:10.1002/oby.22412	Intervention or Exposure

Number	Citation	Rationale
342	Fossee E, Zamora AN, Peterson KE, et al. Prenatal dietary patterns in relation to adolescent offspring adiposity and adipokines in a Mexico City cohort. J Dev Orig Health Dis. Jun 2023;14(3):371-380. doi:10.1017/S2040174422000678	Outcome
343	Fragiadakis GK, Wastyk HC, Robinson JL, Sonnenburg ED, Sonnenburg JL, Gardner CD. Long-term dietary intervention reveals resilience of the gut microbiota despite changes in diet and weight. Am J Clin Nutr. Jun 1 2020;111(6):1127-1136. doi:10.1093/ajcn/nqaa046	Intervention or Exposure
344	Francisco SC, Araujo LF, Griep RH, et al. Adherence to the Dietary Approaches to Stop Hypertension (DASH) and hypertension risk: results of the Longitudinal Study of Adult Health (ELSA-Brasil). Br J Nutr. May 14 2020;123(9):1068-1077. doi:10.1017/S0007114520000124	Did not account for at least 1 key confounder
345	Franco AD, Morfino P, Aimo A. Plasma acylcarnitine, risk for heart failure or atrial fibrillation, and effects of the Mediterranean diet or obesity. Rev Esp Cardiol (Engl Ed). Aug 2022;75(8):621-622. doi:10.1016/j.rec.2022.01.008	Publication status
346	Franco I, Bianco A, Mirizzi A, et al. Physical Activity and Low Glycemic Index Mediterranean Diet: Main and Modification Effects on NAFLD Score. Results from a Randomized Clinical Trial. Clinical Trial; Journal Article; Pragmatic Clinical Trial. Nutrients. Dec 28 2020;13(1)doi:10.3390/nu13010066	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
347	Franklin KA, Lindberg E, Svensson J, et al. Effects of a palaeolithic diet on obstructive sleep apnoea occurring in females who are overweight after menopause-a randomised controlled trial. Int J Obes (Lond). Oct 2022;46(10):1833-1839. doi:10.1038/s41366-022-01182-4	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
348	Fraschetti EC, Skelly LE, Ahmed M, Biancaniello EC, Klentrou P, Josse AR. The Influence of Increased Dairy Product Consumption, as Part of a Lifestyle Modification Intervention, on Diet Quality and Eating Patterns in Female Adolescents with Overweight/Obesity. Children (Basel). Nov 6 2022;9(11)doi:10.3390/children9111703	Outcome; Comparator
349	Fukuda Y, Yamamoto S, Kameda M. Association Between Lifestyle Characteristics and Body Mass Index of Mothers of Children With Allergic Diseases. J Clin Med Res. Dec 2019;11(12):780-788. doi:10.14740/jocmr3976	Study design
350	Fulkerson JA, Horning M, Barr-Anderson DJ, et al. Weight outcomes of NU-HOME: a randomized controlled trial to prevent obesity among rural children. Article. Int J Behav Nutr Phys Act. Mar 19 2022;19(1):29. doi:10.1186/s12966-022-01260-w	Intervention or Exposure
351	Gabiola J, Morales D, Quizon O, et al. The EffectiveNess of LIfestyle with Diet and Physical Activity Education ProGram Among Prehypertensives and Stage 1 HyperTENsives in an Urban Community Setting (ENLIGHTEN) Study. J Community Health. Jun 2020;45(3):478-487. doi:10.1007/s10900-019-00764-0	Intervention or Exposure; Country
352	Gadgil MD, Ingram KH, Appiah D, et al. Prepregnancy Protein Source and BCAA Intake Are Associated with Gestational Diabetes Mellitus in the CARDIA Study. Int J Environ Res Public Health. Oct 29 2022;19(21)doi:10.3390/ijerph192114142	Outcome
353	Gadowski AM, Nanayakkara N, Heritier S, et al. Association between dietary intake and lipid-lowering therapy: Prospective analysis of data from australian diabetes, obesity, and lifestyle study (aus diab) using a quantile regression approach. Article. Nutrients. 2019;11(8)	Outcome
354	Gainfort A, Delahunt A, Killeen SL, et al. Energy-Adjusted Dietary Inflammatory Index in pregnancy and maternal cardiometabolic health: findings from the ROLO study. Article. AJOG Glob Rep. May 2023;3(2):100214. doi:10.1016/j.xagr.2023.100214	Intervention or Exposure

Number	Citation	Rationale
355	Gajda R, Raczkowska E, Sobieszczanska M, Noculak L, Szymala-Pedzik M, Godyla-Jablonski M. Diet Quality Variation among Polish Older Adults: Association with Selected Metabolic Diseases, Demographic Characteristics and Socioeconomic Status. Int J Environ Res Public Health. Feb 7 2023;20(4)doi:10.3390/ijerph20042878	Study design
356	Galan-Lopez P, Dominguez R, Pihu M, Gisladottir T, Sanchez-Oliver AJ, Ries F. Evaluation of Physical Fitness, Body Composition, and Adherence to Mediterranean Diet in Adolescents from Estonia: The AdolesHealth Study. Int J Environ Res Public Health. Nov 14 2019;16(22)doi:10.3390/ijerph16224479	Study design
357	Galan-Lopez P, Sanchez-Oliver AJ, Pihu M, Gisladottir T, Dominguez R, Ries F. Association between Adherence to the Mediterranean Diet and Physical Fitness with Body Composition Parameters in 1717 European Adolescents: The AdolesHealth Study. Nutrients. Dec 27 2019;12(1)doi:10.3390/nu12010077	Study design
358	Gallagher D, Rosenn B, Toro-Ramos T, et al. Greater Neonatal Fat-Free Mass and Similar Fat Mass Following a Randomized Trial to Control Excess Gestational Weight Gain. Obesity (Silver Spring). Mar 2018;26(3):578-587. doi:10.1002/oby.22079	Outcome
359	Ganguli SC, Russell LA, Tsoi KS. Implementation of a Whole Food Plant Based Diet in a Food as Prevention Program in a Resource Constrained Environment. J Lifestyle Med. Sep 30 2022;12(3):148-152. doi:10.15280/jlm.2022.12.3.148	Intervention or Exposure; Comparator
360	Gans KM, Tovar A, Kang A, et al. A multi-component tailored intervention in family childcare homes improves diet quality and sedentary behavior of preschool children compared to an attention control: results from the Healthy Start-Comienzos Sanos cluster randomized trial. Int J Behav Nutr Phys Act. Apr 15 2022;19(1):45. doi:10.1186/s12966-022-01272-6	Intervention or Exposure; Outcome; Comparator
361	Garcia-Mantrana I, Selma-Royo M, Gonzalez S, Parra-Llorca A, Martinez-Costa C, Collado MC. Distinct maternal microbiota clusters are associated with diet during pregnancy: impact on neonatal microbiota and infant growth during the first 18 months of life. Gut Microbes. Jul 3 2020;11(4):962-978. doi:10.1080/19490976.2020.1730294	Intervention or Exposure; Comparator

Number	Citation	Rationale
362	Gardea-Resendez M, Winham SJ, Romo-Nava F, et al. Quantification of diet quality utilizing the rapid eating assessment for participants-shortened version in bipolar disorder: Implications for prospective depression and cardiometabolic studies. J Affect Disord. Aug 1 2022;310:150-155. doi:10.1016/j.jad.2022.05.037	Study design
363	Gardner CD, Landry MJ, Perelman D, et al. Effect of a ketogenic diet versus Mediterranean diet on glycated hemoglobin in individuals with prediabetes and type 2 diabetes mellitus: The interventional Keto-Med randomized crossover trial. Am J Clin Nutr. Sep 2 2022;116(3):640-652. doi:10.1093/ajcn/nqac154	Intervention or Exposure - Foods/Beverages Not Reported
364	Gardner CD, Landry MJ, Perelman D, et al. Errartum/Correction: Effect of a ketogenic diet versus Mediterranean diet on glycated hemoglobin in individuals with prediabetes and type 2 diabetes mellitus: The interventional Keto-Med randomized crossover trial. Am J Clin Nutr. Sep 2 2022;116(3):640-652. doi:10.1093/ajcn/nqac279	Intervention or Exposure - Foods/Beverages Not Reported
365	Garland VF, Regunathan-Shenk R, Lew SQ. The plant-based diet, microbiome, and kidney health relationship. Journal of Kidney Care. 2021;6(3):112-118.	Study design; Publication status
366	Garousi N, Tamizifar B, Pourmasoumi M, et al. Effects of lacto-ovo-vegetarian diet vs. standard-weight-loss diet on obese and overweight adults with non-alcoholic fatty liver disease: a randomised clinical trial. Arch Physiol Biochem. Dec 2023;129(4):975-983. doi:10.1080/13813455.2021.1890128	Intervention or Exposure - Foods/Beverages Not Reported; Health Status
367	Garr Barry V, Stewart M, Soleymani T, Desmond RA, Goss AM, Gower BA. Greater Loss of Central Adiposity from Low-Carbohydrate versus Low-Fat Diet in Middle-Aged Adults with Overweight and Obesity. Nutrients. Jan 31 2021;13(2)doi:10.3390/nu13020475	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
368	Garralda-Del-Villar M, Carlos-Chilleron S, Diaz-Gutierrez J, et al. Healthy Lifestyle and Incidence of Metabolic Syndrome in the SUN Cohort. Article. Nutrients. Dec 30 2018;11(1)doi:10.3390/nu11010065	Intervention or Exposure; Outcome
369	Gautreaux CE, Smith KS, Dolan L, et al. Early Pandemic Improvements in Diet Quality Are Associated with Increased Physical Activity and Weight Loss in US Adults. Article. Int J Environ Res Public Health. Jul 7 2022;19(14)doi:10.3390/ijerph19148289	Study design
370	Geiker NRW, Magkos F, Zingenberg H, et al. A high-protein low-glycemic index diet attenuates gestational weight gain in pregnant women with obesity: the "An optimized programming of healthy children" (APPROACH) randomized controlled trial. Article. Am J Clin Nutr. Mar 4 2022;115(3):970-979. doi:10.1093/ajcn/nqab405	Intervention or Exposure
371	Geniş B, Kayalar A, Dönmez A, Coşar B. Effect of Structured Cognitive-Behavioral Group Therapy on Body Weight, Mental Status and the Quality of Life in Obese and Overweight Individuals: A 16-Week Follow Up Study. Turk Psikiyatri Derg. 2022 Spring;33(1):11-21. English, Turkish. doi:10.5080/u25606	Study design; Intervention or Exposure
372	Genoni G, Menegon V, Monzani A, et al. Healthy Lifestyle Intervention and Weight Loss Improve Cardiovascular Dysfunction in Children with Obesity. Nutrients. Apr 15 2021;13(4)doi:10.3390/nu13041301	Study design
373	George SA, Kumar N. A study of evaluation of body mass index and food pattern changes in patients undergoing orthodontic treatment. Article. Drug Invention Today. 2019;12:68-70.	Study design
374	Georgoulis M, Chrysohoou C, Georgousopoulou E, et al. Long-term prognostic value of LDL-C, HDL-C, lp(a) and TG levels on cardiovascular disease incidence, by body weight status, dietary habits and lipid-lowering treatment: the ATTICA epidemiological cohort study (2002-2012). Lipids Health Dis. Dec 19 2022;21(1):141. doi:10.1186/s12944-022-01747-2	Intervention or Exposure

Number	Citation	Rationale
375	Georgoulis M, Georgousopoulou EN, Chrysohoou C, Pitsavos C, Panagiotakos DB. Longitudinal Trends, Determinants, and Cardiometabolic Impact of Adherence to the Mediterranean Diet among Greek Adults. Foods. Aug 9 2022;11(16)doi:10.3390/foods11162389	Intervention or Exposure; Outcome
376	Georgoulis M, Yiannakouris N, Kechribari I, et al. Dose-response relationship between weight loss and improvements in obstructive sleep apnea severity after a diet/lifestyle interventions: secondary analyses of the "MIMOSA" randomized clinical trial. J Clin Sleep Med. May 1 2022;18(5):1251-1261. doi:10.5664/jcsm.9834	Intervention or Exposure; Outcome; Comparator
377	Gepner Y, Shelef I, Komy O, et al. The beneficial effects of Mediterranean diet over low-fat diet may be mediated by decreasing hepatic fat content. Clinical Trial, Phase I; Journal Article; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. J Hepatol. Aug 2019;71(2):379-388. doi:10.1016/j.jhep.2019.04.013	Intervention or Exposure - Foods/Beverages Not Reported
378	Gete DG, Waller M, Mishra GD. Prepregnancy dietary patterns and risk of preterm birth and low birth weight: findings from the Australian Longitudinal Study on Women's Health. Am J Clin Nutr. May 1 2020;111(5):1048-1058. doi:10.1093/ajcn/nqaa057	Outcome
379	Ghomari L, Ghomari-Boukhatem H, Raiah M, Boukhari Y, Bouchenak M. Lifestyle, Cardiometabolic and Inflammatory markers in Schoolchildren and their Associations with Body Mass Index. Article. Progress in Nutrition. 2022;24(3)doi:10.23751/pn.v24i3.12027	Study design
380	Gianfredi V, Bertarelli G, Minelli L, Nucci D. Promoting healthy eating in childhood: results from the Children PrOmOting Nutrition throUgh Theatre (COcONUT) project. Minerva Pediatr (Torino). Aug 2024;76(4):464-472. doi:10.23736/S2724-5276.21.06249-2	Outcome
381	Giardina S, Hernandez-Alonso P, Diaz-Lopez A, Salas-Huetos A, Salas-Salvado J, Bullo M. Changes in circulating miRNAs in healthy overweight and obese subjects: Effect of diet composition and weight loss. Journal Article; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. Clin Nutr. Feb 2019;38(1):438-443. doi:10.1016/j.clnu.2017.11.014	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
382	Gibbs BB, Tudorascu D, Bryce CL, et al. Lifestyle Habits Associated with Weight Regain After Intentional Loss in Primary Care Patients Participating in a Randomized Trial. Article. J Gen Intern Med. Nov 2020;35(11):3227-3233. doi:10.1007/s11606-020-06056-x	Intervention or Exposure
383	Gil-Campos M, Perez-Ferreiros A, Llorente-Cantarero FJ, et al. Association of Diet, Physical Activity Guidelines and Cardiometabolic Risk Markers in Children. Nutrients. Aug 25 2021;13(9)doi:10.3390/nu13092954	Study design
384	Giontella A, Bonafini S, Tagetti A, et al. Relation between Dietary Habits, Physical Activity, and Anthropometric and Vascular Parameters in Children Attending the Primary School in the Verona South District. Article. Nutrients. May 14 2019;11(5)doi:10.3390/nu11051070	Study design
385	Gkouskou KG, Georgiopoulos G, Vlastos I, et al. CYP1A2 polymorphisms modify the association of habitual coffee consumption with appetite, macronutrient intake, and body mass index: results from an observational cohort and a cross-over randomized study. Int J Obes (Lond). Jan 2022;46(1):162-168. doi:10.1038/s41366-021-00972-6	Intervention or Exposure
386	Glenn AJ, Li J, Lo K, et al. The Portfolio Diet and Incident Type 2 Diabetes: Findings From the Women's Health Initiative Prospective Cohort Study. Diabetes Care. Jan 1 2023;46(1):28-37. doi:10.2337/dc22-1029	Outcome
387	Glud M, Christiansen T, Larsen LH, Richelsen B, Bruun JM. Changes in Circulating BDNF in relation to Sex, Diet, and Exercise: A 12-Week Randomized Controlled Study in Overweight and Obese Participants. J Obes. 2019;2019:4537274. doi:10.1155/2019/4537274	Intervention or Exposure - Foods/Beverages Not Reported
388	Goetz AR, Jindal I, Moreno JP, et al. The roles of sleep and eating patterns in adiposity gain among preschool-aged children. Am J Clin Nutr. Nov 2022;116(5):1334-1342. doi:10.1093/ajcn/nqac197	Intervention or Exposure

Number	Citation	Rationale
389	Goff LM, Huang P, Silva MJ, et al. Associations of dietary intake with cardiometabolic risk in a multi-ethnic cohort: a longitudinal analysis of the Determinants of Adolescence, now young Adults, Social well-being and Health (DASH) study. Article. Br J Nutr. May 2019;121(9):1069-1079. doi:10.1017/S0007114519000291	Intervention or Exposure
390	Goldenshluger A, Constantini K, Goldstein N, et al. Effect of Dietary Strategies on Respiratory Quotient and Its Association with Clinical Parameters and Organ Fat Loss: A Randomized Controlled Trial. Nutrients. Jun 29 2021;13(7)doi:10.3390/nu13072230	Intervention or Exposure - Foods/Beverages Not Reported
391	Golzarand M, Moslehi N, Mirmiran P, Azizi F. Adherence to the DASH, MeDi, and MIND diet scores and the incidence of metabolically unhealthy phenotypes. Obes Res Clin Pract. May-Jun 2023;17(3):226-232. doi:10.1016/j.orcp.2023.04.001	Outcome
392	Gomez-Huelgas R, Ruiz-Nava J, Santamaria-Fernandez S, et al. Impact of Intensive Lifestyle Modification on Levels of Adipokines and Inflammatory Biomarkers in Metabolically Healthy Obese Women. Article. Mediators Inflamm. 2019;2019:4165260. doi:10.1155/2019/4165260	Study design; Outcome
393	Gontijo CA, Balieiro LCT, Teixeira GP, Fahmy WM, Crispim CA, Maia YCP. Effects of timing of food intake on eating patterns, diet quality and weight gain during pregnancy. Br J Nutr. Apr 28 2020;123(8):922-933. doi:10.1017/S0007114519003398	Intervention or Exposure; Comparator
394	Gonzalez-Nahm S, Marchesoni J, Maity A, et al. Maternal Mediterranean Diet Adherence and Its Associations with Maternal Prenatal Stressors and Child Growth. Curr Dev Nutr. Nov 2022;6(11):nzac146. doi:10.1093/cdn/nzac146	Outcome
395	Gonzalez-Nahm S, Mendez M, Robinson W, et al. Low maternal adherence to a Mediterranean diet is associated with increase in methylation at the MEG3-IG differentially methylated region in female infants. Environ Epigenet. May 2017;3(2):dvx007. doi:10.1093/eep/dvx007	Outcome

Number	Citation	Rationale
396	Goswami N, Trozic I, Fredriksen MV, Fredriksen PM. The effect of physical activity intervention and nutritional habits on anthropometric measures in elementary school children: the health oriented pedagogical project (HOPP). Int J Obes (Lond). Aug 2021;45(8):1677-1686. doi:10.1038/s41366-021-00830-5	Intervention or Exposure; Comparator
397	Gow ML, Lam YWI, Jebeile H, Craig ME, Susic D, Henry A. Antenatal diet quality and perinatal depression: the Microbiome Understanding in Maternity Study (MUMS) cohort. J Hum Nutr Diet. Jun 2023;36(3):754-762. doi:10.1111/jhn.13081	Outcome
398	Gow ML, Lam YWI, Jebeile H, Craig ME, Susic D, Henry A. Antenatal diet quality and perinatal depression: the MUMS cohort. J Hum Nutr Diet. Jun 2023;36(3):754-762. doi:10.1111/jhn.13081	Outcome
399	Grammatikopoulou MG, Nigdelis MP, Haidich AB, et al. Diet Quality and Nutritional Risk Based on the FIGO Nutrition Checklist among Greek Pregnant Women: A Cross-Sectional Routine Antenatal Care Study. Article. Nutrients. Apr 22 2023;15(9)doi:10.3390/nu15092019	Study design
400	Grams L, Nelius AK, Pastor GG, et al. Comparison of Adherence to Mediterranean Diet between Spanish and German School-Children and Influence of Gender, Overweight, and Physical Activity. Nutrients. Nov 7 2022;14(21)doi:10.3390/nu14214697	Study design
401	Granic A, Mendonca N, Sayer AA, et al. Effects of dietary patterns and low protein intake on sarcopenia risk in the very old: The Newcastle 85+ study. Clin Nutr. Jan 2020;39(1):166-173. doi:10.1016/j.clnu.2019.01.009	Outcome
402	Granziera F, Guzzardi MA, Iozzo P. Associations between the Mediterranean Diet Pattern and Weight Status and Cognitive Development in Preschool Children. Article. Nutrients. Oct 22 2021;13(11)doi:10.3390/nu13113723	Intervention or Exposure; Outcome
403	Gray KL, Clifton PM, Keogh JB. The effect of intermittent energy restriction on weight loss and diabetes risk markers in women with a history of gestational diabetes: a 12-month randomized control trial. Am J Clin Nutr. Aug 2 2021;114(2):794-803. doi:10.1093/ajcn/nqab058	Intervention or Exposure

Number	Citation	Rationale
404	Gray KL, Clifton PM, Keogh JB. Weight Loss Barriers and Dietary Quality of Intermittent and Continuous Dieters in Women with a History of Gestational Diabetes. Article. Int J Environ Res Public Health. Sep 29 2021;18(19)doi:10.3390/ijerph181910243	Outcome
405	Gray ME, Bae S, Ramachandran R, et al. Dietary Patterns and Prevalent NAFLD at Year 25 from the Coronary Artery Risk Development in Young Adults (CARDIA) Study. Nutrients. Feb 18 2022;14(4)doi:10.3390/nu14040854	Outcome
406	Greathouse KL, Padgett RN, Petrosino J, Hastings-Tolsma M, Faucher MA. Exploration of Diet Quality by Obesity Severity in Association with Gestational Weight Gain and Distal Gut Microbiota in Pregnant African American Women: Opportunities for Intervention. Article in Press. Matern Child Health J. Apr 2022;26(4):882-894. doi:10.1007/s10995-021-03198-0	Outcome
407	Grech A, Rangan A, Allman-Farinelli M, Simpson SJ, Gill T, Raubenheimer D. A Comparison of the Australian Dietary Guidelines to the NOVA Classification System in Classifying Foods to Predict Energy Intakes and Body Mass Index. Nutrients. Sep 23 2022;14(19)doi:10.3390/nu14193942	Study design
408	Griauzde DH, Lumeng JC, Shah PE, Kaciroti N. Lower Body Mass Index Z-Score Trajectory During Early Childhood After the Birth of a Younger Sibling. Article. Acad Pediatr. Jan-Feb 2019;19(1):51-57. doi:10.1016/j.acap.2018.06.003	Intervention or Exposure
409	Guedes MR, Fittipaldi-Fernandez RJ, Diestel CF, Klein M. Changes in Body Adiposity, Dietary Intake, Physical Activity and Quality of Life of Obese Individuals Submitted to Intragastric Balloon Therapy for 6 Months. Article. Obes Surg. Mar 2019;29(3):843-850. doi:10.1007/s11695-018-3609-x	Health Status- 100% Hospitalized/Surgical
410	Gunther J, Hoffmann J, Spies M, et al. Associations between the prenatal diet and neonatal outcomesâ€”a secondary analysis of the cluster-randomised gelis trial. Journal: Article. Nutrients. 2019;11(8)	Outcome; Comparator

Number	Citation	Rationale
411	Habib-Mourad C, Ghandour LA, Maliha C, Dagher M, Kharroubi S, Hwalla N. Impact of a Three-Year Obesity Prevention Study on Healthy Behaviors and BMI among Lebanese Schoolchildren: Findings from Ajyal Salima Program. Nutrients. Sep 3 2020;12(9)doi:10.3390/nu12092687	Intervention or Exposure
412	Haddad EN, Nel NH, Petrick LM, Kerver JM, Comstock SS. Associations between the Gut Microbiota, Urinary Metabolites, and Diet in Women during the Third Trimester of Pregnancy. Article. Curr Dev Nutr. Apr 2023;7(4):100025. doi:10.1016/j.cdnut.2022.100025	Study design; Intervention or Exposure - Foods/Beverages Not Reported; Outcome
413	Hadi A, Hasani H, Kafeshani M. The Effect of DASH Diet on Anthropometric Indices and Body Composition in Healthy Obese Wome. Academic Journal. Qom university of medical sciences journal. 2019;13(3):14-16.	Language
414	Hafez Griauzde D, Saslow L, Patterson K, et al. Mixed methods pilot study of a low-carbohydrate diabetes prevention programme among adults with pre-diabetes in the USA. BMJ Open. Jan 21 2020;10(1):e033397. doi:10.1136/bmjopen-2019-033397	Study design
415	Haghighat N, Ashtary-Larky D, Bagheri R, et al. Corrigendum: The effect of 12 weeks of euenergetic high-protein diet in regulating appetite and body composition of women with normal-weight obesity: a randomised controlled trial. Br J Nutr. 2020. 124(10): 1044-1051. 2021;126:959-959.	Publication status; Intervention or Exposure - Foods/Beverages Not Reported
416	Haghighat N, Ashtary-Larky D, Bagheri R, et al. Effects of 6 Months of Soy-Enriched High Protein Compared to Eucaloric Low Protein Snack Replacement on Appetite, Dietary Intake, and Body Composition in Normal-Weight Obese Women: A Randomized Controlled Trial. Nutrients. Jun 30 2021;13(7)doi:10.3390/nu13072266	Intervention or Exposure

Number	Citation	Rationale
417	Haghighat N, Ashtary-Larky D, Bagheri R, et al. The effect of 12 weeks of euenergetic high-protein diet in regulating appetite and body composition of women with normal-weight obesity: a randomised controlled trial. Br J Nutr. Nov 28 2020;124(10):1044-1051. doi:10.1017/S0007114520002019	Intervention or Exposure - Foods/Beverages Not Reported
418	Hailili G, Chen Z, Tian T, et al. Dietary patterns and their associations with the metabolic syndrome and predicted 10-year risk of CVD in northwest Chinese adults. Article. Br J Nutr. Sep 28 2021;126(6):913-922. doi:10.1017/S000711452000478X	Outcome
419	Hajihashemi P, Hassannejad R, Haghighatdoost F, et al. The long-term association of different dietary protein sources with metabolic syndrome. Article. Sci Rep. Sep 29 2021;11(1):19394. doi:10.1038/s41598-021-98688-0	Intervention or Exposure; Outcome
420	Hall WL. The emerging importance of tackling sleep-diet interactions in lifestyle interventions for weight management. Br J Nutr. Aug 14 2022;128(3):561-568. doi:10.1017/S000711452200160X	Study design
421	HAlWattar B, Dodds J, Placzek A, et al. Mediterranean-style diet in pregnant women with metabolic risk factors (ESTEEM): A pragmatic multicentre randomised trial. Journal Article; Multicenter Study; Pragmatic Clinical Trial; Research Support, Non-U.S. Gov't. PLoS Med. Jul 2019;16(7):e1002857. doi:10.1371/journal.pmed.1002857	Data overlap
422	Hammons AJ, Hannon BA, Teran-Garcia M, et al. Effects of Culturally Tailored Nutrition Education on Dietary Quality of Hispanic Mothers: A Randomized Control Trial. J Nutr Educ Behav. Nov-Dec 2019;51(10):1168-1176. doi:10.1016/j.jneb.2019.06.017	Intervention or Exposure; Duration of Intervention; Outcome
423	Han L, Zhang T, You D, et al. Temporal and mediation relations of weight loss, and changes in insulin resistance and blood pressure in response to 2-year weight-loss diet interventions: the POUNDS Lost trial. Article. Eur J Nutr. Feb 2022;61(1):269-275. doi:10.1007/s00394-021-02643-8	Intervention or Exposure

Number	Citation	Rationale
424	Han Y, Kang D, Lee SA. Effect of 'rice' pattern on high blood pressure by gender and obesity: using the community-based KoGES cohort. Public Health Nutr. Feb 2020;23(2):275-285. doi:10.1017/S136898001900168X	Outcome
425	Hanafiah AN, Aagaard-Hansen J, Ch Cheah J, et al. Effectiveness of a complex, pre-conception intervention to reduce the risk of diabetes by reducing adiposity in young adults in Malaysia: The Jom Mama project - A randomised controlled trial. J Glob Health. Aug 17 2022;12:04053. doi:10.7189/jogh.12.04053	Intervention or Exposure
426	Handakas E, Chang K, Khandpur N, et al. Metabolic profiles of ultra-processed food consumption and their role in obesity risk in British children. Clin Nutr. Nov 2022;41(11):2537-2548. doi:10.1016/j.clnu.2022.09.002	Outcome
427	Hansen TT, Mead BR, Garcia-Gavilan JF, et al. Is reduction in appetite beneficial for body weight management in the context of overweight and obesity? Yes, according to the SATIN (Satiety Innovation) study. J Nutr Sci. Nov 27 2019;8:e39. doi:10.1017/jns.2019.36	Intervention or Exposure
428	Hao L, Jiang H, Zhang B, et al. High Diet Quality Is Linked to Low Risk of Abdominal Obesity among the Elderly Women in China. Article. Nutrients. Jun 24 2022;14(13)doi:10.3390/nu14132623	Country
429	Harbers MC, de Kroon AM, Boer JMA, et al. Adherence to the Dutch dietary guidelines and 15-year incidence of heart failure in the EPIC-NL cohort. Article. Eur J Nutr. Dec 2020;59(8):3405-3413. doi:10.1007/s00394-019-02170-7	Outcome
430	Harbury C, Collins CE, Callister R. Diet quality is lower among adults with a BMI >/=40kgm(-2) or a history of weight loss surgery. Article. Obes Res Clin Pract. Mar-Apr 2019;13(2):197-204. doi:10.1016/j.orcp.2018.10.003	Study design
431	Hardy DS, Racette SB, Garvin JT, Gebrekristos HT, Mersha TB. Ancestry specific associations of a genetic risk score, dietary patterns and metabolic syndrome: a longitudinal ARIC study. BMC Med Genomics. May 1 2021;14(1):118. doi:10.1186/s12920-021-00961-8	Outcome

Number	Citation	Rationale
432	Harreiter J, Simmons D, Desoye G, et al. Nutritional Lifestyle Intervention in Obese Pregnant Women, Including Lower Carbohydrate Intake, Is Associated With Increased Maternal Free Fatty Acids, 3-beta-Hydroxybutyrate, and Fasting Glucose Concentrations: A Secondary Factorial Analysis of the European Multicenter, Randomized Controlled DALI Lifestyle Intervention Trial. Journal Article; Multicenter Study; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. Diabetes Care. Aug 2019;42(8):1380-1389. doi:10.2337/dc19-0418	Intervention or Exposure; Data overlap
433	Hartmann AM, Dell'Oro M, Spoo M, et al. To eat or not to eat-an exploratory randomized controlled trial on fasting and plant-based diet in rheumatoid arthritis (NutriFast-Study). Front Nutr. 2022;9:1030380. doi:10.3389/fnut.2022.1030380	Intervention or Exposure - Foods/Beverages Not Reported; Health Status
434	Hasain Z, Raja Ali RA, Abdul Razak S, et al. Gut Microbiota Signature Among Asian Post-gestational Diabetes Women Linked to Macronutrient Intakes and Metabolic Phenotypes. Front Microbiol. 2021;12:680622. doi:10.3389/fmicb.2021.680622	Study design
435	Hassan BK, Cunha DB, Santos RO, Baltar VT. Breakfast patterns and weight status among adolescents: a study on the Brazilian National Dietary Survey 2008-2009. Br J Nutr. May 28 2022;127(10):1549-1556. doi:10.1017/S0007114521002403	Study design; Intervention or Exposure
436	Hata T, Seino S, Yokoyama Y, et al. Interaction of Eating Status and Dietary Variety on Incident Functional Disability among Older Japanese Adults. Article. J Nutr Health Aging. 2022;26(7):698-705. doi:10.1007/s12603-022-1817-5	Intervention or Exposure; Outcome
437	Havas Augustin D, Sarac J, Lovric M, et al. Adherence to Mediterranean Diet and Maternal Lifestyle during Pregnancy: Island-Mainland Differentiation in the CRIBS Birth Cohort. Nutrients. Jul 22 2020;12(8)doi:10.3390/nu12082179	Outcome

Number	Citation	Rationale
438	Hazrati Gonbad S, Zakerimoghadam M, Pashaeypoor S, Haghani S. The Effects of Home-Based Self-Care Education on Blood Pressure and Self-Care Behaviors among Middle-Aged Patients with Primary Hypertension in Iran: A Randomized Clinical Controlled Trial. Home Health Care Management & Practice. 2022;34(1):9-16.	Intervention or Exposure; Duration of Intervention
439	He D, Qiao Y, Xiong S, Liu S, Ke C, Shen Y. Association between Dietary Quality and Prediabetes based on the Diet Balance Index. Sci Rep. Feb 21 2020;10(1):3190. doi:10.1038/s41598-020-60153-9	Study design; Outcome; Country
440	He M, Wang J, Liang Q, et al. Time-restricted eating with or without low-carbohydrate diet reduces visceral fat and improves metabolic syndrome: A randomized trial. Cell Rep Med. Oct 18 2022;3(10):100777. doi:10.1016/j.xcrm.2022.100777	Study design; Intervention or Exposure - Foods/Beverages Not Reported; Comparator
441	He Y, Fang Y, Bromage S, et al. Application of the Global Diet Quality Score in Chinese Adults to Evaluate the Double Burden of Nutrient Inadequacy and Metabolic Syndrome. J Nutr. Oct 23 2021;151(12 Suppl 2):93S-100S. doi:10.1093/jn/nxab162	Study design
442	He YM, Chen WL, Kao TW, Wu LW, Yang HF, Peng TC. Relationship between Ideal Cardiovascular Health and Incident Proteinuria: A 5 Year Retrospective Cohort Study. Nutrients. Sep 28 2022;14(19)doi:10.3390/nu14194040	Outcome; Country
443	Heianza Y, Zhou T, Sun D, Hu FB, Qi L. Healthful plant-based dietary patterns, genetic risk of obesity, and cardiovascular risk in the UK biobank study. Clin Nutr. Jul 2021;40(7):4694-4701. doi:10.1016/j.clnu.2021.06.018	Study design
444	Hengeveld LM, Wijnhoven HAH, Olthof MR, et al. Prospective Associations of Diet Quality With Incident Frailty in Older Adults: The Health, Aging, and Body Composition Study. Article. J Am Geriatr Soc. Sep 2019;67(9):1835-1842. doi:10.1111/jgs.16011	Outcome

Number	Citation	Rationale
445	Henning SM, Yang J, Woo SL, et al. Hass Avocado Inclusion in a Weight-Loss Diet Supported Weight Loss and Altered Gut Microbiota: A 12-Week Randomized, Parallel-Controlled Trial. Journal: Article. Curr Dev Nutr. Aug 2019;3(8):nzz068. doi:10.1093/cdn/nzz068	Intervention or Exposure; Comparator
446	Henriques HKF, Fonseca LM, de Andrade KS, et al. Gluten-Free Diet Reduces Diet Quality and Increases Inflammatory Potential in Non-Celiac Healthy Women. J Am Nutr Assoc. Nov-Dec 2022;41(8):771-779. doi:10.1080/07315724.2021.1962769	Duration of Intervention
447	Hernáez Á, Lassale C, Castro-Barquero S, et al. Mediterranean diet maintained platelet count within a healthy range and decreased thrombocytopenia-related mortality risk: A randomized controlled trial. Article. Nutrients. 2021;13(2):1-13.	Intervention or Exposure; Outcome
448	Hernandez-Reyes A, Camara-Martos F, Molina-Luque R, Romero-Saldana M, Molina-Recio G, Moreno-Rojas R. Changes in body composition with a hypocaloric diet combined with sedentary, moderate and high-intense physical activity: a randomized controlled trial. Journal Article; Randomized Controlled Trial. BMC Womens Health. Dec 27 2019;19(1):167. doi:10.1186/s12905-019-0864-5	Intervention or Exposure; Comparator
449	Hernando-Redondo J, Toloba A, Benaiges D, et al. Mid- and long-term changes in satiety-related hormones, lipid and glucose metabolism, and inflammation after a Mediterranean diet intervention with the goal of losing weight: A randomized, clinical trial. Front Nutr. 2022;9:950900. doi:10.3389/fnut.2022.950900	Intervention or Exposure; Comparator
450	Herrera-Espineira C, Martinez-Cirre MDC, Lopez-Morales M, et al. Hospital Intervention to Reduce Overweight with Educational Reinforcement after Discharge: A Multicenter Randomized Clinical Trial. Article. Nutrients. Jun 16 2022;14(12)doi:10.3390/nu14122499	Intervention or Exposure; Health Status- 100% Hospitalized/Surgical
451	Herrera-Quintana L, Vazquez-Lorente H, Carranco Romo MJ, et al. Imbalanced dietary patterns, anthropometric, and body composition profiles amongst adults with Down syndrome. Nutr Neurosci. Feb 2024;27(2):96-105. doi:10.1080/1028415X.2022.2161139	Study design

Number	Citation	Rationale
452	Heslehurst N, Flynn AC, Ngongalah L, et al. Diet, Physical Activity and Gestational Weight Gain Patterns among Pregnant Women Living with Obesity in the North East of England: The GLOWING Pilot Trial. Article. Nutrients. Jun 9 2021;13(6)doi:10.3390/nu13061981	Intervention or Exposure
453	Hezaveh ZS, Feizy Z, Dehghani F, Sarbakhsh P, Moini A, Vafa M. The Association between Maternal Dietary Protein Intake and Risk of Gestational Diabetes Mellitus. Int J Prev Med. 2019;10:197. doi:10.4103/ijpvm.IJPVM_86_19	Study design; Intervention or Exposure
454	Higuera-Gomez A, Ribot-Rodriguez R, Mico V, Cuevas-Sierra A, San Cristobal R, Martinez JA. Lifestyle and Health-Related Quality of Life Relationships Concerning Metabolic Disease Phenotypes on the Nutrimdea Online Cohort. Int J Environ Res Public Health. Dec 31 2022;20(1)doi:10.3390/ijerph20010767	Study design
455	Higurashi S, Tsujimori Y, Nojiri K, Toba Y, Nomura K, Ueno HM. Dietary Patterns Associated with General Health of Breastfeeding Women 1-2 Months Postpartum: Data from the Japanese Human Milk Study Cohort. Article. Curr Dev Nutr. Jan 2023;7(1):100004. doi:10.1016/j.cdnut.2022.100004	Study design; Outcome
456	Hill E, Hodge A, Clifton P, et al. Longitudinal nutritional changes in aging Australian women. Article. Asia Pac J Clin Nutr. 2019;28(1):139-149. doi:10.6133/apjcn.201903_28(1).0019	Size or Power
457	Hill EB, Cubellis LT, Wexler RK, Taylor CA, Spees CK. Differences in Adherence to American Heart Association's Life's Essential 8, Diet Quality, and Weight Loss Strategies Between Those With and Without Recent Clinically Significant Weight Loss in a Nationally Representative Sample of US Adults. J Am Heart Assoc. Apr 18 2023;12(8):e026777. doi:10.1161/JAHA.122.026777	Study design
458	Hirko KA, Comstock SS, Strakovsky RS, Kerver JM. Diet during Pregnancy and Gestational Weight Gain in a Michigan Pregnancy Cohort. Curr Dev Nutr. Aug 2020;4(8):nzaa121. doi:10.1093/cdn/nzaa121	Intervention or Exposure

Number	Citation	Rationale
459	Hjorth MF, Bray GA, Zohar Y, et al. Pretreatment Fasting Glucose and Insulin as Determinants of Weight Loss on Diets Varying in Macronutrients and Dietary Fibers-The POUNDS LOST Study. Article. Nutrients. Mar 11 2019;11(3)doi:10.3390/nu11030586	Intervention or Exposure - Foods/Beverages Not Reported
460	Hjorth MF, Corella D, Astrup A, et al. High fat diets for weight loss among subjects with elevated fasting glucose levels: the PREDIMED study. Journal: Article. Obesity medicine. 2020;18	Intervention or Exposure - Foods/Beverages Not Reported; Comparator
461	Hjorth T, Huseinovic E, Hallstrom E, et al. Changes in dietary carbon footprint over ten years relative to individual characteristics and food intake in the Vasterbotten Intervention Programme. Article. Sci Rep. Jan 8 2020;10(1):20. doi:10.1038/s41598-019-56924-8	Intervention or Exposure
462	Hobbs M, Green M, Roberts K, Griffiths C, McKenna J. Reconsidering the relationship between fast-food outlets, area-level deprivation, diet quality and body mass index: an exploratory structural equation modelling approach. Article. J Epidemiol Community Health. Sep 2019;73(9):861-866. doi:10.1136/jech-2018-211798	Study design; Intervention or Exposure
463	Hodge AM, Karim MN, Hebert JR, Shivappa N, de Courten B. Association between Diet Quality Indices and Incidence of Type 2 Diabetes in the Melbourne Collaborative Cohort Study. Nutrients. Nov 20 2021;13(11)doi:10.3390/nu13114162	Outcome
464	Hoffmann A, Meir AY, Hagemann T, et al. A polyphenol-rich green Mediterranean diet enhances epigenetic regulatory potential: the DIRECT PLUS randomized controlled trial. Metabolism. Aug 2023;145:155594. doi:10.1016/j.metabol.2023.155594	Intervention or Exposure
465	Holmes H, Palacios C, Wu Y, Banna J. Effect of a Short Message Service Intervention on Excessive Gestational Weight Gain in a Low-Income Population: A Randomized Controlled Trial. Nutrients. May 15 2020;12(5)doi:10.3390/nu12051428	Intervention or Exposure

Number	Citation	Rationale
466	Hołowko-Ziółek J, Cięszczyk P, Biliński J, Basak GW, Stachowska E. What Model of Nutrition Can Be Recommended to People Ending Their Professional Sports Career? An Analysis of the Mediterranean Diet and the CRON Diet in the Context of Former Athletes. Nutrients. 2020;12(12):3604.	Study design
467	Hopkins LC, Tiba S, Westrick M, Gunther C. The Diet Quality of a Sample of Predominantly Racial Minority Children From Low-Income Households Is Lower During the Summer vs School Year: Results From the Project Summer Weight and Environmental Assessment Trial Substudy. J Acad Nutr Diet. Jan 2021;121(1):112-120. doi:10.1016/j.jand.2020.06.013	Outcome
468	Hosseini-Esfahani F, Koochakpoor G, Mirmiran P, Daneshpour MS, Azizi F. Dietary patterns modify the association between fat mass and obesity-associated genetic variants and changes in obesity phenotypes. Article. Br J Nutr. Jun 2019;121(11):1247-1254. doi:10.1017/S0007114519000643	Country; Comparator
469	Hosseini-Esfahani F, Koochakpoor G, Mirmiran P, Ebrahimof S, Azizi F. The association of dietary macronutrients with anthropometric changes, using iso-energetic substitution models: Tehran lipid and glucose study. Nutr Metab (Lond). 2019;16:83. doi:10.1186/s12986-019-0411-2	Intervention or Exposure
470	Hosseinpour-Niazi S, Mirmiran P, Hadaegh F, et al. Improvement of glycemic indices by a hypocaloric legume-based DASH diet in adults with type 2 diabetes: a randomized controlled trial. Eur J Nutr. Sep 2022;61(6):3037-3049. doi:10.1007/s00394-022-02869-0	Health Status- 100% Diabetes
471	Hu B, Tang S, Wang Z, et al. Dietary diversity is associated with nutrient adequacy, blood biomarkers and anthropometric status among preschool children in poor ethnic minority area of Northwest China. Front Nutr. Nov 24 2022;9:948555. doi:10.3389/fnut.2022.948555	Study design
472	Hu EA, Nguyen V, Langheier J, Shurney D. Weight Reduction Through a Digital Nutrition and Food Purchasing Platform Among Users With Obesity: Longitudinal Study. J Med Internet Res. Sep 2 2020;22(9):e19634. doi:10.2196/19634	Intervention or Exposure

Number	Citation	Rationale
473	Hu J, Aris IM, Lin PD, et al. Association of Maternal Dietary Patterns during Pregnancy and Offspring Weight Status across Infancy: Results from a Prospective Birth Cohort in China. Article. Nutrients. Jun 15 2021;13(6)doi:10.3390/nu13062040	Outcome
474	Hu J, Li L, Wan N, et al. Associations of Dietary Patterns during Pregnancy with Gestational Hypertension: The "Born in Shenyang" Cohort Study. Nutrients. Oct 17 2022;14(20)doi:10.3390/nu14204342	Outcome
475	Hu TY, Lee SY, Shih CK, et al. Soluble CD163-Associated Dietary Patterns and the Risk of Metabolic Syndrome. Article. Nutrients. Apr 25 2019;11(4)doi:10.3390/nu11040940	Study design
476	Hu Z, Tylavsky FA, Kocak M, et al. Effects of Maternal Dietary Patterns during Pregnancy on Early Childhood Growth Trajectories and Obesity Risk: The CANDLE Study. Nutrients. Feb 13 2020;12(2)doi:10.3390/nu12020465	Outcome
477	Huang CH, Okada K, Matsushita E, et al. Dietary Patterns and Muscle Mass, Muscle Strength, and Physical Performance in the Elderly: A 3-Year Cohort Study. J Nutr Health Aging. 2021;25(1):108-115. doi:10.1007/s12603-020-1437-x	Size or Power
478	Huang JH, Li RH, Huang SL, Sia HK, Hsu WT, Tang FC. Health-Associated Nutrition and Exercise Behaviors in Relation to Metabolic Risk Factors Stratified by Body Mass Index. Article. Int J Environ Res Public Health. Mar 9 2019;16(5)doi:10.3390/ijerph16050869	Study design
479	Huang L, Wang H, Wang Z, Zhang J, Zhang B, Ding G. Regional Disparities in the Association between Cereal Consumption and Metabolic Syndrome: Results from the China Health and Nutrition Survey. Article. Nutrients. Apr 1 2019;11(4):1-16. doi:10.3390/nu11040764	Intervention or Exposure; Country
480	Huang RC, Silva D, Beilin L, et al. Feasibility of conducting an early pregnancy diet and lifestyle e-health intervention: the Pregnancy Lifestyle Activity Nutrition (PLAN) project. J Dev Orig Health Dis. Feb 2020;11(1):58-70. doi:10.1017/S2040174419000400	Intervention or Exposure -

Number	Citation	Rationale
		Foods/Beverages Not Reported
481	Huang Z, Li N, Hu YM. Dietary patterns and their effects on postpartum weight retention of lactating women in south central China. Nutrition. Nov-Dec 2019;67-68:110555. doi:10.1016/j.nut.2019.110555	Study design
482	Hudson JL, Zhou J, Campbell WW. Adults Who Are Overweight or Obese and Consuming an Energy-Restricted Healthy US-Style Eating Pattern at Either the Recommended or a Higher Protein Quantity Perceive a Shift from "Poor" to "Good" Sleep: A Randomized Controlled Trial. J Nutr. Dec 10 2020;150(12):3216-3223. doi:10.1093/jn/nxaa302	Comparator
483	Hudson JL, Zhou J, Kim JE, Campbell WW. Incorporating Milk Protein Isolate into an Energy-Restricted Western-Style Eating Pattern Augments Improvements in Blood Pressure and Triglycerides, but Not Body Composition Changes in Adults Classified as Overweight or Obese: A Randomized Controlled Trial. Nutrients. Mar 22 2020;12(3)doi:10.3390/nu12030851	Comparator
484	Hudson P, Emmett PM, Taylor CM. Pre-pregnancy maternal BMI classification is associated with preschool childhood diet quality and childhood obesity in the Avon Longitudinal Study of Parents and Children. Public Health Nutr. Dec 2021;24(18):6137-6144. doi:10.1017/S1368980021001476	Intervention or Exposure; Outcome
485	Hulander E, Lindqvist HM, Wadell AT, Gjertsson I, Winkvist A, Barebring L. Improvements in Body Composition after a Proposed Anti-Inflammatory Diet Are Modified by Employment Status in Weight-Stable Patients with Rheumatoid Arthritis, a Randomized Controlled Crossover Trial. Nutrients. Mar 2 2022;14(5)doi:10.3390/nu14051058	Health Status; Duration of Intervention
486	Huls A, Wright MN, Bogl LH, et al. Polygenic risk for obesity and its interaction with lifestyle and sociodemographic factors in European children and adolescents. Int J Obes (Lond). Jun 2021;45(6):1321-1330. doi:10.1038/s41366-021-00795-5	Intervention or Exposure

Number	Citation	Rationale
487	Hunter SR, Considine RV, Mattes RD. Almond consumption decreases android fat mass percentage in adults with high android subcutaneous adiposity but does not change HbA1c in a randomised controlled trial. Br J Nutr. Mar 28 2022;127(6):850-861. doi:10.1017/S0007114521001495	Intervention or Exposure; Comparator
488	Huseinovic E, Hornell A, Johansson I, Esberg A, Lindahl B, Winkvist A. Changes in food intake patterns during 2000-2007 and 2008-2016 in the population-based Northern Sweden Diet Database. Article. Nutr J. Jul 12 2019;18(1):36. doi:10.1186/s12937-019-0464-0	Study design; Outcome
489	Hwang J, Shin D, Kim H, Kwon O. Association of maternal dietary patterns during pregnancy with small-for-gestational-age infants: Korean Mothers and Children's Environmental Health (MOCEH) study. Am J Clin Nutr. Feb 9 2022;115(2):471-481. doi:10.1093/ajcn/nqab340	Outcome
490	Ibe Y, Takahashi Y, Sone H. Food groups and weight gain in Japanese men. Article. Clin Obes. Jun 2014;4(3):157-64. doi:10.1111/cob.12056	Intervention or Exposure
491	Ibsen DB, Christiansen AH, Olsen A, et al. Adherence to the EAT-Lancet Diet and Risk of Stroke and Stroke Subtypes: A Cohort Study. Article. Stroke. Jan 2022;53(1):154-163. doi:10.1161/STROKEAHA.121.036738	Outcome
492	Imai C, Takimoto H, Fudono A, et al. Application of the Nutrient-Rich Food Index 9.3 and the Dietary Inflammatory Index for Assessing Maternal Dietary Quality in Japan: A Single-Center Birth Cohort Study. Nutrients. Aug 19 2021;13(8)doi:10.3390/nu13082854	Study design; Outcome
493	Imai C, Takimoto H, Kurotani K, et al. Diet Quality and Its Relationship with Weight Characteristics in Pregnant Japanese Women: A Single-Center Birth Cohort Study. Nutrients. Apr 10 2023;15(8)doi:10.3390/nu15081827	Outcome

Number	Citation	Rationale
494	Imai T, Miyamoto K, Sezaki A, et al. Traditional Japanese Diet Score - Association with Obesity, Incidence of Ischemic Heart Disease, and Healthy Life Expectancy in a Global Comparative Study. Article. J Nutr Health Aging. Aug 2019;23(8):717-724. doi:10.1007/s12603-019-1219-5	Study design
495	Innocenti A, Fusi J, Cammisuli DM, Franzoni F, Galetta F, Pruneti C. Effects of Mediterranean diet and weight loss on blood-lipid profile in overweight adults with hypercholesterolemia. Article. Progress in Nutrition. Dec 2019;21(4):889-899. doi:10.23751/pn.v21i4.8089	Study design
496	Ishitsuka K, Yamamoto-Hanada K, Mezawa H, et al. Association between pre-pregnancy weight status and dietary patterns during pregnancy: results from the Japan Environment and Children's Study. Public Health Nutr. Sep 2023;26(9):1807-1814. doi:10.1017/S1368980023000770	Study design; Comparator
497	Itkonen ST, Paivarinta E, Pellinen T, et al. Partial Replacement of Animal Proteins with Plant Proteins for 12 Weeks Accelerates Bone Turnover Among Healthy Adults: A Randomized Clinical Trial. J Nutr. Jan 4 2021;151(1):11-19. doi:10.1093/jn/nxaa264	Intervention or Exposure - Foods/Beverages Not Reported
498	Ivan CR, Messina A, Cibelli G, et al. Italian Ketogenic Mediterranean Diet in Overweight and Obese Patients with Prediabetes or Type 2 Diabetes. Nutrients. Oct 18 2022;14(20)doi:10.3390/nu14204361	Duration of Intervention; Comparator
499	Iversen KN, Dicksved J, Zoki C, et al. The Effects of High Fiber Rye, Compared to Refined Wheat, on Gut Microbiota Composition, Plasma Short Chain Fatty Acids, and Implications for Weight Loss and Metabolic Risk Factors (the RyeWeight Study). Nutrients. Apr 17 2022;14(8):N.PAG-N.PAG. doi:10.3390/nu14081669	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
500	Jackson KH, Van Guilder GP, Tintle N, Tate B, McFadden J, Perry CA. Plasma fatty acid responses to a calorie-restricted, DASH-style diet with lean beef. Article. Prostaglandins Leukot Essent Fatty Acids. Apr 2022;179:102413. doi:10.1016/j.plefa.2022.102413	Intervention or Exposure; Outcome
501	Jain P, Danaei G, Manson JE, Robins JM, Hernan MA. Weight Gain After Smoking Cessation and Lifestyle Strategies to Reduce it. Epidemiology. Jan 2020;31(1):7-14. doi:10.1097/EDE.0000000000001106	Intervention or Exposure; Comparator
502	Jain V, Kumar B, Sharma A, et al. A comprehensive yoga programme for weight reduction in children & adolescents with obesity: A randomized controlled trial. Indian J Med Res. Mar 2022;155(3&4):387-396. doi:10.4103/ijmr.IJMR_525_20	Intervention or Exposure; Country
503	Jansen LT, Yang N, Wong JMW, et al. Prolonged Glycemic Adaptation Following Transition From a Low- to High-Carbohydrate Diet: A Randomized Controlled Feeding Trial. Article in Press. Diabetes Care. Mar 1 2022;45(3):576-584. doi:10.2337/dc21-1970	Duration of Intervention
504	Janumala I, Toro-Ramos T, Widen E, et al. Increased Visceral Adipose Tissue Without Weight Retention at 59 Weeks Postpartum. Journal Article; Randomized Controlled Trial; Research Support, N.I.H., Extramural. Obesity (Silver Spring). Mar 2020;28(3):552-562. doi:10.1002/oby.22736	Intervention or Exposure
505	Jardi C, Aparicio E, Bedmar C, et al. Food Consumption during Pregnancy and Post-Partum. ECLIPSES Study. Article. Nutrients. Oct 14 2019;11(10)doi:10.3390/nu11102447	Outcome
506	Jayasinghe SN, Breier BH, McNaughton SA, et al. Dietary Patterns in New Zealand Women: Evaluating Differences in Body Composition and Metabolic Biomarkers. Article. Nutrients. Jul 18 2019;11(7)doi:10.3390/nu11071643	Study design
507	Jen V, Braun KVE, Karagounis LG, et al. Longitudinal association of dietary protein intake in infancy and adiposity throughout childhood. Article. Clin Nutr. Jun 2019;38(3):1296-1302. doi:10.1016/j.clnu.2018.05.013	Intervention or Exposure

Number	Citation	Rationale
508	Jeon Y, Limketkai BN. Implications of Dietary Impact on Hepatic Steatosis and IBD. Inflamm Bowel Dis. Jan 1 2021;27(1):10-11. doi:10.1093/ibd/izaa098	Study design; Intervention or Exposure; Outcome; Publication status
509	Jeruszka-Bielak M, Hamulka J, Czarniecka-Skubina E, et al. Dietary-Physical Activity Patterns in the Health Context of Older Polish Adults: The 'ABC of Healthy Eating' Project. Nutrients. Sep 11 2022;14(18)doi:10.3390/nu14183757	Study design; Intervention or Exposure
510	Jeziorek M, Szuba A, Kujawa K, Regulska-Ilow B. The Effect of a Low-Carbohydrate, High-Fat Diet versus Moderate-Carbohydrate and Fat Diet on Body Composition in Patients with Lipedema. Article. Diabetes Metab Syndr Obes. 2022;15:2545-2561. doi:10.2147/DMSO.S377720	Intervention or Exposure - Foods/Beverages Not Reported
511	Jia J, Levy DE, McCurley JL, Anderson EM, Thorndike AN. Influence of Health Literacy and Numeracy on the Effectiveness of a Behavioral Workplace Intervention to Prevent Weight Gain and Improve Diet: A Subgroup Analysis of the Choosewell 365 Randomized, Controlled Trial. Journal: Conference Abstract. Journal of General Internal Medicine. Jul 2021;36(Suppl 1):S67-S68.	Outcome
512	Jia Y, Guo D, Sun L, et al. Diet, Lifestyle Behaviours and Other Risk Factors Associated With Type 2 Diabetes Beyond Body Mass Index: A Mendelian Randomization Study. Can J Diabetes. Dec 2022;46(8):822-828. doi:10.1016/j.jcjd.2022.06.001	Publication status
513	Jiang F, Li Y, Xu P, et al. The efficacy of the Dietary Approaches to Stop Hypertension diet with respect to improving pregnancy outcomes in women with hypertensive disorders. J Hum Nutr Diet. Dec 2019;32(6):713-718. doi:10.1111/jhn.12654	Outcome
514	Jiang L, Audouze K, Romero Herrera JA, et al. Conflicting associations between dietary patterns and changes of anthropometric traits across subgroups of middle-aged women and men. Clin Nutr. Jan 2020;39(1):265-275. doi:10.1016/j.clnu.2019.02.003	Intervention or Exposure

Number	Citation	Rationale
515	Jianguo L, Yong P, Hanyu L, et al. Effect of microecological preparation combined with an improved low-carbon diet on fat metabolism and intestinal barrier function in obese patients. Article. Chinese Journal of Tissue Engineering Research. 2021;25(29):4672-4679.	Intervention or Exposure - Foods/Beverages Not Reported
516	Jimenez AM, Oliva SL, Vilar EG, et al. The Mediterranean diet pattern with intermittent semi-fasting may facilitate weight loss: Randomised controlled trial. Article. Mediterranean Journal of Nutrition and Metabolism. 2019;12(2):153-161.	Duration of Intervention
517	Johansson U, Ohlund I, Lindberg L, et al. A randomized, controlled trial of a Nordic, protein-reduced complementary diet in infants: effects on body composition, growth, biomarkers, and dietary intake at 12 and 18 months. Am J Clin Nutr. Jun 2023;117(6):1219-1231. doi:10.1016/j.ajcnut.2023.03.020	Intervention or Exposure
518	Johansson U, Ohlund I, Lindberg L, Hernell O, Lonnerdal B, Lind T. A randomised, controlled trial of a Nordic, protein-reduced complementary diet: effects on dietary intake, biomarkers and growth until 18 months of age. Journal article; Conference proceeding. Journal of pediatric gastroenterology and nutrition. 2022;74(2):914-915.	Publication status
519	Johnson KO, Holliday A, Mistry N, et al. An Increase in Fat-Free Mass is Associated with Higher Appetite and Energy Intake in Older Adults: A Randomised Control Trial. Nutrients. Jan 1 2021;13(1)doi:10.3390/nu13010141	Intervention or Exposure
520	Jones JM, Schönherr DM, Zaitsoff S, Pullmer R. Changing from the inside out? Examining relationships between overweight identification, dieting behaviours, and body measurements over time. Article. British journal of health psychology. 2019;24(2):460-476.	Intervention or Exposure
521	Jones LR, Emmett PM, Hays NP, Shahkhalili Y, Taylor CM. Association of Nutrition in Early Childhood with Body Composition and Leptin in Later Childhood and Early Adulthood. Article. Nutrients. Sep 18 2021;13(9)doi:10.3390/nu13093264	Intervention or Exposure

Number	Citation	Rationale
522	Jönsson J, Renault KM, Garcia-Calzon S, et al. Lifestyle Intervention in Pregnant Women With Obesity Impacts Cord Blood DNA Methylation, Which Associates With Body Composition in the Offspring. Article. Diabetes. Apr 2021;70(4):854-866. doi:10.2337/db20-0487	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
523	Jontony N, Hill EB, Taylor CA, et al. Diet Quality, Carotenoid Status, and Body Composition in NCAA Division I Athletes. Am J Health Behav. Jul 1 2020;44(4):432-443. doi:10.5993/AJHB.44.4.6	Intervention or Exposure; Outcome; Comparator
524	Jospe MR, Roy M, Brown RC, et al. Intermittent fasting, Paleolithic, or Mediterranean diets in the real world: exploratory secondary analyses of a weight-loss trial that included choice of diet and exercise. Am J Clin Nutr. Mar 1 2020;111(3):503-514. doi:10.1093/ajcn/nqz330	Size or Power
525	Ju Y, Zhang C, Zhang Z, et al. Effect of Dietary Fiber (Oat Bran) Supplement in Heart Rate Lowering in Patients with Hypertension: A Randomized DASH-Diet-Controlled Clinical Trial. Article. Nutrients. Jul 30 2022;14(15)doi:10.3390/nu14153148	Outcome; Comparator
526	Jung M, Park S, Kim H, Kwon O. Association of Diet Quality with Low Muscle Mass-Function in Korean Elderly. Article. Int J Environ Res Public Health. Jul 31 2019;16(15)doi:10.3390/ijerph16152733	Study design
527	Jurado-Fasoli L, De-la OA, Castillo MJ, Amaro-Gahete FJ. Dietary differences between metabolically healthy overweight-obese and metabolically unhealthy overweight-obese adults. Br J Nutr. Nov 28 2019;122(10):1113-1119. doi:10.1017/S0007114519002071	Study design
528	Juraschek SP, Miller ER, 3rd, Chang AR, Anderson CAM, Hall JE, Appel LJ. Effects of Sodium Reduction on Energy, Metabolism, Weight, Thirst, and Urine Volume: Results From the DASH (Dietary Approaches to Stop Hypertension)-Sodium Trial. Hypertension. Mar 2020;75(3):723-729. doi:10.1161/HYPERTENSIONAHA.119.13932	Duration of Intervention

Number	Citation	Rationale
529	Kahleova H, Berrien-Lopez R, Holtz D, et al. Nutrition for Hospital Workers During a Crisis: Effect of a Plant-Based Dietary Intervention on Cardiometabolic Outcomes and Quality of Life in Healthcare Employees During the COVID-19 Pandemic. Am J Lifestyle Med. May-Jun 2022;16(3):399-407. doi:10.1177/15598276211050339	Intervention or Exposure - Foods/Beverages Not Reported
530	Kahleova H, Hlozkova A, Fleeman R, Fletcher K, Holubkov R, Barnard ND. Fat Quantity and Quality, as Part of a Low-Fat, Vegan Diet, Are Associated with Changes in Body Composition, Insulin Resistance, and Insulin Secretion. A 16-Week Randomized Controlled Trial. Journal Article; Randomized Controlled Trial. Nutrients. Mar 13 2019;11(3)doi:10.3390/nu11030615	Intervention or Exposure - Foods/Beverages Not Reported
531	Kahleova H, Holubkov R, Barnard N. 506-P: Weight Loss Is Associated with Changes in Gut Microbiome: A Randomized, Crossover Trial Comparing a Mediterranean and a Low-Fat Vegan Diet in Overweight Adults. Diabetes. 2021;70:N.PAG-N.PAG.	Intervention or Exposure - Foods/Beverages Not Reported
532	Kahleova H, McCann J, Alwarith J, et al. A plant-based diet in overweight adults in a 16-week randomized clinical trial: The role of dietary acid load. Clin Nutr ESPEN. Aug 2021;44:150-158. doi:10.1016/j.clnesp.2021.05.015	Intervention or Exposure - Foods/Beverages Not Reported
533	Kahleova H, Petersen KF, Shulman GI, et al. A dietary intervention to alter insulin sensitivity, intramyocellular and hepatocellular lipids, postprandial metabolism, and body weight: a 16-week randomised trial. Journal: Conference Abstract. Diabetologia. Sep 2020;63(Suppl 1):S16-S17.	Publication status
534	Kahleova H, Petersen KF, Shulman GI, et al. Effect of a Low-Fat Vegan Diet on Body Weight, Insulin Sensitivity, Postprandial Metabolism, and Intramyocellular and Hepatocellular Lipid Levels in Overweight Adults: A Randomized Clinical Trial. JAMA Netw Open. Nov 2 2020;3(11):e2025454. doi:10.1001/jamanetworkopen.2020.25454	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
535	Kahleova H, Rembert E, Alwarith J, et al. Effects of a Low-Fat Vegan Diet on Gut Microbiota in Overweight Individuals and Relationships with Body Weight, Body Composition, and Insulin Sensitivity. A Randomized Clinical Trial. Nutrients. Sep 24 2020;12(10)doi:10.3390/nu12102917	Intervention or Exposure - Foods/Beverages Not Reported
536	Kahleova H, Rembert E, Nowak A, Holubkov R, Barnard ND. Effect of a diet intervention on cardiometabolic outcomes: Does race matter? A randomized clinical trial. Clin Nutr ESPEN. Feb 2021;41:126-128. doi:10.1016/j.clnesp.2020.12.012	Study design; Intervention or Exposure - Foods/Beverages Not Reported
537	Kahleova H, Znayenko-Miller T, Uribarri J, Holubkov R, Barnard ND. Dietary advanced glycation products and their associations with insulin sensitivity and body weight: A 16-week randomized clinical trial. Article in Press. Obes Sci Pract. Jun 2023;9(3):235-242. doi:10.1002/osp4.646	Intervention or Exposure
538	Kalam F, Gabel K, Cienfuegos S, et al. Alternate day fasting combined with a low-carbohydrate diet for weight loss, weight maintenance, and metabolic disease risk reduction. Article. Obes Sci Pract. Dec 2019;5(6):531-539. doi:10.1002/osp4.367	Study design; Intervention or Exposure - Foods/Beverages Not Reported; Comparator
539	Kaliora AC, Gioxari A, Kalafati IP, Diolintzi A, Kokkinos A, Dedoussis GV. The Effectiveness of Mediterranean Diet in Nonalcoholic Fatty Liver Disease Clinical Course: An Intervention Study. Article. J Med Food. Jul 2019;22(7):729-740. doi:10.1089/jmf.2018.0020	Study design; Health Status
540	Kalkuz S, Demircan A. Effects of the Mediterranean diet adherence on body composition, blood parameters and quality of life in adults. Postgrad Med J. Dec 2021;97(1154):798-802. doi:10.1136/postgradmedj-2020-138667	Study design

Number	Citation	Rationale
541	Kamdar N, Hughes SO, Chan W, Power TG, Meininger J. Indirect Effects of Food Insecurity on Body Mass Index Through Feeding Style and Dietary Quality Among Low-Income Hispanic Preschoolers. Article. J Nutr Educ Behav. Jul-Aug 2019;51(7):876-884. doi:10.1016/j.jneb.2019.02.010	Intervention or Exposure; Outcome
542	Kan J, Ni J, Xue K, et al. Personalized Nutrition Intervention Improves Health Status in Overweight/Obese Chinese Adults: A Randomized Controlled Trial. Front Nutr. 2022;9:919882. doi:10.3389/fnut.2022.919882	Intervention or Exposure
543	Kanellopoulou A, Giannakopoulou SP, Notara V, et al. The association between adherence to the Mediterranean diet and childhood obesity; the role of family structure: Results from an epidemiological study in 1728 Greek students. Nutr Health. Mar 2021;27(1):39-47. doi:10.1177/0260106020952600	Study design
544	Kanellopoulou A, Kosti RI, Notara V, et al. Dietary Patterns, Weight Perception and Obesity Status, among 10-12-Year-Old Children; an Epidemiological Study in Greece. Children (Basel). Jul 23 2021;8(8)doi:10.3390/children8080626	Study design
545	Kang M, Park SY, Shvetsov YB, et al. Gender differences in sociodemographic and lifestyle factors associated with diet quality in a multiethnic population. Article. Nutrition. 2019;66:147-152.	Study design; Outcome
546	Kaplan A, Zelicha H, Yaskolka Meir A, et al. The effect of a high-polyphenol Mediterranean diet (Green-MED) combined with physical activity on age-related brain atrophy: the Dietary Intervention Randomized Controlled Trial Polyphenols Unprocessed Study (DIRECT PLUS). Am J Clin Nutr. May 1 2022;115(5):1270-1281. doi:10.1093/ajcn/nqac001	Comparator
547	Karampola M, Argiriou A, Hitoglou-Makedou A. Study on dietary constituents, HS-CRP serum levels and investigation of correlation between them in excess weight adolescents. Article. Hippokratia. 2020;23(1):3-8.	Study design; Comparator
548	Karimbeiki R, Alipoor E, Yaseri M, Shivappa N, Hebert JR, Hosseinzadeh-Attar MJ. Association between the dietary inflammatory index and obesity in otherwise healthy adults: Role of age and sex. Int J Clin Pract. Oct 2021;75(10):e14567. doi:10.1111/ijcp.14567	Intervention or Exposure -

Number	Citation	Rationale
		Foods/Beverages Not Reported; Comparator
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550	Karlsson J, Galavazi M, Jansson S, Jendle J. Effects on body weight, eating behavior, and quality of life of a low-energy diet combined with behavioral group treatment of persons with class II or III obesity: A 2-year pilot study. Article. Obes Sci Pract. Feb 2021;7(1):4-13. doi:10.1002/osp4.464	Study design; Intervention or Exposure
551	Karmali S, Battram DS, Burke SM, et al. Perspectives and Impact of a Parent-Child Intervention on Dietary Intake and Physical Activity Behaviours, Parental Motivation, and Parental Body Composition: A Randomized Controlled Trial. Int J Environ Res Public Health. Sep 18 2020;17(18)doi:10.3390/ijerph17186822	Intervention or Exposure; Comparator
552	Katsagoni CN, Psarra G, Georgoulis M, et al. High and moderate adherence to Mediterranean lifestyle is inversely associated with overweight, general and abdominal obesity in children and adolescents: The MediLIFE-index. Nutr Res. Jan 2020;73:38-47. doi:10.1016/j.nutres.2019.09.009	Study design
553	Keenan S, Cooke MB, Chen WS, Wu S, Belski R. The Effects of Intermittent Fasting and Continuous Energy Restriction with Exercise on Cardiometabolic Biomarkers, Dietary Compliance, and Perceived Hunger and Mood: Secondary Outcomes of a Randomised, Controlled Trial. Nutrients. Jul 26 2022;14(15)doi:10.3390/nu14153071	Intervention or Exposure - Foods/Beverages Not Reported
554	Kelly R, Hanus A, Payne-Foster P, Calhoun J, Stout R, Sherman BW. Health Benefits of a 16-Week Whole Food, High Fiber, Plant Predominant Diet among U.S. Employees. Article in Press. Am J Health Promot. Feb 2023;37(2):168-176. doi:10.1177/08901171221116066	Study design

Number	Citation	Rationale
555	Kempf K, Rohling M, Banzer W, et al. Early and Strong Leptin Reduction Is Predictive for Long-Term Weight Loss during High-Protein, Low-Glycaemic Meal Replacement-A Subanalysis of the Randomised-Controlled ACOORH Trial. Article. Nutrients. Jun 18 2022;14(12)doi:10.3390/nu14122537	Intervention or Exposure
556	Kendel Jovanovic G, Mrakovcic-Sutic I, Pavicic Zezelj S, et al. Metabolic and Hepatic Effects of Energy-Reduced Anti-Inflammatory Diet in Younger Adults with Obesity. Journal Article; Randomized Controlled Trial. Can J Gastroenterol Hepatol. 2021;2021:6649142. doi:10.1155/2021/6649142	Intervention or Exposure - Foods/Beverages Not Reported
557	Kendel Jovanovic G, Mrakovcic-Sutic I, Pavicic Zezelj S, Susa B, Rahelic D, Klobucar Majanovic S. The Efficacy of an Energy-Restricted Anti-Inflammatory Diet for the Management of Obesity in Younger Adults. Nutrients. Nov 22 2020;12(11)doi:10.3390/nu12113583	Intervention or Exposure - Foods/Beverages Not Reported
558	Keogh JB, Pedersen E, Petersen KS, Clifton PM. Effects of intermittent compared to continuous energy restriction on short-term weight loss and long-term weight loss maintenance. Article. Clin Obes. Jun 2014;4(3):150-6. doi:10.1111/cob.12052	Intervention or Exposure
559	Kerr JA, Liu RS, Gasser CE, et al. Diet quality trajectories and cardiovascular phenotypes/metabolic syndrome risk by 11-12 years. Int J Obes (Lond). Jul 2021;45(7):1392-1403. doi:10.1038/s41366-021-00800-x	Outcome
560	Kesary Y, Avital K, Hiersch L. Maternal plant-based diet during gestation and pregnancy outcomes. Arch Gynecol Obstet. Oct 2020;302(4):887-898. doi:10.1007/s00404-020-05689-x	Study design
561	Keshavarz P, Lane G, Pahwa P, et al. Dietary Patterns of Off-Reserve Indigenous Peoples in Canada and Their Association with Chronic Conditions. Nutrients. Mar 20 2023;15(6)doi:10.3390/nu15061485	Study design

Number	Citation	Rationale
562	Khalatbari-Soltani S, Marques-Vidal P, Imamura F, Forouhi NG. Prospective association between adherence to the Mediterranean diet and hepatic steatosis: the Swiss CoLaus cohort study. BMJ Open. Dec 22 2020;10(12):e040959. doi:10.1136/bmjopen-2020-040959	Outcome
563	Khaled K, Hundley V, Almilaji O, Koeppen M, Tsofliou F. A Priori and a Posteriori Dietary Patterns in Women of Childbearing Age in the UK. Nutrients. Sep 24 2020;12(10)doi:10.3390/nu12102921	Study design
564	Khalfallah M, Elnagar B, Soliman SS, Eissa A, Allaithy A. The Value of Intermittent Fasting and Low Carbohydrate Diet in Prediabetic Patients for the Prevention of Cardiovascular Diseases. Article in Press. Arq Bras Cardiol. 2023;120(4):e20220606. Papel do Jejum Intermitente e da Dieta Restrita em Carboidratos na Prevencao de Doencas Cardiovasculares em Pacientes Pre-Diabeticos. doi:10.36660/abc.20220606	Intervention or Exposure - Foods/Beverages Not Reported
565	Khalili H, Hakansson N, Chan SS, et al. Adherence to a Mediterranean diet is associated with a lower risk of later-onset Crohn's disease: results from two large prospective cohort studies. Gut. Sep 2020;69(9):1637-1644. doi:10.1136/gutjnl-2019-319505	Outcome
566	Khan I, Kwon M, Shivappa N, J RH, Kim MK. Proinflammatory Dietary Intake is Associated with Increased Risk of Metabolic Syndrome and Its Components: Results from the Population-Based Prospective Study. Article. Nutrients. Apr 24 2020;12(4)doi:10.3390/nu12041196	Intervention or Exposure - Foods/Beverages Not Reported
567	Khanal P, He L, Degens H, et al. Dietary Protein Requirement Threshold and Micronutrients Profile in Healthy Older Women Based on Relative Skeletal Muscle Mass. Nutrients. Sep 1 2021;13(9)doi:10.3390/nu13093076	Study design; Intervention or Exposure
568	Kharmats AY, Popp C, Hu L, et al. A randomized clinical trial comparing low-fat with precision nutrition-based diets for weight loss: impact on glycemic variability and HbA1c. Am J Clin Nutr. Aug 2023;118(2):443-451. doi:10.1016/j.ajcnut.2023.05.026	Intervention or Exposure

Number	Citation	Rationale
569	Khazrai Y, Di Rosa C, Lattanzi G, et al. Effectiveness of a very low calorie ketogenic diet with meal replacements on body weight and composition. Journal: Conference Abstract. Obesity reviews. 2020;21(SUPPL 1)	Publication status
570	Khoury J, Henriksen T, Christophersen B, Tonstad S. Effect of a cholesterol-lowering diet on maternal, cord, and neonatal lipids, and pregnancy outcome: a randomized clinical trial. Am J Obstet Gynecol. Oct 2005;193(4):1292-301. doi:10.1016/j.ajog.2005.05.016	Outcome
571	Killeen SL, Phillips CM, Delahunt A, et al. Effect of an Antenatal Lifestyle Intervention on Dietary Inflammatory Index and Its Associations with Maternal and Fetal Outcomes: A Secondary Analysis of the PEARS Trial. Nutrients. Aug 15 2021;13(8)doi:10.3390/nu13082798	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
572	Kim HJ, Tak YJ, Lee SY, Seo JP. Effects of a 12-Week Diet versus Diet plus Aerobic and Resistance Exercise Program on Acylated and Desacylated Ghrelin, and Ghrelin O-Acyltransferase in Adolescent Girls with Obesity. Article. Int J Environ Res Public Health. Jan 28 2022;19(3)doi:10.3390/ijerph19031480	Intervention or Exposure; Comparator
573	Kim HS, Jung SJ, Mun EG, Kim MS, Cho SM, Cha YS. Effects of a Rice-Based Diet in Korean Adolescents Who Habitually Skip Breakfast: A Randomized, Parallel Group Clinical Trial. Nutrients. Mar 5 2021;13(3)doi:10.3390/nu13030853	Intervention or Exposure - Foods/Beverages Not Reported
574	Kim J, Giovannucci E. Healthful Plant-Based Diet and Incidence of Type 2 Diabetes in Asian Population. Article. Nutrients. Jul 27 2022;14(15)doi:10.3390/nu14153078	Outcome
575	Kim J, Kim M, Shin Y, Cho JH, Lee D, Kim Y. Association between Dietary Diversity Score and Metabolic Syndrome in Korean Adults: A Community-Based Prospective Cohort Study. Nutrients. Dec 13 2022;14(24)doi:10.3390/nu14245298	Intervention or Exposure

Number	Citation	Rationale
576	Kim J, Lee Y, Won CW, et al. Dietary Patterns and Frailty in Older Korean Adults: Results from the Korean Frailty and Aging Cohort Study. Article. Nutrients. Feb 12 2021;13(2):1-10. doi:10.3390/nu13020601	Size or Power
577	Kim MJ, Hur HJ, Jang DJ, Kim MS, Park S, Yang HJ. Inverse association of a traditional Korean diet composed of a multigrain rice-containing meal with fruits and nuts with metabolic syndrome risk: The KoGES. Front Nutr. 2022;9:1051637. doi:10.3389/fnut.2022.1051637	Study design
578	Kim MJ, Lim HS, Lee HH, Kim TH, Park Y. Dietary assessment, nutrition knowledge, and pregnancy outcome in high-risk pregnant Korean women. Article. Clinical and Experimental Obstetrics & Gynecology. Oct 15 2021;48(5):1178-1185. doi:10.31083/j.ceog4805188	Outcome
579	Kim Y, Kim YM, Shin MH, Koh SB, Chang Kim H, Kim MK. Empirically identified dietary patterns and metabolic syndrome risk in a prospective cohort study: The Cardiovascular Disease Association Study. Article. Clin Nutr. Oct 2022;41(10):2156-2162. doi:10.1016/j.clnu.2022.07.038	Outcome
580	Kim Y, Lu S, Ho JE, et al. Proteins as Mediators of the Association Between Diet Quality and Incident Cardiovascular Disease and All-Cause Mortality: The Framingham Heart Study. Article. J Am Heart Assoc. Sep 21 2021;10(18):e021245. doi:10.1161/JAHA.121.021245	Outcome
581	Klonizakis M, Grammatikopoulou MG, Theodoridis X, Milner M, Liu Y, Chourdakis M. Effects of Long-Versus Short-Term Exposure to the Mediterranean Diet on Skin Microvascular Function and Quality of Life of Healthy Adults in Greece and the UK. Article. Nutrients. Oct 16 2019;11(10)doi:10.3390/nu11102487	Study design; Duration of Intervention; Outcome
582	Knight R, Cedillo Y, Judd S, Tison S, Baker E, Moellering D. Dietary inflammation score is associated with perceived stress, depression, and cardiometabolic health risk factors among a young adult cohort of women. Article in Press. Clin Nutr ESPEN. Oct 2022;51:470-477. doi:10.1016/j.clnesp.2022.06.013	Study design

Number	Citation	Rationale
583	Kocaadam-Bozkurt B, Bozkurt O. Relationship between adherence to the Mediterranean diet, sustainable and healthy eating behaviors, and awareness of reducing the ecological footprint. Int J Environ Health Res. Apr 2023;33(4):430-440. doi:10.1080/09603123.2023.2172384	Study design
584	Kocaadam-Bozkurt B, Karacil Ermumcu MS, Erdogan Govez N, et al. Association between adherence to the Mediterranean diet with anthropometric measurements and nutritional status in adolescents. Nutr Hosp. Apr 20 2023;40(2):368-376. Asociacion entre la adherencia a la dieta mediterranea y las medidas antropometricas y el estado nutricional en adolescentes. doi:10.20960/nh.04545	Study design
585	Kocaadam-Bozkurt B, Sozlu S, Macit-Celebi MS. Exploring the understanding of how parenting influences the children's nutritional status, physical activity, and BMI. Front Nutr. Jan 11 2022;9:1096182. doi:10.3389/fnut.2022.1096182	Study design; Intervention or Exposure
586	Koeder C, Alzughayyar D, Anand C, et al. The healthful plant-based diet index as a tool for obesity prevention-The healthy lifestyle community program cohort 3 study. Article in Press. Obes Sci Pract. Jun 2023;9(3):296-304. doi:10.1002/osp4.649	Size or Power
587	Koeder C, Kranz RM, Anand C, et al. Effect of a 1-Year Controlled Lifestyle Intervention on Body Weight and Other Risk Markers (the Healthy Lifestyle Community Programme, Cohort 2). Obes Facts. 2022;15(2):228-239. doi:10.1159/000521164	Intervention or Exposure; Comparator
588	Koeryaman MT, Pallikadavath S, Ryder IH, Kandala N. The Effectiveness of a Web-Based Application for a Balanced Diet and Healthy Weight Among Indonesian Pregnant Women: Randomized Controlled Trial. JMIR Form Res. Jan 30 2023;7:e38378. doi:10.2196/38378	Intervention or Exposure; Outcome
589	Kohl J, Brame J, Hauff P, et al. Effects of a Web-Based Weight Loss Program on the Healthy Eating Index-NVS in Adults with Overweight or Obesity and the Association with Dietary, Anthropometric and Cardiometabolic Variables: A Randomized Controlled Clinical Trial. Nutrients. Dec 20 2022;15(1)doi:10.3390/nu15010007	Size or Power

Number	Citation	Rationale
590	Kohli A, Pandey RM, Siddhu A, Reddy KS. Development of a diet pattern assessment tool for coronary heart disease risk reduction. Public Health Pract (Oxf). Dec 2022;4:100317. doi:10.1016/j.puhip.2022.100317	Study design
591	Kominiarek MA, Cordero C, Stuebe AM, et al. Pre-pregnancy Health Behaviors and Gestational Weight Gain Among Hispanic/Latino Women: Hispanic Community Health Study/Study of Latinos. Article in Press. Matern Child Health J. Dec 2021;25(12):2002-2013. doi:10.1007/s10995-021-03252-x	Life stage
592	Kong NW, Ning H, Zhong VW, et al. Association between diet quality and incident cardiovascular disease stratified by body mass index. Am J Prev Cardiol. Dec 2021;8:100298. doi:10.1016/j.ajpc.2021.100298	Outcome
593	Konieczna J, Fiol M, Colom A, et al. Does Consumption of Ultra-Processed Foods Matter for Liver Health? Prospective Analysis among Older Adults with Metabolic Syndrome. Nutrients. Oct 5 2022;14(19)doi:10.3390/nu14194142	Outcome
594	Konieczna J, Romaguera D, Pereira V, et al. Longitudinal association of changes in diet with changes in body weight and waist circumference in subjects at high cardiovascular risk: the PREDIMED trial. Int J Behav Nutr Phys Act. Dec 27 2019;16(1):139. doi:10.1186/s12966-019-0893-3	Intervention or Exposure
595	Konieczna J, Yanez A, Monino M, et al. Longitudinal changes in Mediterranean diet and transition between different obesity phenotypes. Clin Nutr. Mar 2020;39(3):966-975. doi:10.1016/j.clnu.2019.04.002	Outcome
596	Konikowska K, Bombala W, Szuba A, Rozanska D, Regulska-Ilow B. Metabolic Syndrome Is Associated with Low Diet Quality Assessed by the Healthy Eating Index-2015 (HEI-2015) and Low Concentrations of High-Density Lipoprotein Cholesterol. Biomedicines. Oct 5 2022;10(10)doi:10.3390/biomedicines10102487	Study design
597	Koo HC, Poh BK, Talib RA. The GReat-Child Trial(TM): A Quasi-Experimental Dietary Intervention among Overweight and Obese Children. Nutrients. Sep 29 2020;12(10)doi:10.3390/nu12102972	Intervention or Exposure

Number	Citation	Rationale
598	Kostecka M, Bojanowska M, Kostecka J, Ciolek A. An analysis of dietary patterns and body composition parameters in the Polish population. Rocz Panstw Zakl Hig. 2021;72(1):55-66. doi:10.32394/rpzh.2021.0152	Study design
599	Kostecka M, Kostecka-Jarecka J, Ilowiecka K, Kostecka J. An Evaluation of Nutritional Status and Problems with Dietary Compliance in Polish Patients with Celiac Disease. Article. Nutrients. Jun 22 2022;14(13)doi:10.3390/nu14132581	Intervention or Exposure
600	Kracht CL, Champagne CM, Hsia DS, et al. Association Between Meeting Physical Activity, Sleep, and Dietary Guidelines and Cardiometabolic Risk Factors and Adiposity in Adolescents. J Adolesc Health. Jun 2020;66(6):733-739. doi:10.1016/j.jadohealth.2019.12.011	Study design
601	Krishnan S, Adams SH, Witbracht MG, et al. Weight Loss, but Not Dairy Composition of Diet, Moderately Affects Satiety and Postprandial Gut Hormone Patterns in Adults. J Nutr. Jan 4 2021;151(1):245-254. doi:10.1093/jn/nxaa327	Intervention or Exposure - Foods/Beverages Not Reported
602	Kruse M, Hornemann S, Ost AC, et al. An Isocaloric High-Fat Diet Regulates Partially Genetically Determined Fatty Acid and Carbohydrate Uptake and Metabolism in Subcutaneous Adipose Tissue of Lean Adult Twins. Nutrients. May 16 2023;15(10)doi:10.3390/nu15102338	Duration of Intervention
603	Kuckuck S, van der Valk ES, Scheurink AJW, et al. Levels of hormones regulating appetite and energy homeostasis in response to a 1.5-Year combined lifestyle intervention for obesity. Front Physiol. 2023;14:1010858. doi:10.3389/fphys.2023.1010858	Intervention or Exposure
604	Kuczmarski MF, Brewer BC, Rawal R, Pohlig RT, Zonderman AB, Evans MK. Aspects of dietary diversity differ in their association with atherosclerotic cardiovascular risk in a racially diverse us adult population. Article. Nutrients. 2019;11(5)	Intervention or Exposure; Outcome

Number	Citation	Rationale
605	Kunaratnam K, Halaki M, Wen LM, Baur LA, Flood VM. Tracking Preschoolers' Lifestyle Behaviors and Testing Maternal Sociodemographics and BMI in Predicting Child Obesity Risk. Article. J Nutr. Dec 10 2020;150(12):3068-3074. doi:10.1093/jn/nxaa292	Intervention or Exposure
606	Kunath J, Gunther J, Rauh K, et al. Effects of a lifestyle intervention during pregnancy to prevent excessive gestational weight gain in routine care - the cluster-randomised GeliS trial. Journal Article; Multicenter Study; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. BMC Med. Jan 14 2019;17(1):5. doi:10.1186/s12916-018-1235-z	Intervention or Exposure; Data overlap
607	Kwasniewska M, Pikala M, Grygorczuk O, et al. Dietary Antioxidants, Quality of Nutrition and Cardiovascular Characteristics among Omnivores, Flexitarians and Vegetarians in Poland-The Results of Multicenter National Representative Survey WOBASZ. Antioxidants (Basel). Jan 18 2023;12(2)doi:10.3390/antiox12020222	Study design
608	Kwiatkowska I, Olszak J, Brozek A, et al. Is It Feasible to Predict Cardiovascular Risk among Healthy Vegans, Lacto-/Ovo-Vegetarians, Pescatarians, and Omnivores under Forty? Article. Int J Environ Res Public Health. Jan 27 2023;20(3)doi:10.3390/ijerph20032237	Study design
609	Kwiatkowska I, Olszak J, Formanowicz P, Formanowicz D. Nutritional Status and Habits among People on Vegan, Lacto/Ovo-Vegetarian, Pescatarian and Traditional Diets. Nutrients. Nov 1 2022;14(21)doi:10.3390/nu14214591	Study design; Intervention or Exposure - Foods/Beverages Not Reported; Outcome
610	Lafrenière J, Carbonneau E, Laramée C, et al. Is the Canadian healthy eating index 2007 an appropriate diet indicator of metabolic health? insights from dietary pattern analysis in the PREDISE study. Article. Nutrients. 2019;11(7)	Study design

Number	Citation	Rationale
611	Lai JS, Colega MT, Godfrey KM, et al. Changes in Diet Quality from Pregnancy to 6 Years Postpregnancy and Associations with Cardiometabolic Risk Markers. Nutrients. Apr 13 2023;15(8)doi:10.3390/nu15081870	Size or Power
612	Lai JS, Soh SE, Loy SL, et al. Macronutrient composition and food groups associated with gestational weight gain: the GUSTO study. Article. Eur J Nutr. Apr 2019;58(3):1081-1094. doi:10.1007/s00394-018-1623-3	Intervention or Exposure; Data overlap
613	Lai KZH, Semnani-Azad Z, Retnakaran R, Harris SB, Hanley AJ. Changes in adiposity mediate the associations of diet quality with insulin sensitivity and beta-cell function. Nutr Metab Cardiovasc Dis. Oct 28 2021;31(11):3054-3063. doi:10.1016/j.numecd.2021.07.025	Size or Power
614	Lampignano L, Donghia R, Sila A, et al. Mediterranean Diet and Fatty Liver Risk in a Population of Overweight Older Italians: A Propensity Score-Matched Case-Cohort Study. Article. Nutrients. Jan 7 2022;14(2)doi:10.3390/nu14020258	Outcome
615	Lampropoulou M, Chaini M, Rigopoulos N, Evangeliou A, Papadopoulou-Legbelou K, Koutelidakis AE. Association Between Serum Lipid Levels in Greek Children with Dyslipidemia and Mediterranean Diet Adherence, Dietary Habits, Lifestyle and Family Socioeconomic Factors. Nutrients. May 29 2020;12(6):1600. doi:10.3390/nu12061600	Study design; Outcome; Comparator
616	Laouali N, Shah S, MacDonald CJ, et al. BMI in the Associations of Plant-Based Diets with Type 2 Diabetes and Hypertension Risks in Women: The E3N Prospective Cohort Study. Article. J Nutr. Sep 4 2021;151(9):2731-2740. doi:10.1093/jn/nxab158	Health Status- 100% Diabetes; Outcome
617	LaRose JG, Neiberg RH, Evans EW, et al. Dietary outcomes within the study of novel approaches to weight gain prevention (SNAP) randomized controlled trial. Journal Article; Randomized Controlled Trial; Research Support, N.I.H., Extramural. Int J Behav Nutr Phys Act. Jan 31 2019;16(1):14. doi:10.1186/s12966-019-0771-z	Intervention or Exposure

Number	Citation	Rationale
618	Larruy-García A, Flores K, Vázquez-Cobela R, et al. Changes in body composition after one year of lifestyle intervention in children at risk of obesity: Preliminary results. Melipop study. Journal article; Conference proceeding. Annals of Nutrition and Metabolism. Sep 2022;78(Suppl 3):13-13.	Publication status
619	Laskou F, Bevilacqua G, Westbury LD, et al. A study of diet in older community-dwelling adults in the UK during the COVID-19 pandemic: Findings from the Southampton Longitudinal Study of Ageing (SaLSA). Front Nutr. 2022;9:988575. doi:10.3389/fnut.2022.988575	Intervention or Exposure; Outcome
620	Latorre-Millan M, Ruperez AI, Gonzalez-Gil EM, et al. Dietary Patterns and Their Association with Body Composition and Cardiometabolic Markers in Children and Adolescents: Genobox Cohort. Nutrients. Nov 8 2020;12(11)doi:10.3390/nu12113424	Study design
621	Lavie M, Lavie I, Maslovitz S. Paleolithic diet during pregnancy-A potential beneficial effect on metabolic indices and birth weight. Eur J Obstet Gynecol Reprod Biol. Nov 2019;242:7-11. doi:10.1016/j.ejogrb.2019.08.013	Study design
622	Lavikainen P, Mattila E, Absetz P, et al. Digitally Supported Lifestyle Intervention to Prevent Type 2 Diabetes Through Healthy Habits: Secondary Analysis of Long-Term User Engagement Trajectories in a Randomized Controlled Trial. J Med Internet Res. Feb 24 2022;24(2):e31530. doi:10.2196/31530	Intervention or Exposure
623	Lawrence RL, Wall CR, Bloomfield FH. Dietary Patterns and Dietary Adaptations in Women with and without Gestational Diabetes: Evidence from the Growing Up in New Zealand Study. Article. Nutrients. Jan 15 2020;12(1)doi:10.3390/nu12010227	Outcome; Comparator
624	Lazarova SV, Jessri M. Associations between dietary patterns and cardiovascular disease risk in Canadian adults: a comparison of partial least squares, reduced rank regression, and the simplified dietary pattern technique. Am J Clin Nutr. Aug 4 2022;116(2):362-377. doi:10.1093/ajcn/nqac117	Study design

Number	Citation	Rationale
625	Lebrun A, Plante AS, Savard C, et al. Tracking of Dietary Intake and Diet Quality from Late Pregnancy to the Postpartum Period. Article. Nutrients. Sep 3 2019;11(9)doi:10.3390/nu11092080	Intervention or Exposure; Comparator
626	Lecorguille M, Lioret S, de Lauzon-Guillain B, et al. Association between Dietary Intake of One-Carbon Metabolism Nutrients in the Year before Pregnancy and Birth Anthropometry. Nutrients. Mar 20 2020;12(3)doi:10.3390/nu12030838	Outcome
627	Lecorguille M, Schipper M, O'Donnell A, et al. Parental lifestyle patterns around pregnancy and risk of childhood obesity in four European birth cohort studies. Lancet Glob Health. Mar 2023;11 Suppl 1:S5. doi:10.1016/S2214-109X(23)00090-6	Publication status
628	LeCroy MN, Nicastro HL, Truesdale KP, et al. Dietary patterns and associations with BMI in low-income, ethnic minority youth in the USA according to baseline data from four randomised controlled trials. Br J Nutr. Jul 14 2021;126(1):81-91. doi:10.1017/S0007114520003852	Study design
629	LeCroy MN, Truesdale KP, Matheson DM, et al. Snacking characteristics and patterns and their associations with diet quality and BMI in the Childhood Obesity Prevention and Treatment Research Consortium. Public Health Nutr. Dec 2019;22(17):3189-3199. doi:10.1017/S1368980019000958	Study design; Intervention or Exposure
630	Lee CY, Robertson MC, Johnston H, et al. Feasibility and Effectiveness of a Worksite-Weight-Loss Program for Cancer Prevention among School-District Employees with Overweight and Obesity. Int J Environ Res Public Health. Dec 29 2022;20(1)doi:10.3390/ijerph20010538	Intervention or Exposure
631	Lee CY. A Combination of Glucagon-Like Peptide-1 Receptor Agonist and Dietary Intervention Could Be a Promising Approach for Obesity Treatment. Article. Front Endocrinol (Lausanne). 2021;12:748477. doi:10.3389/fendo.2021.748477	Study design

Number	Citation	Rationale
632	Lee M, Lee Y, Kang I, Shin J, Sorn SR. RMR-Related MAP2K6 Gene Variation on the Risk of Overweight/Obesity in Children: A 3-Year Panel Study. J Pers Med. Feb 2 2021;11(2)doi:10.3390/jpm11020091	Intervention or Exposure
633	Lee YQ, Colega M, Sugianto R, et al. Tracking of dietary patterns between pregnancy and 6 years post-pregnancy in a multiethnic Asian cohort: the Growing Up in Singapore Towards healthy Outcomes (GUSTO) study. Article. Eur J Nutr. Mar 2022;61(2):985-1001. doi:10.1007/s00394-021-02703-z	Intervention or Exposure; Outcome
634	Lee YQ, Lumbers ER, Schumacher TL, et al. Maternal Diet Influences Fetal Growth but Not Fetal Kidney Volume in an Australian Indigenous Pregnancy Cohort. Nutrients. Feb 9 2021;13(2)doi:10.3390/nu13020569	Outcome
635	Leite BF, Morimoto MA, Gomes CMF, et al. Dietetic intervention in psoriatic arthritis: the DIETA trial. Adv Rheumatol. Apr 6 2022;62(1):12. doi:10.1186/s42358-022-00243-6	Health Status; Comparator
636	Leng J, Lui F, Narang B, et al. A Pilot Group-Based Lifestyle Intervention to Promote Weight Loss Among Mexican Immigrants. J Community Health. Dec 2022;47(6):885-893. doi:10.1007/s10900-022-01124-1	Study design; Comparator
637	Lennerz BS, Mey JT, Henn OH, Ludwig DS. Behavioral Characteristics and Self-Reported Health Status among 2029 Adults Consuming a "Carnivore Diet". Curr Dev Nutr. Dec 2021;5(12):nzab133. doi:10.1093/cdn/nzab133	Study design
638	Lent MR, Atwood M, Bennett WL, et al. Night eating, weight, and health behaviors in adults participating in the Daily24 study. Eat Behav. Apr 2022;45:101605. doi:10.1016/j.eatbeh.2022.101605	Study design; Intervention or Exposure
639	Leszczak J, Czenczek-Lewandowska E, Przysada G, et al. Diet after Stroke and Its Impact on the Components of Body Mass and Functional Fitness-A 4-Month Observation. Article. Nutrients. May 29 2019;11(6)doi:10.3390/nu11061227	Health Status- 100% CVD

Number	Citation	Rationale
640	Li B, Pallan M, Liu WJ, et al. The CHIRPY DRAGON intervention in preventing obesity in Chinese primary-school--aged children: A cluster-randomised controlled trial. PLoS Med. Nov 2019;16(11):e1002971. doi:10.1371/journal.pmed.1002971	Intervention or Exposure
641	Li H, Li D, Wang X, et al. The Role of Dietary Patterns and Dietary Quality on Body Composition of Adolescents in Chinese College. Nutrients. Oct 28 2022;14(21)doi:10.3390/nu14214544	Study design
642	Li J, Guasch-Ferre M, Chung W, et al. The Mediterranean diet, plasma metabolome, and cardiovascular disease risk. Journal: Article in Press. Eur Heart J. Jul 21 2020;41(28):2645-2656. doi:10.1093/eurheartj/ehaa209	Outcome
643	Li L, Alonso A, Romaguera D, et al. Effect of an Intensive Lifestyle Intervention on Circulating Biomarkers of Atrial Fibrillation-Related Pathways among Adults with Metabolic Syndrome: Results from a Randomized Trial. J Clin Med. Apr 7 2024;13(7)doi:10.3390/jcm13072132	Outcome
644	Li M, Shi J, Luo J, et al. Diet Quality among Women with Previous Gestational Diabetes Mellitus in Rural Areas of Hunan Province. Int J Environ Res Public Health. Aug 16 2020;17(16)doi:10.3390/ijerph17165942	Study design
645	Li X, Perelman D, Leong AK, Fragiadakis G, Gardner CD, Snyder MP. Distinct factors associated with short-term and long-term weight loss induced by low-fat or low-carbohydrate diet intervention. Cell Rep Med. Dec 20 2022;3(12):100870. doi:10.1016/j.xcrm.2022.100870	Intervention or Exposure - Foods/Beverages Not Reported
646	Li X, Zhou T, Ma H, et al. Genetic variation in lean body mass, changes of appetite and weight loss in response to diet interventions: The POUNDS Lost trial. Diabetes Obes Metab. Dec 2020;22(12):2305-2315. doi:10.1111/dom.14155	Intervention or Exposure
647	Liang F, Fu J, Turner-McGrievy G, et al. Association of Body Mass Index and Plant-Based Diet with Cognitive Impairment among Older Chinese Adults: A Prospective, Nationwide Cohort Study. Nutrients. Jul 29 2022;14(15)doi:10.3390/nu14153132	Outcome

Number	Citation	Rationale
648	Lichert F. Consumption of whole-grain wheat stabilizes hepatic fat level. Journal: Short Survey. Aktuelle ernahrungsmedizin. 2019;44(2):82-83.	Publication status; Language
649	Liedes H, Mattila E, Honka A, et al. Associations Between Engagement with the BitHabit Digital Lifestyle Intervention and Changes in Type 2 Diabetes Risk Factors. Stud Health Technol Inform. May 18 2023;302:1009-1010. doi:10.3233/SHTI230328	Intervention or Exposure; Publication status
650	Likhitweerawong N, Boonchooduang N, Kittisakmontri K, Chonchaiya W, Louthrenoo O. Effectiveness of mobile application on changing weight, healthy eating habits, and quality of life in children and adolescents with obesity: a randomized controlled trial. BMC Pediatr. Nov 10 2021;21(1):499. doi:10.1186/s12887-021-02980-x	Intervention or Exposure
651	Lim JH, Kim YS, Lee JE, et al. Dietary pattern and its association with right-colonic diverticulosis. J Gastroenterol Hepatol. Jan 2021;36(1):144-150. doi:10.1111/jgh.15145	Outcome
652	Lim SX, Cox V, Rodrigues N, et al. Evaluation of Preconception Dietary Patterns in Women Enrolled in a Multisite Study. Article. Curr Dev Nutr. Jul 2022;6(7):nzac106. doi:10.1093/cdn/nzac106	Study design
653	Lin D, Chen DD, Huang J, Li Y, Wen XS, Shi HJ. Longitudinal association between the timing of adiposity peak and rebound and overweight at seven years of age. BMC Pediatr. Apr 19 2022;22(1):215. doi:10.1186/s12887-022-03190-9	Study design; Intervention or Exposure - Foods/Beverages Not Reported
654	Lin YC, Chu CH, Chen YJ, Chen RB, Huang CC. Gestational Age-Related Associations between Early-Life Feeding Trajectories and Growth Outcomes at Term Equivalent Age in Very Preterm Infants. Article. Nutrients. Feb 28 2022;14(5)doi:10.3390/nu14051032	Intervention or Exposure; Outcome

Number	Citation	Rationale
655	Lindsay KL, Buss C, Wadhwa PD, Entringer S. The Effect of a Maternal Mediterranean Diet in Pregnancy on Insulin Resistance is Moderated by Maternal Negative Affect. Article. Nutrients. Feb 6 2020;12(2)doi:10.3390/nu12020420	Outcome
656	Lindsay KL, Milone GF, Grobman WA, et al. Periconceptional diet quality is associated with gestational diabetes risk and glucose concentrations among nulliparous gravidas. Front Endocrinol (Lausanne). Sep 5 2022;13:940870. doi:10.3389/fendo.2022.940870	Outcome
657	Lindsay KL, Most J, Buehler K, Kebbe M, Altazan AD, Redman LM. Maternal mindful eating as a target for improving metabolic outcomes in pregnant women with obesity. Front Biosci (Landmark Ed). Dec 30 2021;26(12):1548-1558. doi:10.52586/5048	Intervention or Exposure - Foods/Beverages Not Reported
658	Lisso F, Massari M, Gentilucci M, et al. Longitudinal Nutritional Intakes in Italian Pregnant Women in Comparison with National Nutritional Guidelines. Article. Nutrients. May 5 2022;14(9)doi:10.3390/nu14091944	Intervention or Exposure; Outcome; Comparator
659	Litt JS, Alaimo K, Harrall KK, et al. Effects of a community gardening intervention on diet, physical activity, and anthropometry outcomes in the USA (CAPS): an observer-blind, randomised controlled trial. Lancet Planet Health. Jan 2023;7(1):e23-e32. doi:10.1016/S2542-5196(22)00303-5	Intervention or Exposure
660	Little RB, Murillo AL, Van Der Pol WJ, et al. Diet Quality and the Gut Microbiota in Women Living in Alabama. Am J Prev Med. Jul 2022;63(1 Suppl 1):S37-S46. doi:10.1016/j.amepre.2022.02.015	Study design
661	Liu M, Chen QT, Li ZC, Zhang J, Wang PG, He QQ. Association Between Diet Quality and Cardiometabolic Risk Factor Clustering Stratified by Socioeconomic Status Among Chinese Children. J Acad Nutr Diet. Oct 2021;121(10):1975-1983 e2. doi:10.1016/j.jand.2021.03.009	Country

Number	Citation	Rationale
662	Liu M, Xu J, Li Y, et al. A Town-Level Comprehensive Intervention Study to Reduce Salt Intake in China: Cluster Randomized Controlled Trial. Article. Nutrients. Nov 7 2022;14(21)doi:10.3390/nu14214698	Intervention or Exposure
663	Liu Q, Wen Q, Lv J, et al. The Prospective Associations of Lipid Metabolism-Related Dietary Patterns with the Risk of Diabetes in Chinese Adults. Article. Nutrients. Feb 25 2022;14(5)doi:10.3390/nu14050980	Country
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Number	Citation	Rationale
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Number	Citation	Rationale
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683	Lyu JL, Liu Z, Zhou S, et al. The Effect of a Multifaceted Intervention on Dietary Quality in Schoolchildren and the Mediating Effect of Dietary Quality between Intervention and Changes in Adiposity Indicators: A Cluster Randomized Controlled Trial. Nutrients. Aug 10 2022;14(16)doi:10.3390/nu14163272	Intervention or Exposure; Comparator

Number	Citation	Rationale
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687	Mabli J, Bleeker M, Fox MK, Jean-Louis B, Fox M. Randomized Controlled Trial of Healthy Harlem's Get Fit Program: An After-School Intervention for Childhood Overweight and Obesity in the Harlem Children's Zone. Article. Child Obes. Oct 2020;16(7):479-487. doi:10.1089/chi.2020.0012	Intervention or Exposure
688	Mabry-Hernandez IR, Legg M. Behavioral Counseling Interventions for Healthy Weight and Weight Gain in Pregnancy. Article. Am Fam Physician. Feb 1 2022;105(2):187-188.	Study design
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Number	Citation	Rationale
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694	Maddock J, Ambrosini GL, Griffin JL, et al. A dietary pattern derived using B-vitamins and its relationship with vascular markers over the life course. Article. Clin Nutr. Jun 2019;38(3):1464-1473. doi:10.1016/j.clnu.2018.06.969	Outcome
695	Madencioğlu S, Yücecan S. The Relationship Between Adherence to the Mediterranean Diet and Body Composition in Nutrition and Dietetic Students. Proceedings of the Nutrition Society. 2020;79(OCE2):1-1.	Publication status
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Number	Citation	Rationale
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699	Mahmoudinezhad M, Abbasalizad Farhangi M. Association between Ag-RP, alpha-MSH and cardiovascular risk factors regarding adherence to diet quality index-international (DQI-I) among obese individuals. J Cardiovasc Thorac Res. 2021;13(4):320-329. doi:10.34172/jcvtr.2021.48	Study design
700	Mai TMT, Tran QC, Nambiar S, Gallegos D, Van der Pols JC. Dietary patterns and child, parental, and societal factors associated with being overweight and obesity in Vietnamese children living in Ho Chi Minh city. Matern Child Nutr. Jan 2024;20 Suppl 2(Suppl 2):e13514. doi:10.1111/mcn.13514	Study design
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703	Maki KC, Wilcox ML, Dicklin MR, et al. Substituting Lean Beef for Carbohydrate in a Healthy Dietary Pattern Does Not Adversely Affect the Cardiometabolic Risk Factor Profile in Men and Women at Risk for Type 2 Diabetes. J Nutr. Jul 1 2020;150(7):1824-1833. doi:10.1093/jn/nxaa116	Duration of Intervention
704	Makura-Kankwende CBT, Gradidge PJ, Crowther NJ, Norris SA, Chikowore T. Nutrient Patterns and Body Composition Parameters of Black South African Women. Nutrients. Dec 22 2020;13(1)doi:10.3390/nu13010006	Study design

Number	Citation	Rationale
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706	Malinowska AM, Schmidt M, Chmurzynska A. Diet quality, anthropometrics, and gut microbiota composition in healthy adults. Proceedings of the Nutrition Society. 2020;79(OCE2):E369-E369. doi:10.1017/s0029665120003171	Publication status
707	Maltaric M, Ruscic P, Kolak M, et al. Adherence to the Mediterranean Diet Related to the Health Related and Well-Being Outcomes of European Mature Adults and Elderly, with an Additional Reference to Croatia. Int J Environ Res Public Health. Mar 10 2023;20(6)doi:10.3390/ijerph20064893	Study design
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709	Mancioppi V, Solito A, Ricotti R, et al. Good-day: efficacy of gamification of an educational training to mediterranean diet on weight and metabolic control in paediatric obesity. preliminary data at 6 months. Journal: Conference Abstract. High blood pressure & cardiovascular prevention. 2019;26(2):171-172.	Publication status
710	Mangels R. "Healthy Plant Foods" Associated With Less Weight Gain Over Time. Vegetarian Journal. 2020;39(2):14-14.	Health Status; Publication status
711	Manohar N, Hayen A, Scott JA, Do LG, Bhole S, Arora A. Impact of Dietary Trajectories on Obesity and Dental Caries in Preschool Children: Findings from the Healthy Smiles Healthy Kids Study. Nutrients. Jun 29 2021;13(7)doi:10.3390/nu13072240	Intervention or Exposure
712	Marcano-Olivier M, Sallaway-Costello J, McWilliams L, Horne PJ, Viktor S, Erjavec M. Changes in the nutritional content of children's lunches after the Food Dudes healthy eating programme. J Nutr Sci. 2021;10:e40. doi:10.1017/jns.2021.31	Intervention or Exposure; Outcome

Number	Citation	Rationale
713	Marinho AR, Severo M, Vilela S, Torres D, Oliveira A, Lopes C. Association of dietary macronutrient intake with adiposity during childhood according to sex: Findings from the generation XXI birth cohort. Pediatr Obes. Sep 2022;17(9):e12916. doi:10.1111/ijpo.12916	Intervention or Exposure
714	Markert J, Herget S, Petroff D, et al. Telephone-based adiposity prevention for families with overweight children (T.A.F.F.-Study): one year outcome of a randomized, controlled trial. Article. Int J Environ Res Public Health. Oct 3 2014;11(10):10327-44. doi:10.3390/ijerph111010327	Intervention or Exposure
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717	Martin JC, Moran LJ, Teede HJ, Ranasinha S, Lombard CB, Harrison CL. Diet Quality in a Weight Gain Prevention Trial of Reproductive Aged Women: A Secondary Analysis of a Cluster Randomized Controlled Trial. Article. Nutrients. Dec 27 2018;11(1)doi:10.3390/nu11010049	Size or Power
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719	Martinez-Arroyo A, Cantor E, Fisberg RM, Corvalan C. Lower adherence to a prudent dietary pattern is associated with earlier age at menarche in adolescents from the Growth and Obesity Chilean Cohort Study. Front Public Health. 2022;10:995593. doi:10.3389/fpubh.2022.995593	Outcome

Number	Citation	Rationale
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721	Martinez-Rodriguez A, Cuestas-Calero BJ, Martinez-Olcina M, Marcos-Pardo PJ. Benefits of Adding an Aquatic Resistance Interval Training to a Nutritional Education on Body Composition, Body Image Perception and Adherence to the Mediterranean Diet in Older Women. Journal: Article. Nutrients. Aug 6 2021;13(8)doi:10.3390/nu13082712	Intervention or Exposure; Comparator
722	Martinez-Rodriguez A, Vidal-Martinez L, Martinez-Olcina M, et al. Study the Effect of an Innovative Educational Program Promoting Healthy Food Habits on Eating Disorders, Mediterranean Diet Adherence and Body Composition in University Students. Healthcare (Basel). Mar 28 2023;11(7)doi:10.3390/healthcare11070965	Intervention or Exposure
723	Martínez-Rodríguez, Loaiza-Martínez, Sánchez-Sánchez, et al. Psychological, Physiological, and Physical Effects of Resistance Training and Personalized Diet in Celiac Women.. Frontiers in nutrition. 2022. 9.doi:10.3389/fnut.2022.838364	Intervention or Exposure
724	Martini GL, Pinto RS, Brusco CM, et al. Similar body composition, muscle size, and strength adaptations to resistance training in lacto-ovo-vegetarians and non-vegetarians. Appl Physiol Nutr Metab. Jun 1 2023;48(6):469-478. doi:10.1139/apnm-2022-0258	Intervention or Exposure
725	Masip G, Keski-Rahkonen A, Pietilainen KH, et al. Development of a Food-Based Diet Quality Score from a Short FFQ and Associations with Obesity Measures, Eating Styles and Nutrient Intakes in Finnish Twins. Nutrients. Oct 23 2019;11(11)doi:10.3390/nu11112561	Study design
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Number	Citation	Rationale
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728	Mateo-Orcajada A, Vaquero-Cristobal R, Montoya-Lozano JM, Abenza-Cano L. Differences in Kinanthropometric Variables and Physical Fitness of Adolescents with Different Adherence to the Mediterranean Diet and Weight Status: "Fat but Healthy Diet" Paradigm. Nutrients. Feb 24 2023;15(5)doi:10.3390/nu15051152	Study design
729	Mathew SM, Bell LK, Mauch C, Magarey AM. Weight status and diets of children aged 1-12 years attending a tertiary public paediatric outpatient clinic. J Paediatr Child Health. Jan 2020;56(1):47-54. doi:10.1111/jpc.14489	Study design
730	Matsumoto S, Beeson WL, Shavlik DJ, et al. Association between vegetarian diets and cardiovascular risk factors in non-Hispanic white participants of the Adventist Health Study-2. Article in Press. Journal of Nutritional Science. 2019;	Study design
731	Mattavelli E, Olmastroni E, Casula M, et al. Adherence to Mediterranean Diet: A Population-Based Longitudinal Cohort Study. Nutrients. Apr 12 2023;15(8)doi:10.3390/nu15081844	Outcome
732	Maugeri A, Barchitta M, Favara G, et al. Maternal dietary patterns are associated with pre-pregnancy body mass index and gestational weight gain: Results from the “mamma & bambino” cohort. Article. Nutrients. 2019;11(6)	Data overlap
733	Mazurkiewicz D, Bronkowska M. Circulating Insulin and IGF-1 and Frequency of Food Consumption during Pregnancy as Predictors of Birth Weight and Length. Nutrients. Jul 9 2021;13(7):2344-2344. doi:10.3390/nu13072344	Intervention or Exposure
734	McCormick DP, Reyna L, Reifsnider E. Calories, Caffeine and the Onset of Obesity in Young Children. Acad Pediatr. Aug 2020;20(6):801-808. doi:10.1016/j.acap.2020.02.014	Intervention or Exposure

Number	Citation	Rationale
735	McCullough D, Harrison T, Lane K, et al. The effect of a low carbohydrate high fat diet on apolipoproteins and cardiovascular risk. Journal: Conference Abstract. Proceedings of the Nutrition Society. 2020;79(OCE2):E677-E677. doi:10.1017/s0029665120006266	Duration of Intervention; Publication status
736	McElfish PA, Felix HC, Bursac Z, et al. A Cluster Randomized Controlled Trial Comparing Diabetes Prevention Program Interventions for Overweight/Obese Marshallese Adults. Article. Inquiry. Jan-Dec 2023;60:469580231152051. doi:10.1177/00469580231152051	Intervention or Exposure - Foods/Beverages Not Reported
737	McEvoy CT, Moore S, Erwin C, et al. Trial to Encourage Adoption and Maintenance of a MEditerranean Diet (TEAM-MED): a randomised pilot trial of a peer support intervention for dietary behaviour change in adults from a Northern European population at high CVD risk. Br J Nutr. Oct 14 2022;128(7):1322-1334. doi:10.1017/S0007114521003986	Size or Power
738	McGee M, Unger S, Hamilton J, et al. Associations between Diet Quality and Body Composition in Young Children Born with Very Low Body Weight. J Nutr. Nov 19 2020;150(11):2961-2968. doi:10.1093/jn/nxaa281	Study design; Health Status
739	McNitt KM, Hohman EE, Rivera DE, et al. Underreporting of Energy Intake Increases over Pregnancy: An Intensive Longitudinal Study of Women with Overweight and Obesity. Article. Nutrients. Jun 1 2022;14(11)doi:10.3390/nu14112326	Intervention or Exposure
740	Meadley B, Wolkow AP, Smith K, Perraton L, Bowles KA, Bonham MP. Cardiometabolic, Dietary and Physical Health in Graduate Paramedics during the First 12-Months of Practice - A Longitudinal Study. Prehosp Emerg Care. Jul-Aug 2022;26(4):524-536. doi:10.1080/10903127.2021.1949081	Study design; Intervention or Exposure; Outcome
741	Mears M, Tussing-Humphreys L, Cerwinske L, et al. Associations between alternate healthy eating index-2010, body composition, osteoarthritis severity, and interleukin-6 in older overweight and obese african american females with self-reported osteoarthritis. Article. Nutrients. 2019;11(1)	Study design

Number	Citation	Rationale
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743	Mei S, Ding J, Wang K, Ni Z, Yu J. Mediterranean Diet Combined With a Low-Carbohydrate Dietary Pattern in the Treatment of Overweight Polycystic Ovary Syndrome Patients. Front Nutr. 2022;9:876620. doi:10.3389/fnut.2022.876620	Intervention or Exposure - Foods/Beverages Not Reported
744	Meinilä J, Perälä MM, Kanerva N, et al. Birth weight modifies the association between a healthy Nordic diet and office blood pressure in old age. J Hum Hypertens. Oct 2021;35(10):849-858. doi:10.1038/s41371-020-00423-1	Outcome
745	Meinilä J, Valkama A, Koivusalo SB, et al. Association between diet quality measured by the Healthy Food Intake Index and later risk of gestational diabetes-a secondary analysis of the RADIEL trial. Article. Eur J Clin Nutr. Apr 2017;71(4):555-557. doi:10.1038/ejcn.2016.275	Outcome; Data overlap
746	Melero V, Assaf-Balut C, Torre NG, et al. Benefits of Adhering to a Mediterranean Diet Supplemented with Extra Virgin Olive Oil and Pistachios in Pregnancy on the Health of Offspring at 2 Years of Age. Results of the San Carlos Gestational Diabetes Mellitus Prevention Study. J Clin Med. May 13 2020;9(5)doi:10.3390/jcm9051454	Data overlap
747	Melero V, Garcia de la Torre N, Assaf-Balut C, et al. Effect of a Mediterranean Diet-Based Nutritional Intervention on the Risk of Developing Gestational Diabetes Mellitus and Other Maternal-Fetal Adverse Events in Hispanic Women Residents in Spain. Article. Nutrients. Nov 14 2020;12(11):1-14. doi:10.3390/nu12113505	Outcome
748	Mendham A, Brooks NE, Micklesfield LK, et al. Osteoporosis in older black South African women and relationships with body composition, dietary intake and physical activity. Proceedings of the Nutrition Society. 2020;79(OCE2):1-1.	Publication status

Number	Citation	Rationale
749	Menichini D, Petrella E, Dipace V, Di Monte A, Neri I, Facchinetti F. The Impact of an Early Lifestyle Intervention on Pregnancy Outcomes in a Cohort of Insulin-Resistant Overweight and Obese Women. Nutrients. May 21 2020;12(5)doi:10.3390/nu12051496	Intervention or Exposure - Foods/Beverages Not Reported; Comparator
750	Mennella JA, Smethers AD, Decker JE, Delahanty MT, Stallings VA, Trabulsi JC. Effects of Early Weight Gain Velocity, Diet Quality, and Snack Food Access on Toddler Weight Status at 1.5 Years: Follow-Up of a Randomized Controlled Infant Formula Trial. Article. Nutrients. Nov 4 2021;13(11)doi:10.3390/nu13113946	Intervention or Exposure
751	Merino J, Guasch-Ferre M, Li J, et al. Polygenic scores, diet quality, and type 2 diabetes risk: An observational study among 35,759 adults from 3 US cohorts. Article. PLoS Med. Apr 2022;19(4):e1003972. doi:10.1371/journal.pmed.1003972	Outcome
752	Merrotsy A, McCarthy AL, Lacey S, Coppinger T. Identifying dietary patterns in Irish schoolchildren and their association with nutritional knowledge and markers of health before and after intervention. Br J Nutr. Aug 14 2021;126(3):383-391. doi:10.1017/S0007114520004043	Study design
753	Mertens E, Colizzi C, Penalvo JL. Ultra-processed food consumption in adults across Europe. Eur J Nutr. Apr 2022;61(3):1521-1539. doi:10.1007/s00394-021-02733-7	Study design; Intervention or Exposure
754	Metro D, Papa M, Manasseri L, et al. Mediterranean diet in a Sicilian student population. Second part: breakfast and its nutritional profile. Nat Prod Res. Aug 2020;34(16):2255-2261. doi:10.1080/14786419.2018.1452016	Study design; Intervention or Exposure
755	Miele MJ, Souza RT, Calderon IM, et al. Maternal Nutrition Status Associated with Pregnancy-Related Adverse Outcomes. Nutrients. Jul 13 2021;13(7)doi:10.3390/nu13072398	Outcome

Number	Citation	Rationale
756	Mikes O, Brantsaeter AL, Knutsen HK, et al. Dietary patterns and birth outcomes in the ELSPAC pregnancy cohort. J Epidemiol Community Health. Jun 2022;76(6):613-619. doi:10.1136/jech-2020-215716	Outcome
757	Miles FL, Lloren JIC, Haddad E, et al. Plasma, urine, and adipose tissue biomarkers of dietary intake differ between vegetarian and non-vegetarian diet groups in the Adventist Health Study-2. Article. Journal of Nutrition. 2019;149(4):667-675.	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
758	Miller C, Boushey C, Benny P, et al. Diet quality predicts hypertensive disorders of pregnancy in Asian and Pacific Islander Cohort. Nutr Health. Jun 2024;30(2):243-252. doi:10.1177/02601060221109668	Outcome
759	Miller CK, King D, Nagaraja HN, Fujita K, Cheavens J, Focht BC. Impact of an augmented intervention on self-regulatory, dietary and physical activity outcomes in a diabetes prevention trial among adults with prediabetes. J Behav Med. Oct 2023;46(5):770-780. doi:10.1007/s10865-023-00406-w	Intervention or Exposure
760	Miller CK, Nagaraja HN, Cheavens JS, Fujita K, Lazarus SA, Brunette DS. Sex Differences in Early Weight Loss Success During a Diabetes Prevention Intervention. Am J Health Behav. Apr 30 2023;47(2):337-348. doi:10.5993/AJHB.47.2.13	Intervention or Exposure; Duration of Intervention
761	Miller NA, Ehmann MM, Hagerman CJ, et al. Sharing digital self-monitoring data with others to enhance long-term weight loss: A randomized controlled trial. Contemp Clin Trials. Jun 2023;129:107201. doi:10.1016/j.cct.2023.107201	Study design; Publication status
762	Minato-Inokawa S, Hayashi I, Nirengi S, et al. Association of Dietary Change during Pregnancy with Large-for-Gestational Age Births: A Prospective Observational Study. J Nutr Sci Vitaminol (Tokyo). 2020;66(3):246-254. doi:10.3177/jnsv.66.246	Intervention or Exposure

Number	Citation	Rationale
763	Mintjens S, van Poppel MNM, Groen H, et al. The Effects of a Preconception Lifestyle Intervention on Childhood Cardiometabolic Health-Follow-Up of a Randomized Controlled Trial. Article. Cells. Dec 24 2021;11(1)doi:10.3390/cells11010041	Intervention or Exposure; Outcome
764	Miralles-Amoros L, Asencio-Mas N, Martinez-Olcina M, et al. Study the Effect of Relative Energy Deficiency on Physiological and Physical Variables in Professional Women Athletes: A Randomized Controlled Trial. Metabolites. Jan 23 2023;13(2)doi:10.3390/metabo13020168	Size or Power
765	Miranda-Penarroya G, Zeron-Rugerio MF, Vallejo-Gracia M, Sorio-Fuentes R, Saenger-Ruiz F, Izquierdo-Pulido M. Adherence to Healthy Lifestyle Habits Is a Determinant of the Effectiveness of Weight Loss among Patients Undergoing Endoscopic Bariatric Therapies. Article. Nutrients. May 28 2022;14(11)doi:10.3390/nu14112261	Intervention or Exposure; Health Status
766	Mirmiran P, Bakhshi B, Hosseinpour-Niazi S, Sarbazi N, Hejazi J, Azizi F. Does the association between patterns of fruit and vegetables and metabolic syndrome incidence vary according to lifestyle factors and socioeconomic status? Nutr Metab Cardiovasc Dis. Jul 24 2020;30(8):1322-1336. doi:10.1016/j.numecd.2020.04.008	Intervention or Exposure; Outcome
767	Mirmiran P, Farhadnejad H, Teymoori F, Parastouei K, Azizi F. The higher adherence to healthy lifestyle factors is associated with a decreased risk of metabolic syndrome in Iranian adults. Nutrition Bulletin. 2022;47(1):57-67.	Intervention or Exposure
768	Mirmiran P, Hosseini-Esfahani F, Esfandiar Z, Hosseinpour-Niazi S, Azizi F. Associations between dietary antioxidant intakes and cardiovascular disease. Sci Rep. Jan 27 2022;12(1):1504. doi:10.1038/s41598-022-05632-x	Intervention or Exposure
769	Mirmiran P, Hosseinpour-Niazi S, Moghaddam-Banaem L, Lamyian M, Goshtasebi A, Azizi F. Inverse relation between fruit and vegetable intake and the risk of gestational diabetes mellitus. Article. International Journal for Vitamin and Nutrition Research. 2019;89(1-2):37-44.	Intervention or Exposure

Number	Citation	Rationale
770	Mirmiran P, Ziadlou M, Karimi S, Hosseini-Esfahani F, Azizi F. The association of dietary patterns and adherence to WHO healthy diet with metabolic syndrome in children and adolescents: Tehran lipid and glucose study. Article. BMC Public Health. Nov 6 2019;19(1):1457. doi:10.1186/s12889-019-7779-9	Intervention or Exposure; Outcome
771	Mistretta A, Marventano S, Zappala G, Currenti W, Matalone M, Marranzano M. Relation between out-of-home eating and weight status in adolescents living in Sicily, southern Italy. Journal: Article. Progress in nutrition. 2019;21:57-64.	Study design
772	Mitchell A, Fall T, Melhus H, Wolk A, Michaelsson K, Byberg L. Is the effect of Mediterranean diet on hip fracture mediated through type 2 diabetes mellitus and body mass index? Int J Epidemiol. Mar 3 2021;50(1):234-244. doi:10.1093/ije/dyaa239	Outcome; Comparator
773	Mitchell ES, Yang Q, Ho AS, et al. Self-Reported Nutritional Factors Are Associated with Weight Loss at 18 Months in a Self-Managed Commercial Program with Food Categorization System: Observational Study. Nutrients. May 20 2021;13(5)doi:10.3390/nu13051733	Study design; Size or Power
774	Mitku AA, Zewotir T, North D, Jeena P, Naidoo RN. The differential effect of maternal dietary patterns on quantiles of Birthweight. BMC Public Health. Jun 22 2020;20(1):976. doi:10.1186/s12889-020-09065-x	Outcome
775	Mitra SR, Tan PY. Effect of an individualised high-protein, energy-restricted diet on anthropometric and cardio-metabolic parameters in overweight and obese Malaysian adults: a 6-month randomised controlled study. Article. Br J Nutr. May 2019;121(9):1002-1017. doi:10.1017/S0007114519000345	Intervention or Exposure - Foods/Beverages Not Reported
776	Mohammadisima N, Farshbaf-Khalili A, Ostadrahimi A, Pourmoradian S. Positive relation between dietary inflammatory index and osteoporosis in postmenopausal women. Int J Vitam Nutr Res. Apr 2024;94(2):86-94. doi:10.1024/0300-9831/a000773	Study design

Number	Citation	Rationale
777	Mohorko N, Cernelic-Bizjak M, Poklar-Vatovec T, et al. Weight loss, improved physical performance, cognitive function, eating behavior, and metabolic profile in a 12-week ketogenic diet in obese adults. Article. Nutr Res. Feb 2019;62:64-77. doi:10.1016/j.nutres.2018.11.007	Study design; Intervention or Exposure - Foods/Beverages Not Reported
778	Mohsenzadeh-Ledari F, Motaghi Z, Taghizadeh Z, et al. Effect of Motivational Interviewing, Dietary Advice, and Physical Activity on Fetal-Neonatal Outcome in Pregnant Women with Metabolic Syndrome: a Randomized Controlled Trial. Journal article. Journal of mazandaran university of medical sciences. 2022;32(214):124-133.	Language
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780	Mokhtari E, Farhadnejad H, Teymoori F, Mirmiran P, Azizi F. The association of insulinemic potential of diet and lifestyle with the risk of insulin-related disorders: a prospective cohort study among participants of Tehran Lipid and Glucose Study. Article. Diabetol Metab Syndr. May 13 2021;13(1):53. doi:10.1186/s13098-021-00674-z	Outcome
781	Mompeo O, Freidin MB, Gibson R, et al. Genome-Wide Association Analysis of Over 170,000 Individuals from the UK Biobank Identifies Seven Loci Associated with Dietary Approaches to Stop Hypertension (DASH) Diet. Nutrients. Oct 21 2022;14(20)doi:10.3390/nu14204431	Study design
782	Monserrat-Mesquida M, Quetglas-Llabres M, Bouzas C, et al. Effects of 2-Year Nutritional and Lifestyle Intervention on Oxidative and Inflammatory Statuses in Individuals of 55 Years of Age and over at High Cardiovascular Risk. Antioxidants (Basel). Jul 5 2022;11(7)doi:10.3390/antiox11071326	Intervention or Exposure; Comparator

Number	Citation	Rationale
783	Montemayor S, Mascaro CM, Ugarriza L, et al. Adherence to Mediterranean Diet and NAFLD in Patients with Metabolic Syndrome: The FLIPAN Study. Nutrients. Aug 3 2022;14(15)doi:10.3390/nu14153186	Size or Power
784	Morales-Suarez-Varela M, Peraita-Costa I, Perales-Marin A, Marcos Puig B, Llopis-Morales J, Pico Y. Effect of Adherence to the Mediterranean Diet on Maternal Iron Related Biochemical Parameters during Pregnancy and Gestational Weight Gain. Life (Basel). May 8 2023;13(5)doi:10.3390/life13051138	Study design
785	Moran LJ, Noakes M, Clifton P, et al. Predictors of Lifestyle Intervention Attrition or Weight Loss Success in Women with Polycystic Ovary Syndrome Who Are Overweight or Obese. Article. Nutrients. Feb 26 2019;11(3)doi:10.3390/nu11030492	Intervention or Exposure
786	Moran-Lev H, Cohen S, Zelber-Sagi S, et al. Effect of Coffee and Tea Consumption on Adolescent Weight Control: An Interventional Pilot Study. Child Obes. Mar 2023;19(2):121-129. doi:10.1089/chi.2022.0032	Intervention or Exposure
787	Mora-Urda AI, Martin-Almena FJ, Montero Lopez MDP. Relationship between the Dietary Inflammatory Index and Cardiovascular Health among Children. Int J Environ Res Public Health. Nov 25 2022;19(23)doi:10.3390/ijerph192315706	Study design; Intervention or Exposure - Foods/Beverages Not Reported
788	Morelli C, Avolio E, Galluccio A, et al. Nutrition Education Program and Physical Activity Improve the Adherence to the Mediterranean Diet: Impact on Inflammatory Biomarker Levels in Healthy Adolescents From the DIMENU Longitudinal Study. Front Nutr. 2021;8:685247. doi:10.3389/fnut.2021.685247	Outcome; Comparator
789	Morin E, Michaud-Letourneau I, Couturier Y, Roy M. A whole-food, plant-based nutrition program: Evaluation of cardiovascular outcomes and exploration of food choices determinants. Article. Nutrition. Oct 2019;66:54-61. doi:10.1016/j.nut.2019.03.020	Study design

Number	Citation	Rationale
790	Moslehi N, Rahimi Sakak F, Mahdavi M, Mirmiran P, Azizi F. Visceral adiposity-related dietary patterns and the risk of cardiovascular disease in Iranian adults: A population-based cohort study. Front Nutr. 2022;9:812701. doi:10.3389/fnut.2022.812701	Outcome
791	Most J, Altazan AD, St Amant M, Beyl RA, Ravussin E, Redman LM. Increased Energy Intake After Pregnancy Determines Postpartum Weight Retention in Women With Obesity. J Clin Endocrinol Metab. Apr 1 2020;105(4):e1601-11. doi:10.1210/clinem/dgz330	Outcome
792	Most J, Rebello CJ, Altazan AD, Martin CK, Amant MS, Redman LM. Behavioral Determinants of Objectively Assessed Diet Quality in Obese Pregnancy. Article. Nutrients. Jun 26 2019;11(7)doi:10.3390/nu11071446	Study design; Outcome
793	Motadi SA, Khorommbi T, Maluleke L, Mugware A, Mushaph L. Nutritional status and dietary pattern of the elderly in Thulamela Municipality of Vhembe District. Afr J Prim Health Care Fam Med. Nov 3 2022;14(1):e1-e8. doi:10.4102/phcfm.v14i1.3439	Study design
794	Mousavi SM, Ejtahed HS, Marvasti FE, et al. The Effect of a Moderately Restricted Carbohydrate Diet on Cardiometabolic Risk Factors in Overweight and Obese Women With Metabolic Syndrome: A Randomized Controlled Trial. Article in Press. Clin Ther. Mar 2023;45(3):e103-e114. doi:10.1016/j.clinthera.2023.02.002	Intervention or Exposure - Foods/Beverages Not Reported; Health Status- 100% CVD
795	Mousavizadeh Z, Hosseini-Esfahani F, Javadi A, et al. The interaction between dietary patterns and melanocortin-4 receptor polymorphisms in relation to obesity phenotypes. Obes Res Clin Pract. May-Jun 2020;14(3):249-256. doi:10.1016/j.orcp.2020.04.002	Comparator
796	Mueller J, Richards R, Jones RA, et al. Supporting Weight Management during COVID-19: A Randomized Controlled Trial of a Web-Based, ACT-Based, Guided Self-Help Intervention. Article. Obes Facts. 2022;15(4):550-559. doi:10.1159/000524031	Intervention or Exposure

Number	Citation	Rationale
797	Munda A, Starčič Erjavec M, Molan K, Ambrožič Avguštin J, Žgur-Bertok D, Pongrac Barlovič D. Association between pre-pregnancy body weight and dietary pattern with large-for-gestational-age infants in gestational diabetes. Article. Diabetology and Metabolic Syndrome. 2019;11(1)	Health Status- 100% Diabetes
798	Muniz S, Barbieri MA, Sanches GF, et al. Dietary pattern changes, obesity and excess body fat in adults of a Brazilian birth cohort. J Hum Nutr Diet. Feb 2023;36(1):191-202. doi:10.1111/jhn.13049	Country
799	Murff HJ. In patients with CHD, a Mediterranean vs. low-fat diet reduced major CV events at 7 y. Article in Press. Ann Intern Med. Sep 2022;175(9):JC100. doi:10.7326/J22-0061	Health Status- 100% CVD
800	Murphy J. Exercise, healthy diet in midlife may prevent serious health conditions in senior years. 2021.	Study design; Publication status
801	Muscogiuri G, Barrea L, Di Somma C, et al. Patient empowerment and the Mediterranean diet as a possible tool to tackle prediabetes associated with overweight or obesity: a pilot study. Article. Hormones. 2019;18(1):75-84.	Study design
802	Mustafa S, Harding J, Wall C, Crowther C. Sociodemographic Factors Associated with Adherence to Dietary Guidelines in Women with Gestational Diabetes: A Cohort Study. Article. Nutrients. May 31 2021;13(6)doi:10.3390/nu13061884	Study design; Health Status
803	Mustafa ST, Harding JE, Wall CR, Crowther CA. Adherence to Clinical Practice Guideline Recommendations in Women with Gestational Diabetes and Associations with Maternal and Infant Health-A Cohort Study. Nutrients. Mar 17 2022;14(6):1274. doi:10.3390/nu14061274	Health Status- 100% Diabetes; Outcome
804	Muzsik A, Bajerska J, Jelen HH, Walkowiak J, Krzyzanowska-Jankowska P, Chmurzynska A. FADS1 and FADS2 polymorphism are associated with changes in fatty acid concentrations after calorie-restricted Central European and Mediterranean diets. Article. Menopause. Dec 2019;26(12):1415-1424. doi:10.1097/GME.0000000000001409	Intervention or Exposure - Foods/Beverages

Number	Citation	Rationale
		Not Reported; Outcome
805	Nabuco HCG, Tomeleri CM, Fernandes RR, et al. Effects of Protein Intake Beyond Habitual Intakes Associated With Resistance Training on Metabolic Syndrome-Related Parameters, Isokinetic Strength, and Body Composition in Older Women. Journal: Article. J Aging Phys Act. Aug 1 2019;27(4):545-552. doi:10.1123/japa.2018-0370	Intervention or Exposure
806	Nadjarzadeh A, Ghadiri-Anari A, Ramezani-Jolfaie N, et al. Effect of hypocaloric high-protein, low-carbohydrate diet supplemented with fennel on androgenic and anthropometric indices in overweight and obese women with polycystic ovary syndrome: A randomized placebo-controlled trial. Article. Complement Ther Med. Jan 2021;56:102633. doi:10.1016/j.ctim.2020.102633	Intervention or Exposure - Foods/Beverages Not Reported; Duration of Intervention
807	Nagel EM, Jacobs D, Johnson KE, et al. Maternal Dietary Intake of Total Fat, Saturated Fat, and Added Sugar Is Associated with Infant Adiposity and Weight Status at 6 mo of Age. J Nutr. Aug 7 2021;151(8):2353-2360. doi:10.1093/jn/nxab101	Intervention or Exposure; Comparator
808	Nakata Y, Sasai H, Gosho M, et al. A Smartphone Healthcare Application, CALO mama Plus, to Promote Weight Loss: A Randomized Controlled Trial. Nutrients. Nov 2 2022;14(21)doi:10.3390/nu14214608	Intervention or Exposure - Foods/Beverages Not Reported; Comparator
809	Nakata Y, Sasai H, Tsujimoto T, Hashimoto K, Kobayashi H. A Single Motivational Lecture Can Promote Modest Weight Loss: a Randomized Controlled Trial. Journal Article; Multicenter Study; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. Obesity facts. 2020;13(2):267-278.	Intervention or Exposure

Number	Citation	Rationale
810	Nansel TR, Cummings JR, Burger K, Siega-Riz AM, Lipsky LM. Greater Ultra-Processed Food Intake during Pregnancy and Postpartum Is Associated with Multiple Aspects of Lower Diet Quality. Article. Nutrients. Sep 22 2022;14(19)doi:10.3390/nu14193933	Outcome
811	Napier C, Warriner K, Sibiya MN, Reddy P. Nutritional status and dietary diversity of pregnant women in rural KwaZulu-Natal, South Africa. Health SA. 2019;24:1114. doi:10.4102/hsag.v24i0.1114	Outcome
812	Nasreddine L, Ayoub J, Abbas N, Abdul Malik M, Naja F. Postpartum Weight Retention and Its Determinants in Lebanon and Qatar: Results of the Mother and Infant Nutrition Assessment (MINA) Cohort. Int J Environ Res Public Health. Oct 27 2020;17(21)doi:10.3390/ijerph17217851	Intervention or Exposure
813	Natale RA, Atem F, Weerakoon S, et al. An Implementation Approach Comparison of a Child Care Center-Based Obesity Prevention Program. J Dev Behav Pediatr. Feb-Mar 01 2021;42(2):135-145. doi:10.1097/DBP.0000000000000861	Intervention or Exposure
814	Navarro-Martinez R, Mafla-Espana MA, Cauli O. Mediterranean Diet Adherence in Community-Dwelling Older Adults in Spain: Social Determinants Related to the Family. Nutrients. Dec 2 2022;14(23)doi:10.3390/nu14235141	Study design
815	Navas-Carretero S, San-Cristobal R, Livingstone KM, et al. Higher vegetable protein consumption, assessed by an isoenergetic macronutrient exchange model, is associated with a lower presence of overweight and obesity in the web-based Food4me European study. Journal Article; Randomized Controlled Trial. International journal of food sciences and nutrition. 2019;70(2):240-253.	Study design; Intervention or Exposure
816	Nestares T, Martin-Masot R, de Teresa C, et al. Influence of Mediterranean Diet Adherence and Physical Activity on Bone Health in Celiac Children on a Gluten-Free Diet. Nutrients. May 13 2021;13(5)doi:10.3390/nu13051636	Study design
817	Neta A, Steluti J, Ferreira F, Farias Junior JC, Marchioni DML. Dietary patterns among adolescents and associated factors: longitudinal study on sedentary behavior, physical activity, diet and adolescent health. Article. Cien Saude Colet. 2021;26(suppl	Study design

Number	Citation	Rationale
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818	Neuhouser ML, Pettinger M, Tinker LF, et al. Associations of Biomarker-Calibrated Healthy Eating Index-2010 Scores with Chronic Disease Risk and Their Dependency on Energy Intake and Body Mass Index in Postmenopausal Women. J Nutr. Jan 14 2023;152(12):2808-2817. doi:10.1093/jn/nxac199	Outcome
819	Neves AM, Madruga SW. Complementary feeding, consumption of industrialized foods and nutritional status of children under 3 years old in Pelotas, Rio Grande do Sul, Brazil, 2016: a descriptive study. Article. Epidemiologia e servicos de saude : revista do Sistema Unico de Saude do Brasil. 2019;28(1):e2017507.	Study design
820	Nezami B, Power J, Hurley L, Tate D. A randomized controlled trial of two diet monitoring approaches in a mobile weight loss intervention. Journal: Conference Abstract. Obesity (Silver Spring, Md). 2020;28(SUPPL 2):43-.	Intervention or Exposure; Publication status
821	Ng AK, Hairi NN, Dahlui M, Su TT, Jalaludin MY, Abdul Majid H. The longitudinal relationship between dietary intake, physical activity and muscle strength among adolescents. Article. British Journal of Nutrition. 2020;124(11):1207-1218.	Intervention or Exposure - Foods/Beverages Not Reported
822	Nicholl A, Deering KE, Evelegh K, et al. Whole-fat dairy products do not adversely affect adiposity or cardiometabolic risk factors in children in the Milky Way Study: a double-blind randomized controlled pilot study. American Journal of Clinical Nutrition. 2021;114(6):2025-2042.	Intervention or Exposure - Foods/Beverages Not Reported
823	Nieczuja-Dwojacka J, Klemarczyk W, Siniarska A, Koziel S, Szysz T. Socio-economic determinants of the somatic development and reaction time of vegetarian and non-vegetarian children. Anthropol Anz. Apr 30 2020;77(2):137-146. doi:10.1127/anthranz/2020/1107	Study design; Intervention or Exposure

Number	Citation	Rationale
824	Nikniaz L, Mahmudiono T, Jasim SA, Vajdi M, Thangavelu L, Farhangi MA. Nutrient pattern analysis of mineral based, simple sugar based, and fat based diets and risk of metabolic syndrome: a comparative nutrient panel. BMC Endocr Disord. Mar 2 2022;22(1):51. doi:10.1186/s12902-022-00963-2	Study design
825	Njike VY, Treu JA, Kela GCM, Ayettey RG, Comerford BP, Siddiqui WT. Egg Consumption in the Context of Plant-Based Diets and Cardiometabolic Risk Factors in Adults at Risk of Type 2 Diabetes. Article in Press. J Nutr. Dec 3 2021;151(12):3651-3660. doi:10.1093/jn/nxab283	Duration of Intervention
826	Noakes TD. Hiding unhealthy heart outcomes in a low-fat diet trial: The Women's Health Initiative Randomized Controlled Dietary Modification Trial finds that postmenopausal women with established coronary heart disease were at increased risk of an adverse outcome if they consumed a low-fat heart-healthy' diet. Article. Open Heart. 2021;8(2)	Study design; Health Status- 100% CVD
827	Noerman S, Kokla M, Koistinen VM, et al. Associations of the serum metabolite profile with a healthy Nordic diet and risk of coronary artery disease. Clin Nutr. May 2021;40(5):3250-3262. doi:10.1016/j.clnu.2020.10.051	Intervention or Exposure; Outcome
828	Noori S, Mirzababaei A, Abaj F, Ghaffarian-Ensaf R, Mirzaei K. Does the Mediterranean diet reduce the odds of diabetic nephropathy in women? A case-control study. Front Nutr. 2022;9:984622. doi:10.3389/fnut.2022.984622	Study design; Health Status- 100% Diabetes; Outcome
829	Nouri F, Sadeghi M, Mohammadifard N, Roohafza H, Feizi A, Sarrafzadegan N. Longitudinal association between an overall diet quality index and latent profiles of cardiovascular risk factors: results from a population based 13-year follow up cohort study. Nutr Metab (Lond). Mar 10 2021;18(1):28. doi:10.1186/s12986-021-00560-5	Intervention or Exposure; Outcome
830	Nucci D, Arcidiacono D, Zaramella A, et al. A MULTIMODAL APPROACH TO IMPROVE, BODY COMPOSITION, LIFESTYLE AND DIETARY BEHAVIORS IN BARRETT'S ESOPHAGUS PATIENTS: PRELIMINARY RESULTS OF A RANDOMIZED CONTROLLED TRIAL. Journal: Conference Abstract. Digestive and liver disease. 2020;52:S84-S85.	Health Status

Number	Citation	Rationale
831	O'Brien EC, Geraghty AA, O'Sullivan EJ, et al. Five-year follow up of a low glycaemic index dietary randomised controlled trial in pregnancy-no long-term maternal effects of a dietary intervention. Article. BJOG. Mar 2019;126(4):514-524. doi:10.1111/1471-0528.15500	Intervention or Exposure - Foods/Beverages Not Reported; Data overlap
832	Odegaard AO, Jacobs DR, Van Wagner LB, Pereira MA. Levels of abdominal adipose tissue and metabolic-associated fatty liver disease (MAFLD) in middle age according to average fast-food intake over the preceding 25 years: the CARDIA Study. Am J Clin Nutr. Jul 6 2022;116(1):255-262. doi:10.1093/ajcn/nqac079	Intervention or Exposure
833	Ofir N, Mizrakli Y, Greenshpan Y, et al. Vertebrae but not femur marrow fat transiently decreases in response to body weight loss in an 18-month randomized control trial. Article. Bone. Jun 2023;171:116727. doi:10.1016/j.bone.2023.116727	Intervention or Exposure - Foods/Beverages Not Reported
834	Ogilvie A, Schlussel Y, Schneider S, Shapses S. Higher diet quality score increases weight loss during moderate caloric restriction with no greater loss of bone mineral density. Journal: Conference Abstract. Journal of bone and mineral research. 2020;35(SUPPL 1):126-.	Intervention or Exposure; Outcome; Comparator
835	Ogilvie AR, Schlussel Y, Sukumar D, Meng L, Shapses SA. Higher protein intake during caloric restriction improves diet quality and attenuates loss of lean body mass. Obesity (Silver Spring). Jul 2022;30(7):1411-1419. doi:10.1002/oby.23428	Publication status
836	Oh CM, Kim Y, Yang J, Choi S, Oh K. Changes in health behaviors and obesity of Korean adolescents before and during the COVID-19 pandemic: a special report using the Korea Youth Risk Behavior Survey. Epidemiology and Health. Feb 14 2023;45doi:ARTN e2023018	Study design; Intervention or Exposure

Number	Citation	Rationale
837	Oh J, Oda K, Dang K, Ibrayev Y, Fraser GE, Knutsen SF. Lower Compliance with Cervical Cancer Screening Guidelines Among Vegetarians in North America. J Prev. Dec 2022;43(6):783-800. doi:10.1007/s10935-022-00691-2	Outcome
838	O'Hearn M, Erndt-Marino J, Gerber S, et al. Validation of Food Compass with a healthy diet, cardiometabolic health, and mortality among U.S. adults, 1999-2018. Nat Commun. Nov 22 2022;13(1):7066. doi:10.1038/s41467-022-34195-8	Study design
839	Ohman EA, Kirchner L, Winkvist A, et al. Effects of dietary and exercise treatments on HDL subclasses in lactating women with overweight and obesity: a secondary analysis of a randomised controlled trial. Article. Br J Nutr. Dec 14 2022;128(11):2105-2114. doi:10.1017/S0007114522000241	Outcome
840	Ojeda Rodriguez A, Zazpe I, Morell Azanza L, Chueca M, Azcona Sanjulian M, Marti A. Improved vitamin D adequacy and its associations with diet quality indices in a lifestyle intervention of children and adolescents with abdominal obesity. Journal: Conference Abstract. Obesity facts. 2019;12:112-.	Publication status
841	Ojeda-Rodriguez A, Morell-Azanza L, Zalba G, Zazpe I, Azcona-Sanjulian MC, Marti A. Associations of telomere length with two dietary quality indices after a lifestyle intervention in children with abdominal obesity: a randomized controlled trial. Pediatr Obes. Nov 2020;15(11):e12661. doi:10.1111/ijpo.12661	Outcome; Comparator
842	Okazaki K, Ohira T, Sakai A, et al. Lifestyle Factors Associated with Undernutrition in Older People after the Great East Japan Earthquake: A Prospective Study in the Fukushima Health Management Survey. Article. Int J Environ Res Public Health. Mar 14 2022;19(6)doi:10.3390/ijerph19063399	Intervention or Exposure
843	Okubo H, Nakayama SF, Grp JECsS. Periconceptional maternal diet quality influences blood heavy metal concentrations and their effect on low birth weight: the Japan Environment and Children's Study. Environ Int. Mar 2023;173doi:ARTN 107808	Outcome

Number	Citation	Rationale
844	Olfert MD, Barr ML, Mathews AE, et al. Life of a vegetarian college student: Health, lifestyle, and environmental perceptions. J Am Coll Health. Jan 2022;70(1):232-239. doi:10.1080/07448481.2020.1740231	Intervention or Exposure
845	Olifa N, Moesiyanti YES, Purba A. Integrated nutrition interventions reduce metabolic syndrome: study of integrated interventions by diet, behavior, physical activity on overweight in junior high school children in bandung city. Conference Abstract. Annals of Nutrition & Metabolism. 2019;75(3):388	Study design; Intervention or Exposure; Comparator
846	Oliver TL, Shenkman R, Diewald LK, et al. A Year in the Life of U.S. Frontline Health Care Workers: Impact of COVID-19 on Weight Change, Physical Activity, Lifestyle Habits, and Psychological Factors. Nutrients. Nov 17 2022;14(22)doi:10.3390/nu14224865	Intervention or Exposure
847	Oliverio A, Radice P, Colombo M, et al. The Impact of Mediterranean Dietary Intervention on Metabolic and Hormonal Parameters According to BRCA1/2 Variant Type. Front Genet. 2022;13:820878. doi:10.3389/fgene.2022.820878	Intervention or Exposure - Foods/Beverages Not Reported; Comparator
848	Olmedo-Requena R, Martinez-Galiano JM, Amezcua-Prieto C, et al. Association between low dairy intake during pregnancy and small for gestational age infants. Eur J Clin Nutr. Dec 2019;73(12):1642-1645. doi:10.1038/s41430-019-0513-y	Intervention or Exposure
849	Ooi DSQ, Toh JY, Bin Ng LY, et al. Dietary Intakes and Eating Behavior between Metabolically Healthy and Unhealthy Obesity Phenotypes in Asian Children and Adolescents. Nutrients. Nov 2022;14(22)doi:ARTN 4796	Study design; Intervention or Exposure
850	Ooi EM, Lichtenstein AH, Millar JS, et al. Effects of Therapeutic Lifestyle Change diets high and low in dietary fish-derived FAs on lipoprotein metabolism in middle-aged and elderly subjects. Article. J Lipid Res. Sep 2012;53(9):1958-67. doi:10.1194/jlr.P024315	Intervention or Exposure - Foods/Beverages

Number	Citation	Rationale
		Not Reported; Outcome
851	Ortner Hadžiabdić M, Mucalo I, Hrabač P, Matić T, Rahelić D, Božikov V. Factors predictive of drop-out and weight loss success in weight management of obese patients. Academic Journal. Journal of human nutrition and dietetics. 2015;28:24-32.	Intervention or Exposure - Foods/Beverages Not Reported
852	Osorio-Conles O, Olbeyra R, Moize V, et al. Effect of a short-term mediterranean diet supplemented with almonds on adipose tissue function. Journal: Conference Abstract. Obesity (Silver Spring, Md). 2020;28(SUPPL 2):83-84.	Publication status
853	Osorio-Conles O, Olbeyra R, Moize V, et al. Positive Effects of a Mediterranean Diet Supplemented with Almonds on Female Adipose Tissue Biology in Severe Obesity. Article. Nutrients. Jun 24 2022;14(13)doi:10.3390/nu14132617	Intervention or Exposure; Outcome
854	Otsuka R, Zhang S, Tange C, et al. Association of Dietary Intake with the Transitions of Frailty among JapaneseCommunity-Dwelling Older Adults. Article. J Frailty Aging. 2022;11(1):26-32. doi:10.14283/jfa.2021.42	Intervention or Exposure; Outcome
855	Ovaska et al. Effects of Western Style or Mediterranean Diet on Insulin Resistance Markers in Female BRCA1/2 Mutation Carriers (Libre Study). Journal: Conference Abstract. Clinical nutrition (Edinburgh, Scotland). 2019;38:S99-S100.	Publication status
856	Ovcharova E, Danovska M, Marinova D, et al. Adapted Mediterranean Diet Impact on the Symptoms of Chronic Fatigue, Serum Levels of Omega-3 Polyunsaturated Fatty Acids (Pufas) and Interleukin 17 (Il-17) in Patients with Relapsing-Remitting Multiple Sclerosis Undergoing Disease-Modifying Therapy: A Pilot Study. Article. Journal of IMAB - Annual Proceeding (Scientific Papers). 2022;28(1):4297-4304. doi:10.5272/jimab.2022281.4297	Health Status
857	Ozrail M, Alardawi A, Reeder N, Mosby T. Body Fat Distribution (Android vs. Gynoid) and Dietary Intake Among Young Women Enrolled at Mississippi State University. Journal of the Academy of	Publication status

Number	Citation	Rationale
858	Pacyga DC, Talge NM, Gardiner JC, Calafat AM, Schantz SL, Strakovsky RS. Maternal diet quality moderates associations between parabens and birth outcomes. Environ Res. Nov 2022;214(Pt 3):114078. doi:10.1016/j.envres.2022.114078	Intervention or Exposure; Outcome
859	Pagano R, Torreglosa CR, Dantas de Oliveira J, et al. Effects of a cardioprotective nutritional program (BALANCE program) on diet quality, anthropometric features and cardiovascular risk factors in primary cardiovascular prevention: A workplace feasibility study. Article. Human Nutrition & Metabolism. 2022;30doi:10.1016/j.hnm.2022.200161	Study design; Comparator
860	Pagliai G, Russo E, Baldi S, et al. Impact of mediterranean vs vegetarian diets on gut microbiota and short chain fatty acids: the CARDIVEG study. Journal: Conference Abstract. Nutrition, metabolism and cardiovascular diseases. 2019;29(8):879-.	Publication status
861	Pagliai G, Russo E, Niccolai E, et al. Influence of a 3-month low-calorie Mediterranean diet compared to the vegetarian diet on human gut microbiota and SCFA: the CARDIVEG Study. Eur J Nutr. Aug 2020;59(5):2011-2024. doi:10.1007/s00394-019-02050-0	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
862	Pagliai G, Russo E, Niccolai E, et al. Influence of a 3-months low-calorie Mediterranean diet vs. Vegetarian diet on human gut microbiota and SCFA: the CARDIVEG Study. Journal: Conference Abstract. Proceedings of the Nutrition Society. 2020;79(OCE2)	Publication status
863	Pajunen L, Korkalo L, Koivuniemi E, et al. A healthy dietary pattern with a low inflammatory potential reduces the risk of gestational diabetes mellitus. Eur J Nutr. Apr 2022;61(3):1477-1490. doi:10.1007/s00394-021-02749-z	Outcome
864	Palau-Rodriguez M, Garcia-Aloy M, Minarro A, et al. Effects of a long-term lifestyle intervention on metabolically healthy women with obesity: Metabolite profiles according to weight loss response. Clin Nutr. Jan 2020;39(1):215-224. doi:10.1016/j.clnu.2019.01.018	Intervention or Exposure; Outcome; Comparator

Number	Citation	Rationale
865	Palkowska-Gozdzik E, Piotrowicz K, Krzesinski P, Stanczyk A, Skrobowski A, Gielerak G. Crosstalk Between Dietary Pattern, Anthropometric Parameters, and Adiponectin Concentration Among Patients with Metabolic Syndrome. Metab Syndr Relat Disord. Apr 2021;19(3):137-143. doi:10.1089/met.2020.0058	Study design; Intervention or Exposure; Comparator
866	Palnati M, Marcus BH, Pekow P, Rosal MC, Manson JE, Chasan-Taber L. The Impact of a Lifestyle Intervention on Postpartum Weight Retention Among At-Risk Hispanic Women. Article. Am J Prev Med. Jul 2021;61(1):44-54. doi:10.1016/j.amepre.2021.02.005	Intervention or Exposure
867	Pan F, Wang Z, Wang H, et al. Association between Ultra-Processed Food Consumption and Metabolic Syndrome among Adults in China-Results from the China Health and Nutrition Survey. Nutrients. Feb 2 2023;15(3)doi:10.3390/nu15030752	Intervention or Exposure - Foods/Beverages Not Reported; Country
868	Pan L, Shi K, Lv J, et al. Association of dietary patterns, circulating lipid profile, and risk of obesity. Obesity (Silver Spring). May 2023;31(5):1445-1454. doi:10.1002/oby.23720	Study design; Country
869	Pan XF, Magliano DJ, Zheng M, et al. Seventeen-Year Associations between Diet Quality Defined by the Health Star Rating and Mortality in Australians: The Australian Diabetes, Obesity and Lifestyle Study (AusDiab). Curr Dev Nutr. Nov 2020;4(11):nzaa157. doi:10.1093/cdn/nzaa157	Outcome
870	Pandya R, Abdelaal R, Chen JW, et al. Retrospective assessment of metabolic syndrome components in early adult life on vegetarian dietary status. Front Public Health. 2022;10:945805. doi:10.3389/fpubh.2022.945805	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
871	Pang T, Alman AC, Gray HL, Basu A, Shi L, Snell-Bergeon JK. Empirical dietary inflammatory pattern and metabolic syndrome: prospective association in participants with and without type 1 diabetes mellitus in the coronary artery calcification in type 1 diabetes (CACTI) study. Article. Nutr Res. Oct 2021;94:1-9. doi:10.1016/j.nutres.2021.08.001	Size or Power
872	Panizza CE, Lim U, Yonemori KM, et al. Effects of Intermittent Energy Restriction Combined with a Mediterranean Diet on Reducing Visceral Adiposity: A Randomized Active Comparator Pilot Study. Journal Article; Randomized Controlled Trial. Nutrients. Jun 20 2019;11(6)doi:10.3390/nu11061386	Duration of Intervention; Comparator
873	Pannen ST, Maldonado SG, Nonnenmacher T, et al. Adherence and Dietary Composition during Intermittent vs. Continuous Calorie Restriction: Follow-Up Data from a Randomized Controlled Trial in Adults with Overweight or Obesity. Nutrients. Apr 5 2021;13(4)doi:10.3390/nu13041195	Intervention or Exposure
874	Papada E, Amerikanou C, Forbes A, Kaliora AC. Adherence to Mediterranean diet in Crohn's disease. Eur J Nutr. Apr 2020;59(3):1115-1121. doi:10.1007/s00394-019-01972-z	Study design; Outcome
875	Papandreou P, Amerikanou C, Vezou C, Gioxari A, Kaliora AC, Skouroliakou M. Improving Adherence to the Mediterranean Diet in Early Pregnancy Using a Clinical Decision Support System; A Randomised Controlled Clinical Trial. Nutrients. Jan 14 2023;15(2)doi:10.3390/nu15020432	Outcome
876	Papandreou P, Gioxari A, Daskalou E, Grammatikopoulou MG, Skouroliakou M, Bogdanos DP. Mediterranean Diet and Physical Activity Nudges versus Usual Care in Women with Rheumatoid Arthritis: Results from the MADEIRA Randomized Controlled Trial. Nutrients. Jan 28 2023;15(3)doi:10.3390/nu15030676	Health Status; Comparator
877	Papazian T, Salameh P, Abi Tayeh G, et al. Dietary patterns and birth outcomes of healthy Lebanese pregnant women. Front Nutr. 2022;9:977288. doi:10.3389/fnut.2022.977288	Did not account for at least 1 key confounder

Number	Citation	Rationale
878	Papazian T, Serhal A, Hout H, et al. Discrepancies among different tools evaluating Mediterranean diet adherence during pregnancy, correlated to maternal anthropometric, dietary and biochemical characteristics. Article. Clinical Nutrition. 2019;38(3):1398-1405.	Did not account for at least 1 key confounder
879	Papier K, Appleby PN, Fensom GK, et al. Vegetarian diets and risk of hospitalisation or death with diabetes in British adults: results from the EPIC-Oxford study. Article. Nutr Diabetes. Feb 25 2019;9(1):7. doi:10.1038/s41387-019-0074-0	Outcome
880	Park E, Ko Y. Trends in Obesity and Obesity-Related Risk Factors among Adolescents in Korea from 2009 to 2019. Article. Int J Environ Res Public Health. May 6 2022;19(9)doi:10.3390/ijerph19095672	Study design; Intervention or Exposure
881	Park S. A Causal and Inverse Relationship between Plant-Based Diet Intake and in a Two-Sample Mendelian Randomization Study. Foods. Jan 26 2023;12(3)doi:10.3390/foods12030545	Study design
882	Park S. Association of polygenic risk scores for insulin resistance risk and their interaction with a plant-based diet, especially fruits, vitamin C, and flavonoid intake, in Asian adults. Nutrition. Jul 2023;111doi:ARTN 112007	Study design; Intervention or Exposure - Foods/Beverages Not Reported
883	Park S. Interaction of Polygenetic Variants for Gestational Diabetes Mellitus Risk with Breastfeeding and Korean Balanced Diet to Influence Type 2 Diabetes Risk in Later Life in a Large Hospital-Based Cohort. J Pers Med. Nov 10 2021;11(11)doi:10.3390/jpm11111175	Study design; Outcome
884	Park SY, Love P, Lacy KE, Campbell KJ, Zheng M. Describing the longitudinal breakfast quality index trajectories in early childhood: results from Melbourne InFANT program. Eur J Clin Nutr. Mar 2023;77(3):363-369. doi:10.1038/s41430-022-01249-5	Intervention or Exposure

Number	Citation	Rationale
885	Park SY, Shvetsov YB, Kang M, et al. Changes in Diet Quality over 10 Years Are Associated with Baseline Sociodemographic and Lifestyle Factors in the Multiethnic Cohort Study. J Nutr. Jul 1 2020;150(7):1880-1888. doi:10.1093/jn/nxaa102	Outcome
886	Parker EA, Perez WJ, Phipps B, et al. Dietary Quality and Perceived Barriers to Weight Loss among Older Overweight Veterans with Dysmobility. International Journal of Environmental Research and Public Health. Aug 2022;19(15)doi:ARTN 9153	Study design
887	Parker HW, Tovar A, McCurdy K, Vadiveloo M. Associations between pre-pregnancy BMI, gestational weight gain, and prenatal diet quality in a national sample. Article. PLoS ONE. 2019;14(10)	Data overlap
888	Parker SM, Barr M, Stocks N, et al. Preventing chronic disease in overweight and obese patients with low health literacy using eHealth and teamwork in primary healthcare (HeLP-GP): a cluster randomised controlled trial. BMJ Open. Nov 30 2022;12(11):e060393. doi:10.1136/bmjopen-2021-060393	Intervention or Exposure
889	Parnell LD, Noel SE, Bhupathiraju SN, et al. Metabolite patterns link diet, obesity, and type 2 diabetes in a Hispanic population. Metabolomics. Sep 22 2021;17(10):88. doi:10.1007/s11306-021-01835-x	Intervention or Exposure - Foods/Beverages Not Reported
890	Parra-Fernandez ML, Manzaneque-Canadillas M, Onieva-Zafra MD, et al. Pathological Preoccupation with Healthy Eating (Orthorexia Nervosa) in a Spanish Sample with Vegetarian, Vegan, and Non-Vegetarian Dietary Patterns. Nutrients. Dec 21 2020;12(12)doi:10.3390/nu12123907	Study design; Outcome
891	Pascual RW, Phelan S, La Frano MR, Pilolla KD, Griffiths Z, Foster GD. Diet Quality and Micronutrient Intake among Long-Term Weight Loss Maintainers. Nutrients. Dec 13 2019;11(12)doi:10.3390/nu11123046	Study design; Outcome

Number	Citation	Rationale
892	Pattar S, Shetty P, Shetty GB. Impact of vegetarian versus non-vegetarian diet on health outcomes in male individuals: A comparative study. Article in Press. Advances in Integrative Medicine. 2023;10(1):1-7. doi:10.1016/j.aimed.2023.02.001	Intervention or Exposure; Country
893	Pattinson AL, Seimon RV, Harper C, et al. Diet Quality following Total Meal Replacement Compared with Food-Based Weight-Loss Diets in Postmenopausal Women with Obesity: A Secondary Analysis of the TEMPO Diet Triall. 2021;doi:10.1093/jn/nxab311	Comparator
894	Pauley M, Mays C, Bailes JR, Jr., et al. Carbohydrate-Restricted Diet: A Successful Strategy for Short-Term Management in Youth with Severe Obesity-An Observational Study. Article. Metab Syndr Relat Disord. Jun 2021;19(5):281-287. doi:10.1089/met.2020.0078	Study design; Intervention or Exposure
895	Pawlak R, Judd N, Donati GL, Perrin MT. Prevalence and Predictors of Low Breast Milk Iodine Concentration in Women Following Vegan, Vegetarian, and Omnivore Diets. Article. Breastfeed Med. Jan 2023;18(1):37-42. doi:10.1089/bfm.2022.0211	Study design; Outcome
896	Peacock L, Seed PT, Dalrymple KV, White SL, Poston L, Flynn AC. The UK Pregnancies Better Eating and Activity Trial (UPBEAT); Pregnancy Outcomes and Health Behaviours by Obesity Class. Int J Environ Res Public Health. Jun 30 2020;17(13)doi:10.3390/ijerph17134712	Intervention or Exposure - Foods/Beverages Not Reported
897	Peila R, Lane DS, Shadyab AH, et al. Healthy lifestyle index and the risk of ductal carcinoma in situ of the breast in the Women's Health Initiative. Int J Cancer. Aug 15 2022;151(4):526-538. doi:10.1002/ijc.34034	Outcome
898	Pellonpera O, Koivuniemi E, Vahlberg T, et al. Dietary quality influences body composition in overweight and obese pregnant women. Article. Clin Nutr. Aug 2019;38(4):1613-1619. doi:10.1016/j.clnu.2018.08.029	Intervention or Exposure - Foods/Beverages Not Reported; Outcome

Number	Citation	Rationale
899	Peng LN, Yu PC, Lee HF, Lin MH, Chen LK. Protein-enriched diet improved muscle endurance and marginally reduced intramuscular adiposity: results from a randomized controlled trial among middle-aged and older adults. Journal Article; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. Archives of gerontology and geriatrics. 2021;96:104436.	Intervention or Exposure - Foods/Beverages Not Reported
900	Pereira-da-Silva L, Virella D. Which type of maternal dietary polyunsaturated fat affects fetal adiposity?...Kennedy RAK, Mullaney L, O'Higgins AC et al. The relationship between early pregnancy dietary intakes and subsequent birthweight and neonatal adiposity. Journal of Public Health, Dec2018; 40(4): 747-755. 2020;42:639-639.	Publication status
901	Perera MJ, Chirinos DA, Brintz CE, et al. Body Mass of U.S. Hispanics/Latinos From the Hispanic Community Health Study/Study of Latinos (HCHS/SOL): How Do Diet Quality and Sedentary Time Relate? 2020;18(2)doi:10.1177/1540415319874809	Study design
902	Perez-Rodrigo C, Hervas Barbara G, Gianzo Citores M, Aranceta-Bartrina J. Prevalence of obesity and associated cardiovascular risk factors in the Spanish population: the ENPE study. Rev Esp Cardiol (Engl Ed). Mar 2022;75(3):232-241. doi:10.1016/j.rec.2020.12.020	Study design
903	Perng W, Harte R, Ringham BM, et al. A Prudent dietary pattern is inversely associated with liver fat content among multi-ethnic youth. Pediatr Obes. Jun 2021;16(6):e12758. doi:10.1111/ijpo.12758	Outcome
904	Perry CA, Van Guilder GP, Butterick TA. Decreased myostatin in response to a controlled DASH diet is associated with improved body composition and cardiometabolic biomarkers in older adults: results from a controlled-feeding diet intervention study. 2022;8(1)doi:10.1186/s40795-022-00516-9	Study design; Intervention or Exposure
905	Perry CA, Van Guilder GP, Hossain M, Kauffman A. Cardiometabolic Changes in Response to a Calorie-Restricted DASH Diet in Obese Older Adults. Front Nutr. 2021;8:647847. doi:10.3389/fnut.2021.647847	Study design; Intervention or Exposure; Data overlap

Number	Citation	Rationale
906	Perry CA, Van Guilder GP, Kauffman A, Hossain M. A Calorie-Restricted DASH Diet Reduces Body Fat and Maintains Muscle Strength in Obese Older Adults. Nutrients. Dec 30 2019;12(1)doi:10.3390/nu12010102	Study design
907	Perry CD, Degeneffe D, Davey C, Kollannoor-Samuel G, Reicks M. Weight Gain Prevention among Midlife Women: A Randomized Controlled Trial to Address Needs Related to the Physical and Social Environment. Article. Int J Environ Res Public Health. May 25 2016;13(6)doi:10.3390/ijerph13060530	Intervention or Exposure
908	Perticone M, Maio R, Sciacqua A, et al. Ketogenic Diet-Induced Weight Loss is Associated with an Increase in Vitamin D Levels in Obese Adults. Article. Molecules (Basel, Switzerland). 2019;24(13)	Intervention or Exposure - Foods/Beverages Not Reported
909	Petermann-Rocha F, Celis-Morales C, Pell JP, Ho FK. Do all vegetarians have a lower cardiovascular risk? A prospective study. Article. Clin Nutr. Mar 2023;42(3):269-276. doi:10.1016/j.clnu.2023.01.010	Outcome
910	Petermann-Rocha F, Ho FK, Foster H, et al. Nonlinear Associations Between Cumulative Dietary Risk Factors and Cardiovascular Diseases, Cancer, and All-Cause Mortality: A Prospective Cohort Study From UK Biobank. Article. Mayo Clin Proc. Sep 2021;96(9):2418-2431. doi:10.1016/j.mayocp.2021.01.036	Outcome; Publication status
911	Petermann-Rocha F, Parra-Soto S, Gray S, et al. Vegetarians, fish, poultry, and meat-eaters: who has higher risk of cardiovascular disease incidence and mortality? A prospective study from UK Biobank. Article. Eur Heart J. Mar 21 2021;42(12):1136-1143. doi:10.1093/eurheartj/ehaa939	Intervention or Exposure - Foods/Beverages Not Reported; Outcome

Number	Citation	Rationale
912	Petersen KS, Murphy J, Whitbread J, Clifton PM, Keogh JB. The Effect of a Peanut-Enriched Weight Loss Diet Compared to a Low-Fat Weight Loss Diet on Body Weight, Blood Pressure, and Glycemic Control: A Randomized Controlled Trial. Nutrients. Jul 21 2022;14(14)doi:10.3390/nu14142986	Intervention or Exposure - Foods/Beverages Not Reported
913	Petry CJ, Ong KK, Hughes IA, Acerini CL, Dunger DB. Temporal Trends in Maternal Food Intake Frequencies and Associations with Gestational Diabetes: The Cambridge Baby Growth Study. Nutrients. Nov 19 2019;11(11):2822. doi:10.3390/nu11112822	Outcome
914	Phelan S, Halfman T, Pinto AM, Foster GD. Behavioral and Psychological Strategies of Long-Term Weight Loss Maintainers in a Widely Available Weight Management Program. Obesity (Silver Spring). Feb 2020;28(2):421-428. doi:10.1002/oby.22685	Study design; Intervention or Exposure
915	Phuong NM, Giang NH, Linh NT, Hien VTT, Huong LT, Yamamoto S. Effects of High-Protein and High-Carbohydrate Diets on Body Weight Were Similar in Healthy Young Vietnamese Women With Normal Body Weight. Nutrition Today. 2019;54(6):271-276.	Duration of Intervention
916	Pickering RT, Bradlee ML, Singer MR, Moore LL. Baseline diet modifies the effects of dietary change. Br J Nutr. Apr 28 2020;123(8):951-958. doi:10.1017/S0007114520000112	Intervention or Exposure
917	Pinto A, Santos AC, Lopes C, Oliveira A. Dietary patterns at 7 year-old and their association with cardiometabolic health at 10 year-old. Clin Nutr. Apr 2020;39(4):1195-1202. doi:10.1016/j.clnu.2019.05.007	Outcome
918	Pinto X, Fanlo-Maresma M, Corbella E, et al. A Mediterranean Diet Rich in Extra-Virgin Olive Oil Is Associated with a Reduced Prevalence of Nonalcoholic Fatty Liver Disease in Older Individuals at High Cardiovascular Risk. Article. J Nutr. Nov 1 2019;149(11):1920-1929. doi:10.1093/jn/nxz147	Outcome

Number	Citation	Rationale
919	Plante AS, Lemieux S, Drouin-Chartier JP, et al. Changes in Eating Behaviours Throughout Pregnancy: Associations with Gestational Weight Gain and Pre-pregnancy Body Mass Index. Article. J Obstet Gynaecol Can. Jan 2020;42(1):54-60. doi:10.1016/j.jogc.2019.04.024	Intervention or Exposure
920	Plante AS, Savard C, Lemieux S, et al. Trimester-Specific Intuitive Eating in Association With Gestational Weight Gain and Diet Quality. Article. J Nutr Educ Behav. Jun 2019;51(6):677-683. doi:10.1016/j.jneb.2019.01.011	Intervention or Exposure; Comparator
921	Pletsch-Borba L, Wernicke C, Apostolopoulou K, et al. Nutritional counseling frequency and baseline food pattern predict implementation of a high-protein and high-polyunsaturated fatty acid dietary pattern: 1-year results of the randomized NutriAct trial. Clin Nutr. Nov 2021;40(11):5457-5466. doi:10.1016/j.clnu.2021.09.022	Intervention or Exposure - Foods/Beverages Not Reported; Comparator
922	Popp CJ, Hu L, Kharmats AY, et al. Effect of a Personalized Diet to Reduce Postprandial Glycemic Response vs a Low-fat Diet on Weight Loss in Adults With Abnormal Glucose Metabolism and Obesity: A Randomized Clinical Trial. JAMA Netw Open. Sep 1 2022;5(9):e2233760. doi:10.1001/jamanetworkopen.2022.33760	Intervention or Exposure
923	Poracova J, Uher I, Vaskova H, et al. Effectiveness of Adherence to a Mediterranean Diet in the Management of Overweight Women: The Prospective Interventional Cohort Study. Int J Environ Res Public Health. Nov 29 2022;19(23)doi:10.3390/ijerph192315927	Intervention or Exposure - Foods/Beverages Not Reported; Comparator
924	Porter Starr KN, Connelly MA, Orenduff MC, et al. Impact on cardiometabolic risk of a weight loss intervention with higher protein from lean red meat: Combined results of 2 randomized controlled trials in obese middle-aged and older adults. Article. J Clin Lipidol. Nov-Dec 2019;13(6):920-931. doi:10.1016/j.jacl.2019.09.012	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
925	Poulimeneas D, Anastasiou CA, Santos I, Hill JO, Panagiotakos DB, Yannakoulia M. Exploring the relationship between the Mediterranean diet and weight loss maintenance: the MedWeight study. Br J Nutr. Oct 28 2020;124(8):874-880. doi:10.1017/S0007114520001798	Size or Power
926	Poulimeneas D, Zoupi K, Mamalaki E, et al. Higher adherence to the Mediterranean Diet is associated with weight loss maintenance: the MedWeight study. Proceedings of the Nutrition Society. 2020;79(OCE2):1-1.	Publication status
927	Powell LM, Jones K, Duran AC, Tarlov E, Zenk SN. The price of ultra-processed foods and beverages and adult body weight: Evidence from U.S. veterans. Article. Econ Hum Biol. Aug 2019;34:39-48. doi:10.1016/j.ehb.2019.05.006	Intervention or Exposure
928	Prado G, Fernandez A, St George SM, et al. Results of a Family-Based Intervention Promoting Healthy Weight Strategies in Overweight Hispanic Adolescents and Parents: An RCT. Am J Prev Med. Nov 2020;59(5):658-668. doi:10.1016/j.amepre.2020.06.010	Intervention or Exposure
929	Prapkree L, Uddin R, Jaafar JAA, et al. Snacking behavior is associated with snack quality, overall diet quality, and body weight among US college students. Nutrition Research. Jun 2023;114:41-49. doi:10.1016/j.nutres.2023.04.005	Study design
930	Pretorius RA, Palmer DJ. High-Fiber Diet during Pregnancy Characterized by More Fruit and Vegetable Consumption. Nutrients. 2021;13(1):35-35.	Intervention or Exposure; Outcome
931	Prieto-Zambrano P, Pache-Iglesias L, Dominguez-Martin AT, Panea-Pizarro I, Gomez-Luque A, Lopez-Espuela F. Impact of an educational intervention on the quality of the Mediterranean diet, physical activity and weight status in adolescents: Randomised clinical trial. Enferm Clin (Engl Ed). Jan-Feb 2021;31(1):51-56. Impacto de una intervencion educacional sobre la calidad de la dieta mediterranea, la actividad fisica y el estado ponderal en adolescentes: ensayo clinico aleatorizado. doi:10.1016/j.enfcli.2020.03.003	Intervention or Exposure; Outcome

Number	Citation	Rationale
932	Primo D, Izaola O, de Luis D. Effects of a high protein/low carbohydrate low-calorie diet versus a standard low-calorie diet on anthropometric parameters and cardiovascular risk factors, role of polymorphism rs3123554 in the cannabinoid receptor gene type 2 (CB2R). Article. Endocrinol Diabetes Nutr (Engl Ed). Aug-Sep 2020;67(7):446-453. Efectos de una dieta hipocalorica rica en proteina/baja de hidratos de carbono vs. una estandar sobre los parametros antropometricos y factores de riesgo cardiovascular, papel del polimorfismo rs3123554 del gen del receptor canabinoide tipo 2 (CB2R). doi:10.1016/j.endinu.2019.09.010	Intervention or Exposure - Foods/Beverages Not Reported
933	Primo D, Izaola O, Lopez JJ, de Luis DA. Brain derived neurotrophic factor (BDNF) polymorphism rs 10767664 affects metabolic parameters after weight loss secondary to high fat hypocaloric diet with Mediterranean pattern. Article. Eur Rev Med Pharmacol Sci. Feb 2021;25(4):1944-1953. doi:10.26355/eurrev_202102_25094	Study design; Comparator
934	Primo Martin D, Izaola Jauregui O, Lopez Gomez JJ, et al. [Effect of a Mediterranean-pattern diet on the metabolic response secondary to weight loss; role of the single nucleotide polymorphism (rs16147) of neuropeptide Y]. Journal Article; Randomized Controlled Trial. Nutr Hosp. Aug 27 2020;37(4):742-749. Efecto de una dieta de patron mediterraneo en la respuesta metabolica secundaria a la perdida de peso; papel del polimorfismo de un unico nucleotido (rs16147) del gen del neuropeptido Y. doi:10.20960/nh.02941	Language
935	Psota TL, Tindall AM, Lohse B, Miller PE, Petersen KS, Kris-Etherton PM. The Weight Optimization Revamping Lifestyle using the Dietary Guidelines (WORLD) Study: Sustained Weight Loss Over 12 Months. Obesity (Silver Spring). Jul 2020;28(7):1235-1244. doi:10.1002/oby.22824	Size or Power
936	Ptomey LT, Montgomery RN, Gorczyca AM, et al. The impact of exercise and cumulative physical activity on energy intake and diet quality in adults enrolled in the Midwest Exercise Trial for the Prevention of Weight Regain. Br J Nutr. Dec 28 2022;128(12):2498-2509. doi:10.1017/S0007114521005122	Study design; Intervention or Exposure
937	Ptomey LT, Washburn RA, Goetz JR, et al. A randomized trial comparing diet and delivery strategies for weight management in adolescents with intellectual disabilities. Article in Press. Pediatr Obes. Jan 2023;18(1):e12972. doi:10.1111/ijpo.12972	Intervention or Exposure - Foods/Beverages

Number	Citation	Rationale
		Not Reported; Comparator
938	Purnamasari SD, Hsu CY, Chen YT, Kurniawan AL, Lee HA, Chao JC. Combined Low Plant and High Animal Dietary Pattern Is Associated with a Lower Risk of Anemia among Dyslipidemic Adult Women in Taiwan: A Retrospective Study from 2001 to 2015. Article. Int J Environ Res Public Health. May 20 2022;19(10)doi:10.3390/ijerph19106231	Study design; Comparator
939	Qin R, Ding Y, Lu Q, et al. Associations of maternal dietary patterns during pregnancy and fetal intrauterine development. Front Nutr. 2022;9:985665. doi:10.3389/fnut.2022.985665	Outcome
940	Qin Y, Chen Y, Zhang Z, et al. Associations of dietary inflammatory potential with postpartum weight change and retention: Results from a cohort study. Obesity (Silver Spring). Oct 2021;29(10):1689-1699. doi:10.1002/oby.23238	Intervention or Exposure - Foods/Beverages Not Reported
941	Quansah DY, Schenk S, Gilbert L, et al. Intuitive Eating Behavior, Diet Quality and Metabolic Health in the Postpartum in Women with Gestational Diabetes. Nutrients. Oct 13 2022;14(20)doi:10.3390/nu14204272	Intervention or Exposure; Comparator
942	Quetglas-Llabres MM, Monserrat-Mesquida M, Bouzas C, et al. Inflammatory and Oxidative Stress Markers Related to Adherence to the Mediterranean Diet in Patients with Metabolic Syndrome. Antioxidants (Basel). May 1 2022;11(5)doi:10.3390/antiox11050901	Study design
943	Quillen EE, Beavers DP, O'Brien Cox A, et al. Use of Metabolomic Profiling to Understand Variability in Adiposity Changes Following an Intentional Weight Loss Intervention in Older Adults. Nutrients. Oct 19 2020;12(10):3188. doi:10.3390/nu12103188	Intervention or Exposure

Number	Citation	Rationale
944	Raab R, Hoffmann J, Spies M, et al. Are pre- and early pregnancy lifestyle factors associated with the risk of preterm birth? A secondary cohort analysis of the cluster-randomised GeliS trial. BMC Pregnancy Childbirth. Mar 21 2022;22(1):230. doi:10.1186/s12884-022-04513-5	Outcome; Comparator
945	Rabbani B, Chiti H, Sharifi F, Mazloomzadeh S. Effect of lifestyle modification for two years on obesity and metabolic syndrome components in elementary students: A community- based trial. Caspian J Intern Med. Summer 2022;13(3):555-566. doi:10.22088/cjim.13.3.555	Intervention or Exposure; Country
946	Racette SB, Barry VG, Bales CW, et al. Nutritional quality of calorie restricted diets in the CALERIE 1 trial. Exp Gerontol. Aug 2022;165:111840. doi:10.1016/j.exger.2022.111840	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
947	Raducha D, Ratajczak J, Jackowski T, et al. Effects of 12-Month Interdisciplinary Interventions in 8- and 9-Year-Old Children with Excess Body Weight. Article. Int J Environ Res Public Health. Nov 29 2022;19(23)doi:10.3390/ijerph192315899	Study design; Intervention or Exposure
948	Radulescu A, Killian M, Kang Q, Yuan Q, Softic S. Dietary Counseling Aimed at Reducing Sugar Intake Yields the Greatest Improvement in Management of Weight and Metabolic Dysfunction in Children with Obesity. Article. Nutrients. Apr 3 2022;14(7)doi:10.3390/nu14071500	Intervention or Exposure; Comparator
949	Rai SK, Gortmaker SL, Hu FB, et al. A South Asian Mediterranean-style diet is associated with favorable adiposity measures and lower diabetes risk: The MASALA cohort. Obesity. Jun 2023;31(6):1697-1706. doi:10.1002/oby.23759	Size or Power

Number	Citation	Rationale
950	Rajabzadeh-Dehkordi M, Mohammadi-Nasrabadi F, Nouri M, Ahmadi A, Faghih S. Food insecurity, body mass index, socio-economic status, and food intake in lactating and non-lactating mothers with children under two years. BMC Nutr. Apr 17 2023;9(1):62. doi:10.1186/s40795-023-00718-9	Study design; Outcome
951	Rakhra V, Galappaththy SL, Bulchandani S, Cabandugama PK. Obesity and the Western Diet: How We Got Here. Article. Missouri medicine. 2020;117(6):536-538.	Study design; Publication status
952	Ramezan M, Asghari G, Mirmiran P, Tahmasebinejad Z, Azizi F. Mediterranean dietary patterns and risk of type 2 diabetes in the Islamic Republic of Iran. East Mediterr Health J. Dec 29 2019;25(12):896-904. doi:10.26719/emhj.19.035	Outcome
953	Ramirez-Manent JI, Tomas-Gil P, Marti-Lliteras P, Coll Villalonga JL, Martinez-Almoyna Rifa E, Lopez-Gonzalez AA. Dietary Intervention on Overweight and Obesity after Confinement by COVID-19. Nutrients. Feb 11 2023;15(4)doi:10.3390/nu15040912	Study design; Intervention or Exposure - Foods/Beverages Not Reported
954	Ramos-Lopez O, Cuervo M, Goni L, Milagro FI, Riezu-Boj JI, Martinez JA. Modeling of an integrative prototype based on genetic, phenotypic, and environmental information for personalized prescription of energy-restricted diets in overweight/obese subjects. Journal: Article. Am J Clin Nutr. Feb 1 2020;111(2):459-470. doi:10.1093/ajcn/nqz286	Intervention or Exposure - Foods/Beverages Not Reported
955	Ramos-Lopez O, Riezu-Boj JI, Milagro FI, Cuervo M, Goni L, Martinez JA. Models Integrating Genetic and Lifestyle Interactions on Two Adiposity Phenotypes for Personalized Prescription of Energy-Restricted Diets With Different Macronutrient Distribution. Journal: Article. Front Genet. 2019;10(JUL):686. doi:10.3389/fgene.2019.00686	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
956	Rassy N, Van Straaten A, Carette C, Hamer M, Rives-Lange C, Czernichow S. Association of Healthy Lifestyle Factors and Obesity-Related Diseases in Adults in the UK. JAMA Netw Open. May 1 2023;6(5):e2314741. doi:10.1001/jamanetworkopen.2023.14741	Intervention or Exposure; Outcome
957	Ratshikombo T, Goedecke JH, Soboyisi M, et al. Sex Differences in the Associations of Nutrient Patterns with Total and Regional Adiposity: A Study of Middle-Aged Black South African Men and Women. Article. Nutrients. Dec 20 2021;13(12)doi:10.3390/nu13124558	Study design; Intervention or Exposure - Foods/Beverages Not Reported
958	Ratteree K, Yang S, Courville AB, et al. Adults with alcohol use disorder may overreport dietary intake using the 1-year Diet History Questionnaire II. Article. Nutr Res. Jul 2019;67:53-59. doi:10.1016/j.nutres.2019.05.002	Study design; Intervention or Exposure; Outcome
959	Raynor HA, Mazzeo SE, LaRose JG, et al. Effect of a High-Intensity Dietary Intervention on Changes in Dietary Intake and Eating Pathology during a Multicomponent Adolescent Obesity Intervention. Article. Nutrients. May 28 2021;13(6)doi:10.3390/nu13061850	Study design; Intervention or Exposure; Outcome
960	Razack M, Parambath VA, Rajanbabu B. The relationship between weight gain in exclusively breastfed babies and maternal diet. J Family Med Prim Care. Dec 2019;8(12):3832-3839. doi:10.4103/jfmpc.jfmpc_613_19	Outcome; Comparator
961	Rea K, Jadallah J, Nadpara P, Goode JK. Evaluation of the impact of a community-based, pharmacist-led weight loss program focused on a high-protein diet on risk factors for cardiovascular disease. Article. J Am Pharm Assoc (2003). Jul-Aug 2021;61(4S):S147-S153. doi:10.1016/j.japh.2021.01.027	Study design; Intervention or Exposure
962	Rebholz CM, Kim H, Ma J, Jacques PF, Levy D, Lichtenstein AH. Diet Indices Reflecting Changes to Dietary Guidelines for Americans from 1990 to 2015 Are More Strongly Associated with Risk of Coronary Artery Disease Than the 1990 Diet Index. Curr Dev Nutr. Dec 2019;3(12):nzz123. doi:10.1093/cdn/nzz123	Outcome

Number	Citation	Rationale
963	Reddy NK, Kaushal V, Kanaya AM, Kandula NR, Gujral UP, Shah NS. Cardiovascular risk factor profiles in North and South Indian and Pakistani Americans: The MASALA Study. Am Heart J. Feb 2022;244:14-18. doi:10.1016/j.ahj.2021.10.115	Intervention or Exposure; Comparator
964	Reginato E, Pippi R, Aiello C, et al. Effect of Short Term Intensive Lifestyle Intervention on Hepatic Steatosis Indexes in Adults with Obesity and/or Type 2 Diabetes. Article. J Clin Med. Jun 14 2019;8(6)doi:10.3390/jcm8060851	Intervention or Exposure; Health Status
965	Reyes-Lopez MA, Gonzalez-Leyva CP, Rodriguez-Cano AM, et al. Diet Quality Is Associated with a High Newborn Size and Reduction in the Risk of Low Birth Weight and Small for Gestational Age in a Group of Mexican Pregnant Women: An Observational Study. Article. Nutrients. May 28 2021;13(6)doi:10.3390/nu13061853	Did not account for at least 1 key confounder
966	Rhee DK, Ji Y, Hong X, Pearson C, Wang X, Caulfield LE. Mediterranean-Style Diet and Birth Outcomes in an Urban, Multiethnic, and Low-Income US Population. Nutrients. Apr 3 2021;13(4)doi:10.3390/nu13041188	Outcome
967	Ribas SA, Paravidino VB, Brandao JM, Santana da Silva LC. The Cardiovascular Health Integrated Lifestyle Diet (CHILD) Lowers LDL-Cholesterol Levels in Brazilian Dyslipidemic Pediatric Patients. J Am Nutr Assoc. May-Jun 2022;41(4):352-359. doi:10.1080/07315724.2021.1887006	Intervention or Exposure - Foods/Beverages Not Reported
968	Ribo-Coll M, Casas R, Roth I, Estruch R. The relationship between consumption of fermented alcoholic beverages, eating patterns ans anthropometric parameters in elderly patients at high cardiovascular risk. Journal: Conference Abstract. Proceedings of the Nutrition Society. 2020;79(OCE2)	Intervention or Exposure; Publication status
969	Ribo-Coll M, Lassale C, Sacanella E, et al. Mediterranean diet and antihypertensive drug use: a randomized controlled trial. J Hypertens. Jun 1 2021;39(6):1230-1237. doi:10.1097/HJH.0000000000002765	Outcome; Comparator

Number	Citation	Rationale
970	Richardson LA, Basu A, Chien LC, Alman AC, Snell-Bergeon JK. Longitudinal Associations of Healthy Dietary Pattern Scores with Coronary Artery Calcification and Pericardial Adiposity in United States Adults with and without Type 1 Diabetes. J Nutr. Jul 2023;153(7):2085-2093. doi:10.1016/j.tjnut.2023.05.016	Outcome
971	Rinott E, Meir AY, Tsaban G, et al. The effects of the Green-Mediterranean diet on cardiometabolic health are linked to gut microbiome modifications: a randomized controlled trial. Genome Med. Mar 10 2022;14(1):29. doi:10.1186/s13073-022-01015-z	Comparator
972	Riseberg E, Lopez-Cepero A, Mangano KM, Tucker KL, Mattei J. Specific Dietary Protein Sources Are Associated with Cardiometabolic Risk Factors in the Boston Puerto Rican Health Study. Article. J Acad Nutr Diet. Feb 2022;122(2):298-308 e3. doi:10.1016/j.jand.2021.05.020	Intervention or Exposure
973	Robson SM, Ziegler ML, McCullough MB, et al. Changes in diet quality and home food environment in preschool children following weight management. Journal: Article. Int J Behav Nutr Phys Act. Feb 4 2019;16(1):16. doi:10.1186/s12966-019-0777-6	Outcome
974	Rock CL, Zunshine E, Nguyen HT, et al. Effects of Pistachio Consumption in a Behavioral Weight Loss Intervention on Weight Change, Cardiometabolic Factors, and Dietary Intake. Nutrients. Jul 20 2020;12(7)doi:10.3390/nu12072155	Intervention or Exposure
975	Rodrigues D, Carmo A, Gama A, et al. The Great Recession weighted on Portuguese children: A structural equation modeling approach considering eating patterns. Am J Hum Biol. May 2022;34(5):e23692. doi:10.1002/ajhb.23692	Study design
976	Rodrigues LC, Mota JF, Corgosinho FC, et al. Nutrient intake is a predictor of lung function in obese asthmatic adolescents undergoing interdisciplinary therapy. British Journal of Nutrition. 2019;122(9):974-985.	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
977	Rodriguez-Cano AM, Gonzalez-Ludlow I, Suarez-Rico BV, et al. Ultra-Processed Food Consumption during Pregnancy and Its Association with Maternal Oxidative Stress Markers. Antioxidants (Basel). Jul 21 2022;11(7)doi:10.3390/antiox11071415	Intervention or Exposure - Foods/Beverages Not Reported
978	Rodriguez-Rodriguez E, Lopez-Sobaler AM, Ortega RM, Delgado-Losada ML, Lopez-Parra AM, Aparicio A. Association between Neutrophil-to-Lymphocyte Ratio with Abdominal Obesity and Healthy Eating Index in a Representative Older Spanish Population. Nutrients. Mar 23 2020;12(3)doi:10.3390/nu12030855	Study design
979	Rohatgi KW, Tinius RA, Cade WT, Steele EM, Cahill AG, Parra DC. Relationships between consumption of ultra-processed foods, gestational weight gain and neonatal outcomes in a sample of US pregnant women. PeerJ. 2017;5(2167-8359 (Print)):e4091. doi:10.7717/peerj.4091	Outcome
980	Röhling M, Martin K, Ellinger S, Schreiber M, Martin S, Kempf K. Weight reduction by the low-insulin-method— a randomized controlled trial. Article. Nutrients. 2020;12(10):1-17.	Intervention or Exposure
981	Rolf K, Santoro A, Martucci M, Pietruszka B. The Association of Nutrition Quality with Frailty Syndrome among the Elderly. Article. Int J Environ Res Public Health. Mar 13 2022;19(6)doi:10.3390/ijerph19063379	Study design; Intervention or Exposure; Outcome
982	Rollo ME, Baldwin JN, Hutchesson M, et al. The Feasibility and Preliminary Efficacy of an eHealth Lifestyle Program in Women with Recent Gestational Diabetes Mellitus: A Pilot Study. Int J Environ Res Public Health. Sep 28 2020;17(19)doi:10.3390/ijerph17197115	Intervention or Exposure; Health Status- 100% Diabetes; Comparator

Number	Citation	Rationale
983	Romanidou M, Tripsianis G, Hershey MS, et al. Association of the Modified Mediterranean Diet Score (mMDS) with Anthropometric and Biochemical Indices in US Career Firefighters. Nutrients. Nov 30 2020;12(12)doi:10.3390/nu12123693	Study design
984	Ronca A, Pellegrini N, Pagliai G, et al. Effects of a dietary intervention with Mediterranean vs lacto-ovo vegetarian diets on HDL function: Results from the CARDIVEG study. Article. Nutr Metab Cardiovasc Dis. Mar 2023;33(3):651-658. doi:10.1016/j.numecd.2022.11.012	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
985	Rosal MC, Lemon SC, Borg A, et al. The Healthy Kids & Families study: Outcomes of a 24-month childhood obesity prevention intervention. Article. Prev Med Rep. Feb 2023;31:102086. doi:10.1016/j.pmedr.2022.102086	Intervention or Exposure
986	Rosas LG, Lv N, Xiao L, et al. Effect of a Culturally Adapted Behavioral Intervention for Latino Adults on Weight Loss Over 2 Years: A Randomized Clinical Trial. JAMA Netw Open. Dec 1 2020;3(12):e2027744. doi:10.1001/jamanetworkopen.2020.27744	Intervention or Exposure
987	Rosi A, Calestani MV, Parrino L, et al. Weight Status Is Related with Gender and Sleep Duration but Not with Dietary Habits and Physical Activity in Primary School Italian Children. Article. Nutrients. Jun 6 2017;9(6)doi:10.3390/nu9060579	Study design
988	Rosi A, Tesan M, Cremonini A, et al. Body weight of individuals with obesity decreases after a 6-month high pasta or low pasta Mediterranean diet weight-loss intervention. Nutr Metab Cardiovasc Dis. Jun 9 2020;30(6):984-995. doi:10.1016/j.numecd.2020.02.013	Intervention or Exposure; Comparator
989	Rostgaard-Hansen AL, Lau CJ, Halkjaer J, Olsen A, Toft U. An updated validation of the Dietary Quality Score: associations with risk factors for cardiometabolic diseases in a Danish population. Eur J Nutr. Jun 2023;62(4):1647-1656. doi:10.1007/s00394-023-03100-4	Study design; Outcome

Number	Citation	Rationale
990	Rotman SA, Fowler LA, Ray MK, et al. Family Encouragement of Healthy Eating Predicts Child Dietary Intake and Weight Loss in Family-Based Behavioral Weight-Loss Treatment. Child Obes. Apr 2020;16(3):218-225. doi:10.1089/chi.2019.0119	Intervention or Exposure; Outcome; Comparator
991	Rotolo O, Zinzi I, Veronese N, et al. Women in LOVe: Lacto-Ovo-Vegetarian Diet Rich in Omega-3 Improves Vasomotor Symptoms in Postmenopausal Women. An Exploratory Randomized Controlled Trial. Journal Article; Randomized Controlled Trial. Endocr Metab Immune Disord Drug Targets. 2019;19(8):1232-1239. doi:10.2174/1871530319666190528101532	Intervention or Exposure - Foods/Beverages Not Reported; Comparator
992	Roumi Z, Djazayery A, Keshavarz SA. Association Between Infants Anthropometric Outcomes With Maternal AHEI-P and DII Scores. Clin Nutr Res. Apr 2023;12(2):116-125. doi:10.7762/cnr.2023.12.2.116	Outcome
993	Ruebel ML, Gilley SP, Sims CR, et al. Associations between Maternal Diet, Body Composition and Gut Microbial Ecology in Pregnancy. Article. Nutrients. Sep 21 2021;13(9)doi:10.3390/nu13093295	Intervention or Exposure; Comparator
994	Rueda-Galindo L, Zeron-Rugerio MF, Egea AJS, Serrancoli G, Izquierdo-Pulido M. A Mediterranean-Style Diet Plan Is Associated with Greater Effectiveness and Sustainability in Weight Loss in Patients with Obesity after Endoscopic Bariatric Therapy. Medicina-Lithuania. Feb 2022;58(2)doi:ARTN 168	Health Status- 100% Hospitalized/Surgical
995	Ruggieri S, Drago G, Panunzi S, et al. The Influence of Sociodemographic Factors, Lifestyle, and Risk Perception on Dietary Patterns in Pregnant Women Living in Highly Contaminated Areas: Data from the NEHO Birth Cohort. Nutrients. Aug 25 2022;14(17)doi:10.3390/nu14173489	Outcome

Number	Citation	Rationale
996	Ruggiero E, Mignogna C, Costanzo S, et al. Changes in the consumption of foods characterising the Mediterranean dietary pattern and major correlates during the COVID-19 confinement in Italy: results from two cohort studies. Int J Food Sci Nutr. Dec 2021;72(8):1105-1117. doi:10.1080/09637486.2021.1895726	Outcome
997	Rumbo-Rodriguez L, Zaragoza-Marti A, Sanchez-SanSegundo M, Ferrer-Cascales R, Laguna-Perez A, Hurtado-Sanchez JA. Effectiveness of a Two-Year Multicomponent Intervention for the Treatment of Overweight and Obesity in Older People. Nutrients. Nov 11 2022;14(22)doi:10.3390/nu14224762	Intervention or Exposure; Outcome
998	Rybak TM, Goetz AR, Stark LJ. Examining patterns of postnatal feeding in relation to infant's weight during the first year. Article. Appetite. Nov 1 2021;166:105473. doi:10.1016/j.appet.2021.105473	Intervention or Exposure
999	Sadeghi A, Tabatabaiee M, Mousavi MA, Mousavi SN, Abdollahi Sabet S, Jalili N. Dietary Pattern or Weight Loss: Which One Is More Important to Reduce Disease Activity Score in Patients with Rheumatoid Arthritis? A Randomized Feeding Trial. Int J Clin Pract. 2022;2022:6004916. doi:10.1155/2022/6004916	Intervention or Exposure - Foods/Beverages Not Reported; Health Status
1000	Sadeghi A, Zarrinjooiee G, Mousavi SN, Abdollahi Sabet S, Jalili N. Effects of a Mediterranean Diet Compared with the Low-Fat Diet on Patients with Knee Osteoarthritis: A Randomized Feeding Trial. Int J Clin Pract. 2022;2022:7275192. doi:10.1155/2022/7275192	Intervention or Exposure - Foods/Beverages Not Reported
1001	Said MS, El Sayed IT, Ibrahim EE, Khafagy GM. Effect of DASH Diet Versus Healthy Dietary Advice on the Estimated Atherosclerotic Cardiovascular Disease Risk. J Prim Care Community Health. Jan-Dec 2021;12:2150132720980952. doi:10.1177/2150132720980952	Intervention or Exposure - Foods/Beverages Not Reported

Number	Citation	Rationale
1002	Saidj S, Ruchat SM, Henderson M, Drapeau V, Mathieu ME. Which healthy lifestyle habits mitigate the risk of obesity and cardiometabolic risk factors in Caucasian children exposed to in utero adverse gestational factors? Nutr Metab Cardiovasc Dis. Jan 4 2021;31(1):286-296. doi:10.1016/j.numecd.2020.08.008	Study design; Intervention or Exposure
1003	Sakurai M, Ishizaki M, Morikawa Y, et al. Frequency of consumption of balanced meals, bodyweight gain and incident risk of glucose intolerance in Japanese men and women: A cohort study. J Diabetes Investig. May 2021;12(5):763-770. doi:10.1111/jdi.13392	Intervention or Exposure
1004	Sal S, Bektas M. Effectiveness of Obesity Prevention Program Developed for Secondary School Students. American Journal of Health Education. 2022;53(1):45-55.	Study design; Intervention or Exposure
1005	Salamanca-Gonzalez P, Valls-Zamora RM, Pedret-Figuerola A, et al. Effectiveness of a Motivational Nutritional Intervention through Social Networks 2.0 to Increase Adherence to the Mediterranean Diet and Improve Lung Function in Active Smokers: The DIET Study, a Randomized, Controlled and Parallel Clinical Trial in Primary Care. Article. Nutrients. Oct 14 2021;13(10)doi:10.3390/nu13103597	Intervention or Exposure; Outcome
1006	Salas-Salvado J, Diaz-Lopez A, Ruiz-Canela M, et al. Effect of a Lifestyle Intervention Program With Energy-Restricted Mediterranean Diet and Exercise on Weight Loss and Cardiovascular Risk Factors: One-Year Results of the PREDIMED-Plus Trial. Journal Article; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. Diabetes Care. May 2019;42(5):777-788. doi:10.2337/dc18-0836	Intervention or Exposure; Comparator
1007	Salavati N, Vinke PC, Lewis F, Bakker MK, Erwich J, E MvdB. Offspring Birth Weight Is Associated with Specific Preconception Maternal Food Group Intake: Data from a Linked Population-Based Birth Cohort. Nutrients. Oct 16 2020;12(10)doi:10.3390/nu12103172	Intervention or Exposure; Outcome
1008	Saldiva S, De Arruda Neta A, Teixeira JA, et al. Dietary Pattern Influences Gestational Weight Gain: Results from the ProcriAr Cohort Study-Sao Paulo, Brazil. Nutrients. Oct 21 2022;14(20)doi:10.3390/nu14204428	Outcome

Number	Citation	Rationale
1009	Sallinen T, Viitasalo A, Lintu N, et al. The effects of an 8-year individualised lifestyle intervention on food consumption and nutrient intake from childhood to adolescence: the PANIC Study. Article. J Nutr Sci. 2022;11:e40. doi:10.1017/jns.2022.13	Intervention or Exposure; Outcome
1010	Salomon C, Bellamy J, Evans E, et al. 'Get Healthy!' physical activity and healthy eating intervention for adults with intellectual disability: results from the feasibility pilot. Pilot Feasibility Stud. Mar 22 2023;9(1):48. doi:10.1186/s40814-023-01267-5	Study design; Intervention or Exposure
1011	Sámano R, Martinez-Rojano H, Ortiz-Hernandez L, et al. Dietary and Nutrient Intake, Eating Habits, and Its Association with Maternal Gestational Weight Gain and Offspring's Birth Weight in Pregnant Adolescents. Nutrients. Oct 28 2022;14(21)doi:10.3390/nu14214545	Intervention or Exposure
1012	San Mauro Martin I, Sanz Rojo S, Becerra X, Garicano Vilar E. Successful Implementation of a Mediterranean Weight Loss Program to Prevent Overweight and Obesity in the Workplace. Journal Article; Pragmatic Clinical Trial; Research Support, Non-U.S. Gov't. J Occup Environ Med. Aug 2019;61(8):e329-e332. doi:10.1097/JOM.0000000000001628	Study design
1013	Sanchez-Flack JC, Tussing-Humphreys L, Lamar M, et al. Building research in diet and cognition (BRIDGE): Baseline characteristics of older obese African American adults in a randomized controlled trial to examine the effect of the Mediterranean diet with and without weight loss on cognitive functioning. Prev Med Rep. Jun 2021;22:101302. doi:10.1016/j.pmedr.2020.101302	Study design; Outcome
1014	Sanchez-Martinez F, Brugueras S, Serral G, et al. Three-Year Follow-Up of the POIBA Intervention on Childhood Obesity: A Quasi-Experimental Study. Nutrients. Jan 29 2021;13(2)doi:10.3390/nu13020453	Intervention or Exposure
1015	Sandoval-Insausti H, Jimenez-Onsurbe M, Donat-Vargas C, et al. Ultra-Processed Food Consumption Is Associated with Abdominal Obesity: A Prospective Cohort Study in Older Adults. Nutrients. Aug 7 2020;12(8)doi:10.3390/nu12082368	Size or Power

Number	Citation	Rationale
1016	Sandvik P, Ek A, Eli K, Somaraki M, Bottai M, Nowicka P. Picky eating in an obesity intervention for preschool-aged children - What role does it play, and does the measurement instrument matter? Article. International Journal of Behavioral Nutrition and Physical Activity. 2019;16(1)	Intervention or Exposure
1017	Sandvik P, Kuronen S, Richards HR, et al. Associations of preschoolers' dietary patterns with eating behaviors and parental feeding practices at a 12-month follow-up of obesity treatment. Appetite. Jan 1 2022;168doi:ARTN 105724	Study design
1018	Sanllorente A, Soria-Florido MT, Castaner O, et al. A lifestyle intervention with an energy-restricted Mediterranean diet and physical activity enhances HDL function: a substudy of the PREDIMED-Plus randomized controlled trial. Am J Clin Nutr. Nov 8 2021;114(5):1666-1674. doi:10.1093/ajcn/nqab246	Intervention or Exposure; Outcome
1019	Santana JDM, Queiroz VO, Pereira M et al. Associations between maternal dietary patterns and infant birth weight in the nisami cohort: A structural equation modeling analysis. Nutrients. 2021. 13:.10.3390/nu13114054	Outcome
1020	Santiago-Torres M, Shi Z, Tinker LF, et al. Diet quality indices and risk of metabolic syndrome among postmenopausal women of Mexican ethnic descent in the Women's Health Initiative Observational Study. Nutr Healthy Aging. Nov 3 2020;5(4):261-272. doi:10.3233/NHA-190076	Size or Power
1021	Santi-Cano MJ, Novalbos-Ruiz JP, Bernal-Jimenez MA, Bibiloni MDM, Tur JA, Rodriguez Martin A. Association of Adherence to Specific Mediterranean Diet Components and Cardiorespiratory Fitness in Young Adults. Nutrients. Mar 15 2020;12(3)doi:10.3390/nu12030776	Study design
1022	Santos A, Rodrigues A, Rosa LPS, Noll M, Silveira EA. Traditional Brazilian Diet and Olive Oil Reduce Cardiometabolic Risk Factors in Severely Obese Individuals: A Randomized Trial. Nutrients. May 14 2020;12(5)doi:10.3390/nu12051413	Intervention or Exposure - Foods/Beverages Not Reported; Outcome

Number	Citation	Rationale
1023	Santos IDS, Crivellenti LC, Franco LJ, Sartorelli DS. Relationship between the quality of the pregnant woman's diet and birth weight: a prospective cohort study. Eur J Clin Nutr. Dec 2021;75(12):1819-1828. doi:10.1038/s41430-021-00894-6	Study design
1024	Santulli G, Pascale V, Finelli R, et al. We are what we eat: Impact of food from short supply chain on metabolic syndrome. Article. Journal of Clinical Medicine. 2019;8(12)	Study design
1025	Šarac J, Havas Augustin D, Lovric M, et al. A Generation Shift in Mediterranean Diet Adherence and Its Association with Biological Markers and Health in Dalmatia, Croatia. Article. Nutrients. Dec 20 2021;13(12)doi:10.3390/nu13124564	Study design
1026	Sarebanhassanabadi M, Shahriari Kalantari M, Boffetta P, et al. Dietary habits and the 10-year risk of overweight and obesity in urban adult population: A cohort study predicated on Yazd Healthy Heart Project. Article. Diabetes Metab Syndr. Sep-Oct 2020;14(5):1391-1397. doi:10.1016/j.dsx.2020.07.024	Country
1027	Saslow LR, Jones LM, Sen A, et al. Comparing Very Low-Carbohydrate vs DASH Diets for Overweight or Obese Adults With Hypertension and Prediabetes or Type 2 Diabetes: A Randomized Trial. Ann Fam Med. May-Jun 2023;21(3):256-263. doi:10.1370/afm.2968	Intervention or Exposure - Foods/Beverages Not Reported
1028	Sauder KA, Bekelman TA, Harrall KK, Glueck DH, Dabelea D. Gestational diabetes exposure and adiposity outcomes in childhood and adolescence: An analysis of effect modification by breastfeeding, diet quality, and physical activity in the EPOCH study. Pediatr Obes. Dec 2019;14(12):e12562. doi:10.1111/ijpo.12562	Intervention or Exposure; Outcome
1029	Savard C, Lemieux S, Carbonneau E, et al. Trimester-Specific Assessment of Diet Quality in a Sample of Canadian Pregnant Women. Article. Int J Environ Res Public Health. Jan 24 2019;16(3)doi:10.3390/ijerph16030311	Outcome

Number	Citation	Rationale
1030	Sawicki CM, Lichtenstein AH, Rogers GT, et al. Comparison of Indices of Carbohydrate Quality and Food Sources of Dietary Fiber on Longitudinal Changes in Waist Circumference in the Framingham Offspring Cohort. Nutrients. Mar 19 2021;13(3):997. doi:10.3390/nu13030997	Intervention or Exposure
1031	Schlaff RA, Baruth M, Deere SJ, Boggs A, Odabasic A. Associations between prenatal diet quality and gestational weight gain. Nutr Health. Mar 2020;26(1):13-18. doi:10.1177/0260106020903926	Outcome
1032	Schmidt KA, Jones RB, Rios C, et al. Clinical Intervention to Reduce Dietary Sugar Does Not Affect Liver Fat in Latino Youth, Regardless of	Intervention or Exposure
1033	Schnermann ME, Schulz CA, Herder C, Alexy U, Nothlings U. A lifestyle pattern during adolescence is associated with cardiovascular risk markers in young adults: results from the DONALD cohort study. J Nutr Sci. 2021;10:e92. doi:10.1017/jns.2021.84	Intervention or Exposure
1034	Schnermann ME, Schulz CA, Perrar I, et al. A healthy lifestyle during adolescence was inversely associated with fatty liver indices in early adulthood: findings from the DONALD cohort study. Br J Nutr. Feb 14 2023;129(3):513-522. doi:10.1017/S0007114522001313	Intervention or Exposure; Outcome
1035	Schuler BR, Fowler B, Rubio D, et al. Building Blocks for Healthy Children: Evaluation of a Child Care Center-Based Obesity Prevention Pilot Among Low-Income Children. Article. Journal of nutrition education and behavior. 2019;51(8):958-966.	Intervention or Exposure; Outcome
1036	Schulpen M, van den Brandt PA. Adherence to the Mediterranean Diet and Risks of Prostate and Bladder Cancer in the Netherlands Cohort Study. Article. Cancer Epidemiol Biomarkers Prev. Sep 2019;28(9):1480-1488. doi:10.1158/1055-9965.EPI-19-0224	Outcome
1037	Schutte S, Esser D, Siebelink E, et al. Diverging metabolic effects of 2 energy-restricted diets differing in nutrient quality: a 12-week randomized controlled trial in subjects with abdominal obesity. Am J Clin Nutr. Jul 6 2022;116(1):132-150. doi:10.1093/ajcn/nqac025	Size or Power

Number	Citation	Rationale
1038	Scott E, Shehata M, Panesar A, Summers C, Dale J. The Low Carb Program for people with type 2 diabetes and pre-diabetes: a mixed methods feasibility study of signposting from general practice. Article. BJGP Open. Mar 2022;6(1):1-10. doi:10.3399/BJGPO.2021.0137	Study design; Intervention or Exposure; Health Status- 100% Diabetes
1039	Seconda L, Egnell M, Julia C, et al. Association between sustainable dietary patterns and body weight, overweight, and obesity risk in the NutriNet-Sante prospective cohort. Am J Clin Nutr. Jul 1 2020;112(1):138-149. doi:10.1093/ajcn/nqz259	Intervention or Exposure - Foods/Beverages Not Reported
1040	Sedin A, Landin Olsson M, Cloetens L. The effects of 2-year consumption of a new Nordic diet on weight loss maintenance in subjects with obesity: a randomised controlled intervention study. Journal: Conference Abstract. Obesity reviews. 2020;21(SUPPL 1)	Publication status
1041	Seguin-Fowler RA, Eldridge GD, Rethorst CD, et al. Improvements and Maintenance of Clinical and Functional Measures Among Rural Women: Strong Hearts, Healthy Communities-2. 0 Cluster Randomized Trial. Article. Circ Cardiovasc Qual Outcomes. Nov 2022;15(11):e009333. doi:10.1161/CIRCOUTCOMES.122.009333	Intervention or Exposure
1042	Seral-Cortes M, Sabroso-Lasa S, Bailo-Aysa A, et al. Mediterranean Diet, Screen-Time-Based Sedentary Behavior and Their Interaction Effect on Adiposity in European Adolescents: The HELENA Study. Nutrients. Jan 30 2021;13(2)doi:10.3390/nu13020474	Study design
1043	Seral-Cortes M, Sabroso-Lasa S, De Miguel-Etayo P, et al. Interaction Effect of the Mediterranean Diet and an Obesity Genetic Risk Score on Adiposity and Metabolic Syndrome in Adolescents: The HELENA Study. Nutrients. Dec 16 2020;12(12)doi:10.3390/nu12123841	Study design
1044	Seremet Kurklu N, Karatas Torun N, Ozen Kucukcetin I, Akyol A. Is there a relationship between the dietary inflammatory index and metabolic syndrome among adolescents? Article. Journal of Pediatric Endocrinology and Metabolism. 2020;33(4):495-502.	Intervention or Exposure -

Number	Citation	Rationale
		Foods/Beverages Not Reported
1045	Serra MC, Beavers DP, Henderson RM, Kelleher JL, Kiel JR, Beavers KM. Effects of a Hypocaloric, Nutritionally Complete, Higher Protein Meal Plan on Regional Body Fat and Cardiometabolic Biomarkers in Older Adults with Obesity. Article. Ann Nutr Metab. 2019;74(2):149-155. doi:10.1159/000497066	Intervention or Exposure - Foods/Beverages Not Reported
1046	Setiawan EA, Rianda D, Kadim M, et al. Tenth year reenrollment randomized trial investigating the effects of childhood probiotics and calcium supplementation on height and weight at adolescence. Sci Rep. Jun 4 2021;11(1):11860. doi:10.1038/s41598-021-88819-y	Intervention or Exposure
1047	Setiono FJ, Jock B, Trude A, et al. Associations between Food Consumption Patterns and Chronic Diseases and Self-Reported Morbidities in 6 American Indian Communities. Article. Current Developments in Nutrition. 2019;3:69-80.	Study design
1048	Seyam MK, Alqahtani M, Sirajudeen MS, Muthusamy H, Kashoo FZ, Salah MM. Effect of circuit training with low-carbohydrate diet on body composition, cardiometabolic indices, and exercise capacity in adults with mild to moderate obesity in Saudi Arabia: A randomized control trial. Article. Medicine (Baltimore). Aug 19 2022;101(33):e30054. doi:10.1097/MD.0000000000030054	Intervention or Exposure - Foods/Beverages Not Reported
1049	Sezaki A, Imai T, Miyamoto K, Kawase F, Shimokata H. Mediterranean diet score and incidence of IHD: a global comparative study. Article. Public Health Nutr. Jun 2019;22(8):1444-1450. doi:10.1017/S1368980018003877	Study design; Outcome
1050	Shaalan A, Lee S, Feart C, et al. Alterations in the Oral Microbiome Associated With Diabetes, Overweight, and Dietary Components. Front Nutr. 2022;9:914715. doi:10.3389/fnut.2022.914715	Intervention or Exposure; Outcome

Number	Citation	Rationale
1051	Shahinfar H, Djafari F, Babaei N, et al. Cardiorespiratory fitness is positively associated with both healthy and western dietary pattern in Iranian middle-aged. Int J Vitam Nutr Res. Oct 2022;92(5-6):366-375. doi:10.1024/0300-9831/a000685	Life stage
1052	Shakeri M, Jafarirad S, Amani R, Cheraghian B, Najafian M. A longitudinal study on the relationship between mother's personality trait and eating behaviors, food intake, maternal weight gain during pregnancy and neonatal birth weight. Article. Nutrition Journal. 2020;19(1)	Intervention or Exposure
1053	Shalabi H, Alotaibi A, Alqahtani A, Alattas H, Alghamdi Z. Ketogenic Diets: Side Effects, Attitude, and Quality of Life. Cureus. Dec 2021;13(12):e20390. doi:10.7759/cureus.20390	Study design; Intervention or Exposure; Outcome
1054	Shang X, Li Y, Xu H, et al. Effect of multidimensional lifestyle interventions on metabolic risk reduction in children: a cluster randomised controlled trial. Journal: Article. Prev Med. Feb 3 2020;133:106010. doi:10.1016/j.ypmed.2020.106010	Intervention or Exposure - Foods/Beverages Not Reported
1055	Shang X, Li Y, Xu H, et al. Leading dietary determinants identified using machine learning techniques and a healthy diet score for changes in cardiometabolic risk factors in children: a longitudinal analysis. Nutr J. Sep 19 2020;19(1):105. doi:10.1186/s12937-020-00611-2	Country
1056	Shang X, Li Y, Xu H, Zhang Q, Liu A, Ma G. The Clustering of Low Diet Quality, Low Physical Fitness, and Unhealthy Sleep Pattern and Its Association with Changes in Cardiometabolic Risk Factors in Children. Nutrients. Feb 24 2020;12(2)doi:10.3390/nu12020591	Country
1057	Shapiro AL, Kaar JL, Crume TL, et al. Maternal diet quality in pregnancy and neonatal adiposity: the Healthy Start Study. Int J Obes (Lond). Jul 2016;40(7):1056-62. doi:10.1038/ijo.2016.79	Did not account for at least 1 key confounder

Number	Citation	Rationale
1058	Shaw Tronieri J, Wadden T, Sugimoto D, et al. 25th European Congress on Obesity, Vienna, Austria, May 23-26, 2018: Abstracts. Journal article; Conference proceeding. Obes Facts. 2018;11 Suppl 1(Suppl 1):1-364. doi:10.1159/000489691	Publication status
1059	Shi H, Schweren LJS, Ter Horst R, et al. Low-grade inflammation as mediator between diet and behavioral disinhibition: A UK Biobank study. Brain Behav Immun. Nov 2022;106:100-110. doi:10.1016/j.bbi.2022.07.165	Study design; Outcome
1060	Shi J, Fang H, Cheng X, et al. Nutrient Patterns and Its Association and Metabolic Syndrome among Chinese Children and Adolescents Aged 7-17. Article. Nutrients. Dec 27 2022;15(1)doi:10.3390/nu15010117	Study design; Intervention or Exposure
1061	Shi J, Fang H, Guo Q, et al. Association of Dietary Patterns with Metabolic Syndrome in Chinese Children and Adolescents Aged 7-17: The China National Nutrition and Health Surveillance of Children and Lactating Mothers in 2016-2017. Nutrients. Aug 26 2022;14(17)doi:10.3390/nu14173524	Study design
1062	Shih CW, Hauser ME, Aronica L, Rigdon J, Gardner CD. Changes in blood lipid concentrations associated with changes in intake of dietary saturated fat in the context of a healthy low-carbohydrate weight-loss diet: a secondary analysis of the Diet Intervention Examining The Factors Interacting with Treatment Success (DIETFITS) trial. Journal Article; Randomized Controlled Trial; Research Support, N.I.H., Extramural. Am J Clin Nutr. Feb 1 2019;109(2):433-441. doi:10.1093/ajcn/nqy305	Intervention or Exposure - Foods/Beverages Not Reported
1063	Shiraishi M, Matsuzaki M, Tsunematsu R, Watanabe S, Kobayashi R, Haruna M. Effects of Individual Dietary Intervention on Nutrient Intake in Postpartum Japanese Women: A Randomized Controlled Trial. Article. Nutrients. Sep 19 2021;13(9)doi:10.3390/nu13093272	Intervention or Exposure; Outcome
1064	Siega-Riz AM, Vladutiu CJ, Butera NM, et al. Preconception Diet Quality Is Associated with Birth Weight for Gestational Age Among Women in the Hispanic Community Health Study/Study of Latinos. Article. J Acad Nutr Diet. Mar 2021;121(3):458-466. doi:10.1016/j.jand.2020.09.039	Outcome

Number	Citation	Rationale
1065	Silva CFM, Saunders C, Peres W, et al. Effect of ultra-processed foods consumption on glycemic control and gestational weight gain in pregnant with pregestational diabetes mellitus using carbohydrate counting. Article. PeerJ. 2021;9:e10514. doi:10.7717/peerj.10514	Intervention or Exposure - Foods/Beverages Not Reported; Health Status- 100% Diabetes
1066	Silva CLD, Sousa AG, Borges L, Costa T. Usual consumption of ultra-processed foods and its association with sex, age, physical activity, and body mass index in adults living in Brasilia City, Brazil. Rev Bras Epidemiol. 2021;24:e210033. doi:10.1590/1980-549720210033	Study design
1067	Silva D, Santos TSS, Conde WL, Slater B. Nutritional status and metabolic risk in adults: association with diet quality as assessed with ESQUADA. Rev Bras Epidemiol. 2021;24:e210019. Estado nutricional e risco metabolico em adultos: associacao com a qualidade da dieta medida pela ESQUADA. doi:10.1590/1980-549720210019	Study design
1068	Silva Dos Santos F, Costa Mintem G, Oliveira de Oliveira I, et al. Consumption of ultra-processed foods and interleukin-6 in two cohorts from high- and middle-income countries. Article. Br J Nutr. Feb 21 2022;129(9):1-11. doi:10.1017/S0007114522000551	Size or Power
1069	Silva Dos Santos F, Costa Mintem G, Oliveira de Oliveira I, et al. Consumption of ultra-processed foods and IL-6 in two cohorts from high- and middle-income countries. Br J Nutr. Feb 21 2022:1-11. doi:10.1017/S0007114522000551	Intervention or Exposure; Outcome
1070	Silva TR, Lago SC, Yavorivski A, Ferreira LL, Fighera TM, Spritzer PM. Effects of high protein, low-glycemic index diet on lean body mass, strength, and physical performance in late postmenopausal women: a randomized controlled trial. Menopause. Nov 16 2020;28(3):307-317. doi:10.1097/GME.0000000000001692	Intervention or Exposure

Number	Citation	Rationale
1071	Silver HJ, Olson D, Mayfield D, et al. Effect of the glucagon-like peptide-1 receptor agonist liraglutide, compared to caloric restriction, on appetite, dietary intake, body fat distribution and cardiometabolic biomarkers: A randomized trial in adults with obesity and prediabetes. Diabetes Obes Metab. Aug 2023;25(8):2340-2350. doi:10.1111/dom.15113	Intervention or Exposure
1072	Silver RE, Roberts SB, Kramer AF, Chui KKH, Das SK. No Effect of Calorie Restriction or Dietary Patterns on Spatial Working Memory During a 2-Year Intervention: A Secondary Analysis of the CALERIE Trial. J Nutr. Mar 2023;153(3):733-740. doi:10.1016/j.tjnut.2023.01.019	Outcome
1073	Simpson SA, Coulman E, Gallagher D, et al. Healthy eating and lifestyle in pregnancy (HELP): a cluster randomised trial to evaluate the effectiveness of a weight management intervention for pregnant women with obesity on weight at 12 months postpartum. Int J Obes (Lond). Aug 2021;45(8):1728-1739. doi:10.1038/s41366-021-00835-0	Intervention or Exposure
1074	Singer J, Putulik Kidlapik C, Martin B, Dean HJ, Trepman E, Embil JM. Food consumption, obesity and abnormal glycaemic control in a Canadian Inuit community. Article. Clin Obes. Dec 2014;4(6):316-23. doi:10.1111/cob.12074	Study design
1075	Singh PN, Steinbach J, Nelson A, et al. Incorporating an Increase in Plant-Based Food Choices into a Model of Culturally Responsive Care for Hispanic/Latino Children and Adults Who Are Overweight/Obese. Int J Environ Res Public Health. Jul 6 2020;17(13)doi:10.3390/ijerph17134849	Study design
1076	Sirkka O, Hof MH, Vrijkotte T, et al. Feeding patterns and BMI trajectories during infancy: a multi-ethnic, prospective birth cohort. Article. BMC Pediatr. Jan 13 2021;21(1):34. doi:10.1186/s12887-020-02456-4	Intervention or Exposure
1077	Sisay T, Tolessa T, Mekonen W. Changes in biochemical parameters by gender and time: Effect of short-term vegan diet adherence. PLoS One. 2020;15(8):e0237065. doi:10.1371/journal.pone.0237065	Study design; Duration of Intervention; Country

Number	Citation	Rationale
1078	Skelly LE, Barbour-Tuck EN, Kurgan N, et al. Neutral Effect of Increased Dairy Product Intake, as Part of a Lifestyle Modification Program, on Cardiometabolic Health in Adolescent Girls With Overweight/Obesity: A Secondary Analysis From a Randomized Controlled Trial. Front Nutr. 2021;8:673589. doi:10.3389/fnut.2021.673589	Intervention or Exposure; Outcome
1079	Skjåkødegård HF, Conlon RPK, Hystad SW, et al. Family-based treatment of children with severe obesity in a public healthcare setting: Results from a randomized controlled trial. Article in Press. Clin Obes. Jun 2022;12(3):e12513. doi:10.1111/cob.12513	Intervention or Exposure
1080	Skreden M, Hillesund ER, Wills AK, Brantsaeter AL, Bere E, Overby NC. Adherence to the New Nordic Diet during pregnancy and subsequent maternal weight development: a study conducted in the Norwegian Mother and Child Cohort Study (MoBa). Br J Nutr. Jun 2018;119(11):1286-1294. doi:10.1017/S0007114518000776	Did not account for at least 1 key confounder
1081	Slater K, Rollo ME, Szewczyk Z, Ashton L, Schumacher T, Collins C. Do the dietary intakes of pregnant women attending public hospital antenatal clinics align with australian guide to healthy eating recommendations? Article. Nutrients. 2020;12(8):1-14.	Outcome
1082	Śliż D, Parol D, Wełnicki M, Chomiuk T, Grabowska I. Macronutrient intake, carbohydrate metabolism and cholesterol in Polish male amateur athletes on a vegan diet. Nutrition Bulletin. 2021;46(2):120-127.	Study design
1083	Slomski A. Low-Carb Diets Help Maintain Weight Loss. Article. JAMA. Jan 29 2019;321(4):335. doi:10.1001/jama.2018.22031	Publication status
1084	Smit AJP, Hojeij B, Rousian M, et al. A high periconceptional maternal ultra-processed food consumption impairs embryonic growth: The Rotterdam periconceptional cohort. Article. Clin Nutr. Aug 2022;41(8):1667-1675. doi:10.1016/j.clnu.2022.06.006	Intervention or Exposure - Foods/Beverages Not Reported; Outcome

Number	Citation	Rationale
1085	Smithers LG, Hedges J, Ribeiro Santiago PH, Jamieson LM. Dietary Intake and Anthropometric Measurement at Age 36 Months Among Aboriginal and/or Torres Strait Islander Children in Australia: A Secondary Analysis of the Baby Teeth Talk Randomized Clinical Trial. JAMA Netw Open. Jul 1 2021;4(7):e2114348. doi:10.1001/jamanetworkopen.2021.14348	Intervention or Exposure
1086	Sob C, Siegrist M, Hagmann D, Hartmann C. A longitudinal study examining the influence of diet-related compensatory behavior on healthy weight management. Appetite. Jan 1 2021;156:104975. doi:10.1016/j.appet.2020.104975	Intervention or Exposure
1087	Soepnel LM, Draper CE, Mabetha K, et al. Evaluating implementation of the FIGO Nutrition Checklist for preconception and pregnancy within the Bukhali trial in Soweto, South Africa. Int J Gynaecol Obstet. Jan 2023;160 Suppl 1(Suppl 1):68-79. doi:10.1002/ijgo.14541	Intervention or Exposure; Outcome
1088	Soldevila-Domenech N, Forcano L, Vintro-Alcaraz C, et al. Interplay between cognition and weight reduction in individuals following a Mediterranean Diet: Three-year follow-up of the PREDIMED-Plus trial. Article. Clin Nutr. Sep 2021;40(9):5221-5237. doi:10.1016/j.clnu.2021.07.020	Intervention or Exposure; Comparator
1089	Soldevila-Domenech N, Pastor A, Sala-Vila A, et al. Sex differences in endocannabinoids during 3 years of Mediterranean diet intervention: Association with insulin resistance and weight loss in a population with metabolic syndrome. Front Nutr. 2022;9:1076677. doi:10.3389/fnut.2022.1076677	Intervention or Exposure
1090	Soliman GA, Kim J, Lee JM, et al. Wellness programme at the workplace promotes dietary change and improves health indicators in a longitudinal retrospective study. Article. Public health nutrition. 2019;22(2):354-362.	Intervention or Exposure
1091	Soltani S, Aminianfar A, Hajianfar H, Azadbakht L, Shahshahan Z, Esmaillzadeh A. Association between dietary inflammatory potential and risk of developing gestational diabetes: a prospective cohort study. Nutr J. Jun 2 2021;20(1):48. doi:10.1186/s12937-021-00705-5	Intervention or Exposure

Number	Citation	Rationale
1092	Sommersten CH, Gjerde ES, Laupsa-Borge J, et al. Relationship between Ketones, Ghrelin, and, Appetite on Isocaloric Diets with Varying Carbohydrate Quality and Amount: Results from a Randomized Controlled Trial in People with Obesity (CARBFUNC). J Nutr. Feb 2023;153(2):459-469. doi:10.1016/j.tjnut.2022.12.030	Intervention or Exposure - Foods/Beverages Not Reported
1093	Sommersten CH, Laupsa-Borge J, Andersen AIO, et al. Diets differing in carbohydrate cellularity and amount similarly reduced visceral fat in people with obesity - a randomized controlled trial (CARBFUNC). Clin Nutr. Oct 2022;41(10):2345-2355. doi:10.1016/j.clnu.2022.08.028	Intervention or Exposure
1094	Soria-Contreras DC, Rifas-Shiman SL, Aris IM, et al. Weight Trajectories After Delivery are Associated with Adiposity and Cardiometabolic Markers at 3 Years Postpartum Among Women in Project Viva. J Nutr. Jul 1 2020;150(7):1889-1898. doi:10.1093/jn/nxaa104	Life stage
1095	Soto-Mota A, Pereira MA, Ebbeling CB, Aronica L, Ludwig DS. Evidence for the carbohydrate-insulin model in a reanalysis of the Diet Intervention Examining The Factors Interacting with Treatment Success (DIETFITS) trial. Am J Clin Nutr. Mar 2023;117(3):599-606. doi:10.1016/j.ajcnut.2022.12.014	Intervention or Exposure - Foods/Beverages Not Reported
1096	Sotos-Prieto M, Ortola R, Lopez-Garcia E, Rodriguez-Artalejo F, Garcia-Esquinas E. Adherence to the Mediterranean Diet and Physical Resilience in Older Adults: The Seniors-ENRICA Cohort. J Gerontol A Biol Sci Med Sci. Feb 25 2021;76(3):505-512. doi:10.1093/gerona/glaa277	Outcome
1097	Sotos-Prieto M, Ortolá R, Ruiz-Canela M, et al. Association between the Mediterranean lifestyle, metabolic syndrome and mortality: a whole-country cohort in Spain. Cardiovascular Diabetology. Jan 5 2021;20(1)doi:ARTN 5	Intervention or Exposure
1098	Sotos-Prieto M, Struijk EA, Fung TT, et al. Association between the quality of plant-based diets and risk of frailty. J Cachexia Sarcopenia Muscle. Dec 2022;13(6):2854-2862. doi:10.1002/jcsm.13077	Outcome

Number	Citation	Rationale
1099	Starling AP, Sauder KA, Kaar JL, Shapiro AL, Siega-Riz AM, Dabelea D. Maternal Dietary Patterns during Pregnancy Are Associated with Newborn Body Composition. Article. J Nutr. Jul 2017;147(7):1334-1339. doi:10.3945/jn.117.248948	Data overlap
1100	Steffen LM, Yi SY, Duprez D, Zhou X, Shikany JM, Jacobs DR, Jr. Walnut consumption and cardiac phenotypes: The Coronary Artery Risk Development in Young Adults (CARDIA) study. Nutr Metab Cardiovasc Dis. Jan 4 2021;31(1):95-101. doi:10.1016/j.numecd.2020.09.001	Intervention or Exposure
1101	Steger FL, Jamshed H, Martin CK, et al. Impact of early time-restricted eating on diet quality, meal frequency, appetite, and eating behaviors: A randomized trial. Obesity (Silver Spring). Feb 2023;31 Suppl 1(Suppl 1):127-138. doi:10.1002/oby.23642	Intervention or Exposure
1102	Steinberg D, Kay M, Burroughs J, Svetkey LP, Bennett GG. The Effect of a Digital Behavioral Weight Loss Intervention on Adherence to the Dietary Approaches to Stop Hypertension (DASH) Dietary Pattern in Medically Vulnerable Primary Care Patients: Results from a Randomized Controlled Trial. Journal Article; Randomized Controlled Trial; Research Support, N.I.H., Extramural. J Acad Nutr Diet. Apr 2019;119(4):574-584. doi:10.1016/j.jand.2018.12.011	Study design; Size or Power
1103	Sterling SR, Bowen SA. Effect of a Plant-based Intervention Among Black Individuals in the Deep South: A Pilot Study. Article in Press. J Nutr Educ Behav. Jan 2023;55(1):68-76. doi:10.1016/j.jneb.2022.08.013	Study design; Comparator
1104	Straczek K, Horodnicka-Jozwa A, Szmit-Domagalska J, et al. Familial dietary intervention in children with excess body weight and its impact on eating habits, anthropometric and biochemical parameters. Front Endocrinol (Lausanne). 2022;13:1034148. doi:10.3389/fendo.2022.1034148	Intervention or Exposure - Foods/Beverages Not Reported; Comparator
1105	Strathearn L, Kacar HK, Avery A. Changes in dietary patterns when females engage in a weight management programme and their ability to meet Scientific Advisory Committee on Nutrition's fibre and sugar recommendations. Public Health Nutr. Aug 2020;23(12):2189-2198. doi:10.1017/S1368980019004762	Size or Power

Number	Citation	Rationale
1106	Stroia CM, Vranceanu M, De Lorenzo D, Grimaldi K. Could gluten free diet improve weight loss in HLA DQ2 or D8 positive subjects? Journal: Conference Abstract. Lifestyle genomics. 2021;14(4):143-144.	Publication status
1107	Struijk EA, Hagan KA, Fung TT, Hu FB, Rodriguez-Artalejo F, Lopez-Garcia E. Diet quality and risk of frailty among older women in the Nurses' Health Study. Am J Clin Nutr. Apr 1 2020;111(4):877-883. doi:10.1093/ajcn/nqaa028	Outcome
1108	Su J, Geng H, Chen L, et al. Association of healthy lifestyle with incident cardiovascular diseases among hypertensive and normotensive Chinese adults. Front Cardiovasc Med. 2023;10:1046943. doi:10.3389/fcvm.2023.1046943	Outcome; Country
1109	Su X, Zhu W, Li N, et al. Adjusting DBI-2016 to dietary balance index for Chinese maternal women and assessing the association between maternal dietary quality and postpartum weight retention: A longitudinal study. PLoS One. 2020;15(8):e0237225. doi:10.1371/journal.pone.0237225	Comparator
1110	Suarez-Martinez C, Yague-Guirao G, Santaella-Pascual M, et al. Adherence to the Mediterranean Diet and Determinants Among Pregnant Women: The NELA Cohort. Nutrients. Apr 10 2021;13(4)doi:10.3390/nu13041248	Outcome
1111	Subhan FB, Chan CB. Diet quality and risk factors for cardiovascular disease among South Asians in Alberta. Article. Applied physiology, nutrition, and metabolism = Physiologie appliquee, nutrition et metabolisme. 2019;44(8):886-893.	Study design; Outcome
1112	Suikki T, Maukonen M, Partonen T, Jousilahti P, Kanerva N, Mannisto S. Association between social jet lag, quality of diet and obesity by diurnal preference in Finnish adult population. Chronobiol Int. May 2021;38(5):720-731. doi:10.1080/07420528.2021.1876721	Study design
1113	Suliga E, Brola W, Sobas K, et al. Dietary Patterns and Metabolic Disorders in Polish Adults with Multiple Sclerosis. Article. Nutrients. May 4 2022;14(9)doi:10.3390/nu14091927	Health Status

Number	Citation	Rationale
1114	Suliga E, Ciesla E, Michel S, et al. Diet Quality Compared to the Nutritional Knowledge of Polish, German, and Slovakian University Students-Preliminary Research. Int J Environ Res Public Health. Dec 4 2020;17(23)doi:10.3390/ijerph17239062	Study design
1115	Summer SS, Jenkins T, Inge T, Deka R, Khoury JC. Association of diet quality, physical activity, and abdominal obesity with metabolic syndrome z-score in black and white adolescents in the US. Nutr Metab Cardiovasc Dis. Feb 2022;32(2):346-354. doi:10.1016/j.numecd.2021.10.021	Study design
1116	Sun J, Buys NJ, Hills AP. Dietary pattern and its association with the prevalence of obesity, hypertension and other cardiovascular risk factors among Chinese older adults. Article. Int J Environ Res Public Health. Apr 10 2014;11(4):3956-71. doi:10.3390/ijerph110403956	Study design
1117	Sun J, Ruan Y, Xu N, et al. The effect of dietary carbohydrate and calorie restriction on weight and metabolic health in overweight/obese individuals: a multi-center randomized controlled trial. Article. BMC Med. May 24 2023;21(1):192. doi:10.1186/s12916-023-02869-9	Intervention or Exposure - Foods/Beverages Not Reported
1118	Sun Y, Chen S, Zhao X, et al. Adherence to the dietary approaches to stop hypertension diet and non-alcoholic fatty liver disease. Liver Int. Apr 2022;42(4):809-819. doi:10.1111/liv.15156	Outcome; Country
1119	Suparyatmo JB, Prayitno A. The effect of nutrition education on body mass index, waist circumference, mid-upper arm circumference and blood pressure in obese adolescents. Electronic Journal of General Medicine. 2020;17(5). doi: 10.29333/ejgm/7884	Intervention or Exposure
1120	Szczepanik M, Malesza IJ, Bajerska J, et al. Energy-restricted Central-European diet stimulates liver microsomal function in obese postmenopausal women - a randomized nutritional trial with a comparison to energy-restricted Mediterranean diet. Eur Rev Med Pharmacol Sci. Nov 2020;24(21):11165-11171. doi:10.26355/eurrev_202011_23604	Duration of Intervention; Outcome

Number	Citation	Rationale
1121	Taetzsch A, Roberts SB, Gilhooly CH, et al. Food cravings: Associations with dietary intake and metabolic health. Appetite. Sep 1 2020;152:104711. doi:10.1016/j.appet.2020.104711	Study design; Intervention or Exposure
1122	Tagliamonte S, Laiola M, Ferracane R, Vitale M, Ercolini D, Vitaglione P. Mediterranean diet consumption affects the endocannabinoid system and Akkermansia muciniphila gut levels in overweight and obese subjects. Nutrition, Metabolism & Cardiovascular Diseases. 2021;31(11):3255-3255.	Publication status
1123	Taheri E, Bostick RM, Hatami B, et al. Dietary and Lifestyle Inflammation Scores Are Inversely Associated with Metabolic-Associated Fatty Liver Disease among Iranian Adults: A Nested Case-Control Study. J Nutr. Feb 8 2022;152(2):559-567. doi:10.1093/jn/nxab391	Outcome
1124	Tahir MJ, Haapala JL, Foster LP, et al. Higher maternal diet quality during pregnancy and lactation is associated with lower infant weight-for-length, body fat percent, and fat mass in early postnatal life. Article. Nutrients. 2019;11(3)	Did not account for at least 1 key confounder
1125	Talib SH, Kabra A, Bhattu S, Ali SA, Pranita B, Sachin P. Efficacy Of DNA-based Customised Diet and Exercise Plan for Weight Management. Article. Journal, Indian Academy of Clinical Medicine. 2022;23(3-4):91-94.	Intervention or Exposure
1126	Tang X, Andres A, West DS, Lou X, Krukowski RA. Eating behavior and weight gain during pregnancy. Article. Eat Behav. Jan 2020;36:101364. doi:10.1016/j.eatbeh.2020.101364	Intervention or Exposure
1127	Taniguchi T, Haslam A, Sun W, Sisk M, Hayman J, Jernigan VBB. Impact of a Farm-to-School Nutrition and Gardening Intervention for Native American Families from the FRESH Study: A Randomized Wait-List Controlled Trial. Article. Nutrients. Jun 23 2022;14(13)doi:10.3390/nu14132601	Intervention or Exposure

Number	Citation	Rationale
1128	Tanner H, Barrett HL, Callaway LK, Wilkinson SA, Dekker Nitert M. Consumption of a Low Carbohydrate Diet in Overweight or Obese Pregnant Women Is Associated with Longer Gestation of Pregnancy. Article. Nutrients. Oct 5 2021;13(10)doi:10.3390/nu13103511	Intervention or Exposure - Foods/Beverages Not Reported
1129	Tapsell L, Neale E, Ndanuko R, Charlton K, Batterham M. International Congress of Dietetics, 1–3 September 2021, Abstract Book. Journal article; Conference proceeding. South African Journal of Clinical Nutrition. 2021;34(3):A1-A203. doi:10.1080/16070658.2021.1968126	Intervention or Exposure; Publication status
1130	Taverno Ross SE, Militello G, Dowda M, Pate RR. Changes in Diet Quality in Youth Living in South Carolina From Fifth to 11th Grade. J Nutr Educ Behav. Oct 2020;52(10):928-934. doi:10.1016/j.jneb.2020.03.001	Outcome
1131	Tay ME, Foster E, Stevenson L, Brownlee I. The Adherence of Singaporean Students in Different Educational Institutions to National Food-Based Dietary Guidelines. Nutrients. Sep 30 2020;12(10)doi:10.3390/nu12102995	Study design
1132	Taylor CM, Doerner R, Northstone K, Kordas K. Maternal Diet During Pregnancy and Blood Cadmium Concentrations in an Observational Cohort of British Women. Article. Nutrients. Mar 26 2020;12(4)doi:10.3390/nu12040904	Outcome
1133	Taylor R, Rollo ME, Baldwin JN, et al. Evaluation of a Type 2 diabetes risk reduction online program for women with recent gestational diabetes: a randomised trial. Int J Behav Nutr Phys Act. Mar 28 2022;19(1):35. doi:10.1186/s12966-022-01275-3	Intervention or Exposure; Comparator
1134	Teixeira JA, Hoffman DJ, Castro TG, et al. Pre-pregnancy dietary pattern is associated with newborn size: results from ProcriAr study. British Journal of Nutrition. 2021;126(6):903-912.	Outcome

Number	Citation	Rationale
1135	Teo PS, van Dam RM, Whitton C, Tan LWL, Forde CG. Consumption of Foods With Higher Energy Intake Rates is Associated With Greater Energy Intake, Adiposity, and Cardiovascular Risk Factors in Adults. Article. J Nutr. Feb 1 2021;151(2):370-378. doi:10.1093/jn/nxaa344	Intervention or Exposure
1136	Teo SM, Murrin CM, Mehegan J, et al. Associations between maternal dietary scores during early pregnancy with placental outcomes. Front Nutr. Feb 8 2023;10doi:ARTN 1060709	Outcome
1137	Tertsunen HM, Hantunen S, Tuomainen TP, Virtanen JK. Adherence to a healthy Nordic diet and risk of type 2 diabetes among men: the Kuopio Ischaemic Heart Disease Risk Factor Study. Article. Eur J Nutr. Oct 2021;60(7):3927-3934. doi:10.1007/s00394-021-02569-1	Outcome
1138	Tessari S, Casazza M, De Boni G, et al. Promoting health and preventing non-communicable diseases: evaluation of the adherence of the Italian population to the Mediterranean Diet by using the PREDIMED questionnaire. Ann Ig. Jul-Aug 2021;33(4):337-346. doi:10.7416/ai.2020.2393	Study design
1139	Tettamanzi F, Bagnardi V, Louca P, et al. A High Protein Diet Is More Effective in Improving Insulin Resistance and Glycemic Variability Compared to a Mediterranean Diet-A Cross-Over Controlled Inpatient Dietary Study. Article. Nutrients. Dec 7 2021;13(12)doi:10.3390/nu13124380	Duration of Intervention
1140	Teymoori F, Jahromi MK, Ahmadirad H, et al. The association of dietary and lifestyle indices for insulin resistance with the risk of cardiometabolic diseases among Iranian adults. Scientific Reports. Apr 17 2023;13(1)doi:ARTN 6224	Intervention or Exposure; Country
1141	Teymoori F, Mokhtari E, Jahromi MK, et al. Dietary and lifestyle indices for hyperinsulinemia with the risk of obesity phenotypes: a prospective cohort study among Iranian adult population. Bmc Public Health. May 16 2022;22(1)doi:ARTN 990	Outcome

Number	Citation	Rationale
1142	Thi Nguyen NT, Tang HK, Nguyen MN, Dibley MJ, Alam NA. Effect of a peer-led education intervention on dietary behaviour and physical activity among adolescents in Ho Chi Minh City, Vietnam: a pilot study. Eur J Clin Nutr. Nov 2022;76(11):1590-1593. doi:10.1038/s41430-022-01140-3	Intervention or Exposure
1143	Thomas MS, Puglisi M, Malysheva O, et al. Eggs Improve Plasma Biomarkers in Patients with Metabolic Syndrome Following a Plant-Based Diet-A Randomized Crossover Study. Article. Nutrients. May 20 2022;14(10)doi:10.3390/nu14102138	Intervention or Exposure; Duration of Intervention
1144	Thompson AL, Jahnke JR, Teran E, Bentley ME. Pathways linking maternal mental health and child health in a dual burden context: Evidence from Galapagos, Ecuador. Soc Sci Med. Jul 2022;305:115043. doi:10.1016/j.socscimed.2022.115043	Intervention or Exposure
1145	Thompson AS, Tresserra-Rimbau A, Karavasiloglou N, et al. Association of Healthful Plant-based Diet Adherence With Risk of Mortality and Major Chronic Diseases Among Adults in the UK. Jama Network Open. Mar 2023;6(3)doi:ARTN e234714	Outcome
1146	Thorndike AN, McCurley JL, Gelsomin ED, et al. Automated Behavioral Workplace Intervention to Prevent Weight Gain and Improve Diet: The ChooseWell 365 Randomized Clinical Trial. JAMA Netw Open. Jun 1 2021;4(6):e2112528. doi:10.1001/jamanetworkopen.2021.12528	Comparator
1147	Timmermans S, Steegers-Theunissen RP, Vujkovic M, et al. Major dietary patterns and blood pressure patterns during pregnancy: the Generation R Study. Am J Obstet Gynecol. Oct 2011;205(4):337 e1-12. doi:10.1016/j.ajog.2011.05.013	Outcome
1148	Tomaino L, Reyes Suarez D, Reyes Dominguez A, Garcia Cruz LM, Ramos Diaz M, Serra Majem L. Adherence to Mediterranean diet is not associated with birthweight - Results form a sample of Canarian pregnant women. Nutr Hosp. Feb 17 2020;37(1):86-92. La adherencia a la dieta mediterranea no se asocia al peso al nacer: resultados de una muestra de mujeres canarias embarazadas. doi:10.20960/nh.02780	Study design

Number	Citation	Rationale
1149	Tomlinson DJ, Erskine RM, Morse CI, Onambélé GL. Body fat percentage, body mass index, fat mass index and the ageing bone: Their singular and combined roles linked to physical activity and diet. Article. Nutrients. 2019;11(1)	Study design; Intervention or Exposure
1150	Tong EH, Lai JS, Whitton C, et al. Changes in Diet Quality from Mid- to Late Life Are Associated with Cognitive Impairment in the Singapore Chinese Health Study. Article. J Nutr. Sep 4 2021;151(9):2800-2807. doi:10.1093/jn/nxab179	Outcome
1151	Tong TYN, Appleby PN, Bradbury KE, et al. Risks of ischaemic heart disease and stroke in meat eaters, fish eaters, and vegetarians over 18 years of follow-up: results from the prospective EPIC-Oxford study. Article. BMJ. Sep 4 2019;366:l4897. doi:10.1136/bmj.l4897	Outcome
1152	Tosi M, Matelloni IA, Mancini M, et al. Multiple beneficial effects of 1-year nutritional-behavioral intervention on anthropometric and metabolic parameters in overweight and obese boys. J Endocrinol Invest. Nov 2023;46(11):2331-2342. doi:10.1007/s40618-023-02088-2	Study design
1153	Trichia E, Luben R, Khaw K-T, Wareham NJ, Imamura F, Forouhi NG. The associations of longitudinal changes in consumption of total and types of dairy products and markers of metabolic risk and adiposity: findings from the European Investigation into Cancer and Nutrition (EPIC)–Norfolk study, United Kingdom. American Journal of Clinical Nutrition. 2020;111(5):1018-1026.	Intervention or Exposure
1154	Tripp ML, Dahlberg CJ, Eliason S, et al. A Low-Glycemic, Mediterranean Diet and Lifestyle Modification Program with Targeted Nutraceuticals Reduces Body Weight, Improves Cardiometabolic Variables and Longevity Biomarkers in Overweight Subjects: A 13-Week Observational Trial. Article. J Med Food. May 2019;22(5):479-489. doi:10.1089/jmf.2018.0063	Study design; Intervention or Exposure - Foods/Beverages Not Reported
1155	Truche AS, Bailly S, Fabre O, Legrand R, Zaoui P. A Specific High-Protein Weight Loss Program Does Not Impair Renal Function in Patients Who Are Overweight/Obese. Article. Nutrients. Jan 17 2022;14(2)doi:10.3390/nu14020384	Outcome; Comparator

Number	Citation	Rationale
1156	Tsaban G, Bilitzky-Kopit A, Yaskolka Meir A, et al. The Effect of Weight-Loss Interventions on Cervical and Chin Subcutaneous Fat Depots; the CENTRAL Randomized Controlled Trial. Article. Nutrients. Oct 27 2021;13(11)doi:10.3390/nu13113827	Intervention or Exposure
1157	Tsaban G, Yaskolka Meir A, Rinott E, et al. The effect of green Mediterranean diet on cardiometabolic risk; a randomised controlled trial. Heart. Jun 11 2021;107(13):1054-1061. doi:10.1136/heartjnl-2020-317802	Intervention or Exposure - Foods/Beverages Not Reported; Comparator
1158	Tsai MC, Yeh TL, Hsu HY, et al. Comparison of four healthy lifestyle scores for predicting cardiovascular events in a national cohort study. Sci Rep. Nov 12 2021;11(1):22146. doi:10.1038/s41598-021-01213-6	Outcome; Country
1159	Tsakoumaki F, Kyrkou C, Fotiou M, et al. Framework of Methodology to Assess the Link between A Posteriori Dietary Patterns and Nutritional Adequacy: Application to Pregnancy. Article. Metabolites. Apr 27 2022;12(5)doi:10.3390/metabo12050395	Outcome
1160	Tsoi KY, Chan RSM, Li LS, et al. Evaluation of dietary pattern in early pregnancy using the FIGO Nutrition Checklist compared to a food frequency questionnaire. Int J Gynaecol Obstet. Sep 2020;151 Suppl 1(Suppl 1):37-44. doi:10.1002/ijgo.13324	Did not account for at least 1 key confounder
1161	Tsuzaki J, Maskarinec G, Mapa V, et al. Diet Quality and Body Mass Index Over 20 Years in the Multiethnic Cohort. J Acad Nutr Diet. Feb 2024;124(2):194-204. doi:10.1016/j.jand.2023.02.001	Study design
1162	Tunçer E, Keser A, Nüket Ünsal E, Odabaşı Güneş S, Akın O. The Correlation Between Adherence to Mediterranean Diet and HOMA-IR in Children and Adolescents. Article. Güncel Pediatri. 2022;20(2):188-196. doi:10.4274/jcp.2022.59251	Study design

Number	Citation	Rationale
1163	Turner-McGrievy GM, Wilcox S, Frongillo EA, et al. Effect of a Plant-Based vs Omnivorous Soul Food Diet on Weight and Lipid Levels Among African American Adults: A Randomized Clinical Trial. Jama Network Open. Jan 12 2023;6(1)doi:ARTN e2250626	Intervention or Exposure - Foods/Beverages Not Reported
1164	Turner-McGrievy GM, Wilson MJ, Carswell J, et al. A 12-Week Randomized Intervention Comparing the Healthy US, Mediterranean, and Vegetarian Dietary Patterns of the US Dietary Guidelines for Changes in Body Weight, Hemoglobin A1c, Blood Pressure, and Dietary Quality among African American Adults. Journal of Nutrition. Feb 2023;153(2):579-587. doi:10.1016/j.tjnut.2022.11.020	Intervention or Exposure
1165	Tzenios N, Lewis ED, Crowley DC, Chahine M, Evans M. Examining the Efficacy of a Very-Low-Carbohydrate Ketogenic Diet on Cardiovascular Health in Adults with Mildly Elevated Low-Density Lipoprotein Cholesterol in an Open-Label Pilot Study. Article. Metab Syndr Relat Disord. Mar 2022;20(2):94-103. doi:10.1089/met.2021.0042	Study design; Intervention or Exposure - Foods/Beverages Not Reported
1166	Ulven SM, Holven KB, Rundblad A, et al. An Isocaloric Nordic Diet Modulates RELA and TNFRSF1A Gene Expression in Peripheral Blood Mononuclear Cells in Individuals with Metabolic Syndrome-A SYSDIET Sub-Study. Article. Nutrients. Dec 3 2019;11(12)doi:10.3390/nu11122932	Outcome
1167	Umemoto S, Onaka U, Kawano R, et al. Effects of a Japanese Cuisine-Based Antihypertensive Diet and Fish Oil on Blood Pressure and Its Variability in Participants with Untreated Normal High Blood Pressure or Stage I Hypertension: A Feasibility Randomized Controlled Study. Article. J Atheroscler Thromb. Feb 1 2022;29(2):152-173. doi:10.5551/jat.57802	Duration of Intervention
1168	Ushula TW, Mamun A, Darssan D, et al. Dietary patterns and the risk of abnormal blood lipids among young adults: A prospective cohort study. Article. Nutr Metab Cardiovasc Dis. May 2022;32(5):1165-1174. doi:10.1016/j.numecd.2022.01.030	Outcome

Number	Citation	Rationale
1169	Ushula TW, Mamun A, Darssan D, et al. Dietary patterns and the risks of metabolic syndrome and insulin resistance among young adults: Evidence from a longitudinal study. Clinical Nutrition. Jul 2022;41(7):1523-1531. doi:10.1016/j.clnu.2022.05.006	Size or Power
1170	Ushula TW, Mamun A, Darssan D, et al. Dietary patterns and young adult body mass change: A 9-year longitudinal study. Eur J Nutr. Jun 2023;62(4):1657-1666. doi:10.1007/s00394-023-03101-3	Size or Power
1171	Vaitkevičiūtė J, Petrauskienė A. The Associations between Body Mass Index of Seven- and Eight-Year-Old Children, Dietary Behaviour and Nutrition-Related Parenting Practices. Article. Medicina (Kaunas, Lithuania). 2019;55(1)	Study design
1172	Valentini DF, Jr., Fernandes D, Campos VJ, Mazzini GS, Gurski RR. Dietary weight loss intervention provides improvement of gastroesophageal reflux disease symptoms-A randomized clinical trial. Clin Obes. Feb 2023;13(1):e12556. doi:10.1111/cob.12556	Intervention or Exposure
1173	van de Pas KGH, Lubrecht JW, Hesselink ML, Winkens B, van Dielen FMH, Vreugdenhil ACE. The Effect of a Multidisciplinary Lifestyle Intervention on Health Parameters in Children versus Adolescents with Severe Obesity. Article. Nutrients. Apr 25 2022;14(9)doi:10.3390/nu14091795	Study design; Intervention or Exposure
1174	van Dijk MR, Koster MPH, Oostingh EC, Willemsen SP, Steegers EAP, Steegers-Theunissen RPM. A mobile app lifestyle intervention to improve healthy nutrition in women before and during early pregnancy: Single-center randomized controlled trial. Article. Journal of Medical Internet Research. 2020;22(5)	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
1175	van Elten TM, Karsten MDA, Geelen A, et al. Preconception lifestyle intervention reduces long term energy intake in women with obesity and infertility: a randomised controlled trial. Journal Article; Multicenter Study; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. Int J Behav Nutr Phys Act. Jan 8 2019;16(1):3. doi:10.1186/s12966-018-0761-6	Intervention or Exposure; Outcome

Number	Citation	Rationale
1176	Vandyousefi S, Davis JN, Gunderson EP. Association of infant diet with subsequent obesity at 2-5 years among children exposed to gestational diabetes: the SWIFT study. Diabetologia. May 2021;64(5):1121-1132. doi:10.1007/s00125-020-05379-y	Intervention or Exposure
1177	Vaughn AE, Hennink-Kaminski H, Moore R, et al. Evaluating a child care-based social marketing approach for improving children's diet and physical activity: results from the Healthy Me, Healthy We cluster-randomized controlled trial. Transl Behav Med. Apr 7 2021;11(3):775-784. doi:10.1093/tbm/ibaa113	Intervention or Exposure
1178	Velluzzi F, Anedda J, Pisanu S, et al. Mediterranean diet, lifestyle and quality of life in Sardinian patients affected with Hidradenitis suppurativa. J Public Health Res. Nov 29 2021;11(2)doi:10.4081/jphr.2021.2706	Study design; Health Status
1179	Velluzzi F, Deledda A, Lombardo M, et al. Application of Artificial Neural Networks (ANN) to Elucidate the Connections among Smell, Obesity with Related Metabolic Alterations, and Eating Habit in Patients with Weight Excess. Metabolites. Feb 2023;13(2)doi:ARTN 206	Study design
1180	Verde L, Dalamaga M, Capo X, et al. The Antioxidant Potential of the Mediterranean Diet as a Predictor of Weight Loss after a Very Low-Calorie Ketogenic Diet (VLCKD) in Women with Overweight and Obesity. Antioxidants-Basel. Jan 2023;12(1)doi:ARTN 18	Intervention or Exposure; Duration of Intervention
1181	Verduci E, Vizzuso S, Ippolito G, et al. Effectiveness of individual vs. group-based lifestyle intervention on anthropometric and metabolic profile of obese children. Journal: Conference Abstract. Journal of pediatric gastroenterology and nutrition. 2019;68:1020-.	Publication status
1182	Vergara M, Hauser ME, Aronica L, et al. Associations of Changes in Blood Lipid Concentrations with Changes in Dietary Cholesterol Intake in the Context of a Healthy Low-Carbohydrate Weight Loss Diet: A Secondary Analysis of the DIETFITS Trial. Article. Nutrients. Jun 4 2021;13(6)doi:10.3390/nu13061935	Study design; Intervention or Exposure

Number	Citation	Rationale
1183	Vidal-Ostos F, Ramos-Lopez O, Jebb SA, et al. Dietary protein and the glycemic index handle insulin resistance within a nutritional program for avoiding weight regain after energy-restricted induced weight loss. Article. Nutr Metab (Lond). Oct 19 2022;19(1):71. doi:10.1186/s12986-022-00707-y	Intervention or Exposure - Foods/Beverages Not Reported
1184	Vilela S, Oliveira A, Severo M, Lopes C. Chrono-Nutrition: The Relationship between Time-of-Day Energy and Macronutrient Intake and Children's Body Weight Status. Article. Journal of biological rhythms. 2019;34(3):332-342.	Intervention or Exposure
1185	Villano I, La Marra M, Messina A, et al. Effects of vegetarian and vegan nutrition on body composition in competitive futsal athletes. Article. Progress in Nutrition. 2021;23(2)	Intervention or Exposure - Foods/Beverages Not Reported
1186	Vitale M, Giacco R, Laiola M, et al. Acute and chronic improvement in postprandial glucose metabolism by a diet resembling the traditional Mediterranean dietary pattern: Can SCFAs play a role? Clin Nutr. Feb 2021;40(2):428-437. doi:10.1016/j.clnu.2020.05.025	Duration of Intervention
1187	von Ruesten A, Brantsaeter AL, Haugen M, et al. Adherence of pregnant women to Nordic dietary guidelines in relation to postpartum weight retention: results from the Norwegian Mother and Child Cohort Study. BMC Public Health. Jan 24 2014;14:75. doi:10.1186/1471-2458-14-75	Outcome
1188	Voortman T, Chen ZL, Girschik C, Kavousi M, Franco OH, Braun KVE. Associations between macronutrient intake and coronary heart disease (CHD): The Rotterdam Study. Clinical Nutrition. Nov 2021;40(11):5494-5499. doi:10.1016/j.clnu.2021.08.022	Intervention or Exposure
1189	Voorwinde V, Hoekstra T, Monpellier VM, Steenhuis IHM, Janssen IMC, van Stralen MM. Five-year weight loss, physical activity, and eating style trajectories after bariatric surgery. Surg Obes Relat Dis. Jul 2022;18(7):911-918. doi:10.1016/j.soard.2022.03.020	Intervention or Exposure; Health

Number	Citation	Rationale
		Status- 100% Hospitalized/Surgical
1190	Vucic Lovrencic M, Geric M, Kosuta I, Dragicevic M, Garaj-Vrhovac V, Gajski G. Sex-specific effects of vegetarian diet on adiponectin levels and insulin sensitivity in healthy non-obese individuals. Nutrition. Nov-Dec 2020;79-80:110862. doi:10.1016/j.nut.2020.110862	Study design
1191	Wachsmuth NB, Aberer F, Haupt S, et al. The Impact of a High-Carbohydrate/Low Fat vs. Low-Carbohydrate Diet on Performance and Body Composition in Physically Active Adults: A Cross-Over Controlled Trial. Article. Nutrients. Jan 18 2022;14(3)doi:10.3390/nu14030423	Duration of Intervention
1192	Wade AT, Davis CR, Dyer KA, Hodgson JM, Woodman RJ, Murphy KJ. Effects of Mediterranean diet supplemented with lean pork on blood pressure and markers of cardiovascular risk: findings from the MedPork trial. Br J Nutr. Oct 28 2019;122(8):873-883. doi:10.1017/S0007114519001168	Duration of Intervention
1193	Wadolowska L, Hamulka J, Kowalkowska J, et al. Changes in Sedentary and Active Lifestyle, Diet Quality and Body Composition Nine Months after an Education Program in Polish Students Aged 11(-)12 Years: Report from the ABC of Healthy Eating Study. Controlled Clinical Trial; Journal Article. Nutrients. Feb 3 2019;11(2)doi:10.3390/nu11020331	Intervention or Exposure; Comparator
1194	Wagner S, Lioret S, Girerd N, et al. Association of Dietary Patterns Derived Using Reduced-Rank Regression With Subclinical Cardiovascular Damage According to Generation and Sex in the STANISLAS Cohort. Article. J Am Heart Assoc. Apr 7 2020;9(7):e013836. doi:10.1161/JAHA.119.013836	Outcome
1195	Walsh EI, Jacka FN, Butterworth P, Anstey KJ, Cherbuin N. Midlife susceptibility to the effects of poor diet on diabetes risk. Eur J Clin Nutr. Jan 2021;75(1):85-90. doi:10.1038/s41430-020-0673-9	Outcome

Number	Citation	Rationale
1196	Walton K, McGee M, Sato J, et al. Social-emotional functioning and dietary intake among children born with a very low birth weight. Appl Physiol Nutr Me. Jul 2022;47(7):737-748. doi:10.1139/apnm-2021-0434	Study design; Health Status
1197	Wan Y, Wang F, Yuan J, et al. Effects of dietary fat on gut microbiota and faecal metabolites, and their relationship with cardiometabolic risk factors: a 6-month randomised controlled-feeding trial. Journal Article; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. Gut. 2019;68(8):1417-1429.	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
1198	Wang H, Herforth AW, Xi B, Zou Z. Validation of the Diet Quality Questionnaire in Chinese Children and Adolescents and Relationship with Pediatric Overweight and Obesity. Nutrients. Aug 29 2022;14(17)doi:10.3390/nu14173551	Study design
1199	Wang H, Wang Y, Shi Z, et al. Association between Dietary Patterns and Metabolic Syndrome and Modification Effect of Altitude: A Cohort Study of Tibetan Adults in China. Article. Nutrients. May 8 2023;15(9)doi:10.3390/nu15092226	Size or Power
1200	Wang HZ, Huang L, Lin LX, et al. The overall plant-based diet index during pregnancy and risk of gestational diabetes mellitus: a prospective cohort study in China. British Journal of Nutrition. Nov 28 2021;126(10):1519-1528. doi:Pii S0007114521000234	Outcome
1201	Wang XM, Zhong WF, Li ZH, et al. Dietary diversity and frailty among older Chinese people: evidence from the Chinese Longitudinal Healthy Longevity Study. Article. Am J Clin Nutr. Feb 2023;117(2):383-391. doi:10.1016/j.ajcnut.2022.11.017	Outcome
1202	Wang Y, Luo BR, Xiang J. The association between soy intake and risk of gestational diabetes mellitus: a prospective cohort study. Bmc Pregnancy and Childbirth. Oct 13 2021;21(1)doi:ARTN 695	Intervention or Exposure

Number	Citation	Rationale
1203	Wang Y, Su X, Chen Y, et al. Unfavorable Dietary Quality Contributes to Elevated Risk of Ischemic Stroke among Residents in Southwest China: Based on the Chinese Diet Balance Index 2016 (DBI-16). Article. Nutrients. Feb 7 2022;14(3)doi:10.3390/nu14030694	Outcome
1204	Wang Y, Wang K, Du M, et al. Maternal consumption of ultra-processed foods and subsequent risk of offspring overweight or obesity: results from three prospective cohort studies. BMJ. Oct 5 2022;379:e071767. doi:10.1136/bmj-2022-071767	Outcome
1205	Wang YB, Shivappa N, Hebert JR, Page AJ, Gill TK, Melaku YA. Association between Dietary Inflammatory Index, Dietary Patterns, Plant-Based Dietary Index and the Risk of Obesity. Article. Nutrients. May 2 2021;13(5)doi:10.3390/nu13051536	Size or Power
1206	Wang YY, Chen B, Zhang JW, et al. Diets with higher insulinaemic potential are associated with increased risk of overall and cardiovascular disease-specific mortality. British Journal of Nutrition. Nov 28 2022;128(10):2011-2020. doi:Pii S0007114521004815	Outcome
1207	Wang YY, Tian T, Pan D, et al. The relationship between dietary patterns and overweight and obesity among adult in Jiangsu Province of China: a structural equation model. BMC Public Health. Jun 25 2021;21(1):1225. doi:10.1186/s12889-021-11341-3	Country
1208	Wang Z, Groen H, Cantineau AEP, et al. Effectiveness of a 6-Month Lifestyle Intervention on Diet, Physical Activity, Quality of Life, and Markers of Cardiometabolic Health in Women with PCOS and Obesity and Non-PCOS Obese Controls: One Size Fits All? Nutrients. Sep 28 2021;13(10)doi:10.3390/nu13103425	Intervention or Exposure; Comparator
1209	Wang Z, Zhao S, Cui X, et al. Effects of Dietary Patterns during Pregnancy on Preterm Birth: A Birth Cohort Study in Shanghai. Article. Nutrients. Jul 10 2021;13(7)doi:10.3390/nu13072367	Outcome
1210	Ward SJ, Hill AM, Buckley JD, et al. Minimal changes in telomere length after a 12-week dietary intervention with almonds in mid-age to older, overweight and obese Australians: results of a randomised clinical trial. Br J Nutr. Mar 28 2022;127(6):872-884. doi:10.1017/S0007114521001549	Outcome; Comparator

Number	Citation	Rationale
1211	Watanabe D, Murakami H, Gando Y, et al. Association Between Temporal Changes in Diet Quality and Concurrent Changes in Dietary Intake, Body Mass Index, and Physical Activity Among Japanese Adults: A Longitudinal Study. Front Nutr. Feb 8 2022;9doi:ARTN 753127	Intervention or Exposure - Foods/Beverages Not Reported
1212	Waterplas J, Versele V, D'Hondt E, et al. A 10-year longitudinal study on the associations between changes in plant-based diet indices, anthropometric parameters and blood lipids in a Flemish adult population. Nutr Diet. Apr 2020;77(2):196-203. doi:10.1111/1747-0080.12578	Size or Power
1213	Watson A, Maher C, Golley R, et al. Children's activity and diet behaviours in the summer holidays versus school year. Pediatr Obes. Jul 2023;18(7):e13029. doi:10.1111/ijpo.13029	Study design; Outcome
1214	Webster J, Greenwood DC, Cade JE. Risk of hip fracture in meat-eaters, pescatarians, and vegetarians: results from the UK Women's Cohort Study. BMC Med. Aug 11 2022;20(1):275. doi:10.1186/s12916-022-02468-0	Intervention or Exposure - Foods/Beverages Not Reported; Outcome
1215	Wei L, Fan J, Dong R, et al. The Effect of Dietary Pattern on Metabolic Syndrome in a Suburban Population in Shanghai, China. Article. Nutrients. May 4 2023;15(9)doi:10.3390/nu15092185	Study design; Outcome
1216	Wei X, He JR, Lin Y, et al. The influence of maternal dietary patterns on gestational weight gain: A large prospective cohort study in China. Article. Nutrition. Mar 2019;59:90-95. doi:10.1016/j.nut.2018.07.113	Data overlap
1217	Weigensberg MJ, Avila Q, Spruijt-Metz D, et al. Imagine HEALTH: Randomized Controlled Trial of a Guided Imagery Lifestyle Intervention to Improve Obesity-Related Lifestyle Behaviors in Predominantly Latinx Adolescents. Article. J Altern Complement Med. Sep 2021;27(9):738-749. doi:10.1089/acm.2020.0515	Intervention or Exposure; Comparator

Number	Citation	Rationale
1218	White SL, Flynn AC, Poston L. Impact of a positive or negative diagnosis of gestational diabetes and treatment, on weight change and dietary behaviour in an obese cohort: secondary analysis of the UK pregnancies better eating and activity trial (UPBEAT) randomised controlled trial (RCT). Journal: Conference Abstract. Diabetic medicine. 2019;36:65-.	Intervention or Exposure; Outcome; Publication status
1219	Whyte K, Contento I, Wolf R, et al. A secondary analysis of maternal ultra-processed food intake in women with overweight or obesity and associations with gestational weight gain and neonatal body composition outcomes. J Mother Child. Dec 1 2021;25(4):244-259. doi:10.34763/jmotherandchild.20212504.d-21-00025	Outcome
1220	Wiertsema CJ, Mensink-Bout SM, Duijts L, Mulders A, Jaddoe VWV, Gaillard R. Associations of DASH Diet in Pregnancy With Blood Pressure Patterns, Placental Hemodynamics, and Gestational Hypertensive Disorders. J Am Heart Assoc. Jan 5 2021;10(1):e017503. doi:10.1161/JAHA.120.017503	Outcome
1221	Wilcox S, Liu J, Turner-McGrievy GM, Boutte AK, Wingard E. Effects of a behavioral intervention on physical activity, diet, and health-related quality of life in pregnant women with elevated weight: results of the HIPP randomized controlled trial. Int J Behav Nutr Phys Act. Dec 9 2022;19(1):145. doi:10.1186/s12966-022-01387-w	Intervention or Exposure; Outcome
1222	Wilkinson SA, Fjeldsoe B, Willcox JC. Evaluation of the Pragmatic Implementation of a Digital Health Intervention Promoting Healthy Nutrition, Physical Activity, and Gestational Weight Gain for Women Entering Pregnancy at a High Body Mass Index. Nutrients. Feb 2023;15(3)doi:ARTN 588	Intervention or Exposure - Foods/Beverages Not Reported
1223	Wilkinson SA, Schoenaker DAJM, de Jersey S, et al. Exploring the diets of mothers and their partners during pregnancy: Findings from the Queensland Family Cohort pilot study. Nutrition & Dietetics. Nov 2022;79(5):602-615. doi:10.1111/1747-0080.12733	Outcome; Comparator
1224	Williams KA, Fughhi I, Fugar S, et al. Nutrition Intervention for Reduction of Cardiovascular Risk in African Americans Using the 2019 American College of Cardiology/American Heart Association Primary Prevention Guidelines. Article. Nutrients. Sep 28 2021;13(10)doi:10.3390/nu13103422	Duration of Intervention

Number	Citation	Rationale
1225	Williams LT, Collins CE, Morgan PJ, Hollis JL. Maintaining the Outcomes of a Successful Weight Gain Prevention Intervention in Mid-Age Women: Two Year Results from the 40-Something Randomized Control Trial. Journal: Article. Nutrients. May 17 2019;11(5)doi:10.3390/nu11051100	Intervention or Exposure; Comparator
1226	Wilson D, Driller M, Winwood P, Clissold T, Johnston B, Gill N. The Effectiveness of a Combined Healthy Eating, Physical Activity, and Sleep Hygiene Lifestyle Intervention on Health and Fitness of Overweight Airline Pilots: A Controlled Trial. Nutrients. May 9 2022;14(9)doi:10.3390/nu14091988	Intervention or Exposure
1227	Wilson JM, Lowery RP, Roberts MD, et al. Effects of Ketogenic Dieting on Body Composition, Strength, Power, and Hormonal Profiles in Resistance Training Men. J Strength Cond Res. Dec 2020;34(12):3463-3474. doi:10.1519/JSC.0000000000001935	Intervention or Exposure; Duration of Intervention
1228	Winpenny EM, van Sluijs EMF, Forouhi NG. How do short-term associations between diet quality and metabolic risk vary with age? Article. European Journal of Nutrition. 2021;60(1):517-527.	Study design
1229	Witkowska AM, Waskiewicz A, Zujko ME, et al. The Consumption of Nuts is Associated with Better Dietary and Lifestyle Patterns in Polish Adults: results of WOBASZ and WOBASZ II Surveys. Journal: Article. Nutrients. 2019;11(6)	Study design; Intervention or Exposure
1230	Wong JMW, Yu S, Ma C, et al. Stimulated Insulin Secretion Predicts Changes in Body Composition Following Weight Loss in Adults with High BMI. Article in Press. J Nutr. Mar 3 2022;152(3):655-662. doi:10.1093/jn/nxab315	Intervention or Exposure
1231	Wooldridge JS, Blanco BH, Dochat C, et al. Relationships Between Dietary Intake and Weight-Related Experiential Avoidance Following Behavioral Weight-Loss Treatment. Int J Behav Med. Feb 2022;29(1):104-109. doi:10.1007/s12529-021-09990-0	Study design; Intervention or Exposure; Outcome

Number	Citation	Rationale
1232	Wrottesley SV, Prioreschi A, Kehoe SH, Ward KA, Norris SA. A maternal "mixed, high sugar" dietary pattern is associated with fetal growth. Matern Child Nutr. Apr 2020;16(2):e12912. doi:10.1111/mcn.12912	Intervention or Exposure; Outcome
1233	Wrzosek M, Wozniak J, Wlodarek D. The effect of high-fat versus high-carb diet on body composition in strength-trained males. Food Sci Nutr. May 2021;9(5):2541-2548. doi:10.1002/fsn3.2204	Intervention or Exposure - Foods/Beverages Not Reported
1234	Wu L, Ouyang J, Lai Y, et al. Combined healthy lifestyle in early pregnancy and risk of gestational diabetes mellitus: A prospective cohort study. BJOG. Dec 2023;130(13):1611-1619. doi:10.1111/1471-0528.17548	Intervention or Exposure; Outcome
1235	Wu YF, Chien KL, Chen YC. Association between genetic risk score and tri-ponderal mass index growth trajectories among different dietary consumption adolescents in a prospective Taiwanese cohort. Article. Nutr Metab (Lond). Dec 19 2022;19(1):83. doi:10.1186/s12986-022-00718-9	Intervention or Exposure
1236	Xiao X, Qin Z, Lv X, et al. Dietary patterns and cardiometabolic risks in diverse less-developed ethnic minority regions: results from the China Multi-Ethnic Cohort (CMEC) Study. Lancet Reg Health West Pac. Oct 2021;15:100252. doi:10.1016/j.lanwpc.2021.100252	Study design; Outcome
1237	Xing G, Huang Y, Liu X. Association between Dietary Pattern, Nutritional Status, Metabolic Factors, and Nonalcoholic Fatty Liver Disease. Contrast Media Mol Imaging. 2022;2022:4157403. doi:10.1155/2022/4157403	Health Status
1238	Xiong W, Cui S, Dong J, et al. Effect of Circadian Distribution of Energy and Macronutrients on Gestational Weight Gain in Chinese Pregnant Women. Article. Nutrients. Apr 27 2023;15(9)doi:10.3390/nu15092106	Intervention or Exposure
1239	Xu C, Cao Z. Cardiometabolic diseases, total mortality, and benefits of adherence to a healthy lifestyle: a 13-year prospective UK Biobank study. J Transl Med. May 19 2022;20(1):234. doi:10.1186/s12967-022-03439-y	Intervention or Exposure; Outcome

Number	Citation	Rationale
1240	Xu CJ, Cao Z, Yang HX, Hou YB, Wang XH, Wang YG. Association Between the EAT-Lancet Diet Pattern and Risk of Type 2 Diabetes: A Prospective Cohort Study. Front Nutr. Jan 14 2022;8doi:ARTN 784018. doi:10.3389/fnut.2021.784018	Outcome
1241	Xue Q, Li X, Ma H, et al. Changes in pedometer-measured physical activity are associated with weight loss and changes in body composition and fat distribution in response to reduced-energy diet interventions: The POUNDS Lost trial. Article in Press. Diabetes Obes Metab. Jun 2022;24(6):1000-1009. doi:10.1111/dom.14662	Intervention or Exposure
1242	Xue Y, Liu C, Pang SB, et al. The association between the dietary pattern in abdominal obesity based on visceral fat index and dyslipidaemia in the Henan Rural Cohort Study. Br J Nutr. Aug 28 2022;128(4):762-769. doi:10.1017/S0007114521003640	Study design
1243	Yamada P, Paetow A, Chan M, Arslan A, Landberg R, Young BK. Pregnancy outcomes with differences in grain consumption: a randomized controlled trial. J Perinat Med. May 25 2022;50(4):411-418. doi:10.1515/jpm-2021-0479	Intervention or Exposure
1244	Yamada S, Inoue G, Ooyane H, Nishikawa H. Changes in body weight, dysglycemia, and dyslipidemia after moderately low-carbohydrate diet education (Locabo challenge program) among workers in japan. Article. Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy. 2021;14:2863-2870.	Study design; Intervention or Exposure
1245	Yamakawa M, Wada K, Koda S, et al. High Intake of Free Sugars, Fructose, and Sucrose Is Associated with Weight Gain in Japanese Men. J Nutr. Feb 1 2020;150(2):322-330. doi:10.1093/jn/nxz227	Intervention or Exposure
1246	Yamashita T, Obara T, Yonezawa Y, et al. Dietary patterns before and during pregnancy and small for gestational age in Japan: a prospective birth cohort study. Nutrition Journal. Sep 16 2022;21(1)doi:ARTN 57.10.1186/s12937-022-00808-7	Outcome
1247	Yang C, Guo QY, Cui MX, et al. Association between maternal metabolic profiles in pregnancy, dietary patterns during lactation and breast milk leptin: a retrospective cohort study. British Journal of Nutrition. Nov 14 2023;130(9):1537-1547. doi:10.1017/S0007114523000600	Outcome

Number	Citation	Rationale
1248	Yang HJ, Kim MJ, Hur HJ, Lee BK, Kim MS, Park S. Association Between Korean-Style Balanced Diet and Risk of Abdominal Obesity in Korean Adults: An Analysis Using KNHANES-VI (2013-2016). Front Nutr. Jan 20 2022;8. doi: 10.3389/fnut.2021.772347	Study design
1249	Yang JX, Qian F, Chavarro JE, et al. Modifiable risk factors and long term risk of type 2 diabetes among individuals with a history of gestational diabetes mellitus: prospective cohort study. Bmj-Brit Med J. Sep 21 2022;378. doi:10.1136/bmj-2022-070312	Outcome
1250	Yang X, Li Y, Wang C, et al. Association of plant-based diet and type 2 diabetes mellitus in Chinese rural adults: The Henan Rural Cohort Study. J Diabetes Investig. Sep 2021;12(9):1569-1576. doi:10.1111/jdi.13522	Outcome
1251	Yao S, Xiao S, Jin X, et al. Effect of a community-based child health counselling intervention on health-seeking behaviours, complementary feeding and nutritional condition among children aged 6-23 months in rural China: A pre- and post-comparison study. Article. Matern Child Nutr. Jan 2022;18(1):e13289. doi:10.1111/mcn.13289	Study design; Intervention or Exposure
1252	Yaskolka Meir A, Rinott E, Tsaban G, et al. Effect of green-Mediterranean diet on intrahepatic fat: the DIRECT PLUS randomised controlled trial. Gut. Nov 2021;70(11):2085-2095. doi:10.1136/gutjnl-2020-323106	Comparator
1253	Yasuda J, Murata K, Hasegawa T, et al. Relationship between protein intake and resistance training-induced muscle hypertrophy in middle-aged women: A pilot study. Article. Nutrition. May 2022;97:111607. doi:10.1016/j.nut.2022.111607	Intervention or Exposure - Foods/Beverages Not Reported
1254	Yee LM, Silver RM, Haas DM, et al. Quality of periconceptional dietary intake and maternal and neonatal outcomes. Am J Obstet Gynecol. Jul 2020;223(1):121 e1-121 e8. doi:10.1016/j.ajog.2020.01.042	Outcome
1255	Yetti RE, Syafar M, Zulkifli A, et al. The effect of family-based empowerment on obesity among adolescents in Tana Toraja. Article. Pakistan Journal of Nutrition. 2019;18(9):866-872.	Study design; Country

Number	Citation	Rationale
1256	Yi SY, Steffen LM, Haring B, Rebholz CM, Mosley TH, Shah AM. Associations of the Dietary Approaches to Stop Hypertension dietary pattern with cardiac structure and function. Article. Nutr Metab Cardiovasc Dis. Nov 29 2021;31(12):3345-3351. doi:10.1016/j.numecd.2021.08.050	Outcome
1257	Yi SY, Steffen LM, Zhou X, Shikany JM, Jacobs DR, Jr. Association of nut consumption with CVD risk factors in young to middle-aged adults: The Coronary Artery Risk Development in Young Adults (CARDIA) study. Nutr Metab Cardiovasc Dis. Oct 2022;32(10):2321-2329. doi:10.1016/j.numecd.2022.07.013	Intervention or Exposure
1258	Yisahak SF, Hinkle SN, Mumford SL, et al. Vegetarian diets during pregnancy, and maternal and neonatal outcomes. Int J Epidemiol. Mar 3 2021;50(1):165-178. doi:10.1093/ije/dyaa200	Intervention or Exposure - Foods/Beverages Not Reported
1259	Yisahak SF, Mumford SL, Grewal J, et al. Maternal diet patterns during early pregnancy in relation to neonatal outcomes. Article. Am J Clin Nutr. Jul 1 2021;114(1):358-367. doi:10.1093/ajcn/nqab019	Outcome
1260	Yokose C, McCormick N, Lu N, Joshi AD, Curhan G, Choi HK. Adherence to 2020 to 2025 Dietary Guidelines for Americans and the Risk of New-Onset Female Gout. Article in Press. JAMA Intern Med. Mar 1 2022;182(3):254-264. doi:10.1001/jamainternmed.2021.7419	Outcome
1262	Yong HY, Mohd Shariff Z, Mohd Yusof BN, et al. Pre-Pregnancy BMI Influences the Association of Dietary Quality and Gestational Weight Gain: The SECOST Study. Article. Int J Environ Res Public Health. Oct 4 2019;16(19)doi:10.3390/ijerph16193735	Data overlap
1263	Yoong SL, Grady A, Seward K, et al. The Impact of a Childcare Food Service Intervention on Child Dietary Intake in Care: An Exploratory Cluster Randomized Controlled Trial. Journal Article; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. Am J Health Promot. Sep 2019;33(7):991-1001. doi:10.1177/0890117119837461	Intervention or Exposure; Outcome

Number	Citation	Rationale
1264	Yu D, Chen W, Zhang J, et al. Effects of weight loss on bone turnover, inflammatory cytokines, and adipokines in Chinese overweight and obese adults. J Endocrinol Invest. Sep 2022;45(9):1757-1767. doi:10.1007/s40618-022-01815-5	Intervention or Exposure
1265	Yu EY, Ren Z, Mehrkanoon S, et al. Plasma metabolomic profiling of dietary patterns associated with glucose metabolism status: The Maastricht Study. Article. BMC Med. Nov 21 2022;20(1):450. doi:10.1186/s12916-022-02653-1	Outcome
1266	Yu Y, Feng C, Bedard B, Fraser W, Dubois L. Diet quality during pregnancy and its association with social factors: 3D Cohort Study (Design, Develop, Discover). Matern Child Nutr. Oct 2022;18(4):e13403. doi:10.1111/mcn.13403	Outcome
1267	Zaragoza-Marti A, Sanchez-SanSegundo M, Ferrer-Cascales R, Gabaldon-Bravo EM, Laguna-Perez A, Rumbo-Rodriguez L. Effects of the Mediterranean Lifestyle During the COVID-19 Lockdown in Spain: Preliminary Study. Front Nutr. 2021;8:683261. doi:10.3389/fnut.2021.683261	Intervention or Exposure; Comparator
1268	Zarrinpar A. A high-protein diet prevents weight regain. Article. Nat Metab. Dec 2022;4(12):1616-1617. doi:10.1038/s42255-022-00699-2	Study design; Publication status; Non-human data
1269	Zelicha H, Kloting N, Kaplan A, et al. The effect of high-polyphenol Mediterranean diet on visceral adiposity: the DIRECT PLUS randomized controlled trial. BMC Med. Sep 30 2022;20(1):327. doi:10.1186/s12916-022-02525-8	Comparator
1270	Zenun Franco R, Fallaize R, Weech M, Hwang F, Lovegrove JA. Effectiveness of Web-Based Personalized Nutrition Advice for Adults Using the eNutri Web App: Evidence From the EatWellUK Randomized Controlled Trial. J Med Internet Res. Apr 25 2022;24(4):e29088. doi:10.2196/29088	Duration of Intervention; Size or Power
1271	Zhang B, Xu K, Mi B, et al. Maternal Dietary Inflammatory Potential and Offspring Birth Outcomes in a Chinese Population. J Nutr. May 2023;153(5):1512-1523. doi:10.1016/j.tjnut.2023.03.006	Study design; Intervention or

Number	Citation	Rationale
		Exposure - Foods/Beverages Not Reported
1272	Zhang J, Hayden K, Jackson R, Schutte R. Association of red and processed meat consumption with cardiovascular morbidity and mortality in participants with and without obesity: A prospective cohort study. Clinical Nutrition. 2021;40(5):3643-3649.	Intervention or Exposure; Outcome
1273	Zhang J, Wang H, Wang Z, et al. Trajectories of Dietary Patterns and Their Associations with Overweight/Obesity among Chinese Adults: China Health and Nutrition Survey 1991-2018. Article. Nutrients. Aug 18 2021;13(8)doi:10.3390/nu13082835	Country
1274	Zhang J, Zhang Y, Huo S, et al. Emotional Eating in Pregnant Women during the COVID-19 Pandemic and Its Association with Dietary Intake and Gestational Weight Gain. Nutrients. Jul 28 2020;12(8)doi:10.3390/nu12082250	Intervention or Exposure
1275	Zhang N, Zhou MZ, Li MX, Ma GS. Effects of Smartphone-Based Remote Interventions on Dietary Intake, Physical Activity, Weight Control, and Related Health Benefits Among the Older Population With Overweight and Obesity in China: Randomized Controlled Trial. Journal of Medical Internet Research. Apr 28 2023;25doi:ARTN e41926.10.2196/41926	Size or Power
1276	Zhang S, Dukuzimana J, Stubbendorff A, Ericson U, Borne Y, Sonestedt E. Adherence to the EAT-Lancet diet and risk of coronary events in the Malmo Diet and Cancer cohort study. Am J Clin Nutr. May 2023;117(5):903-909. doi:10.1016/j.ajcnut.2023.02.018	Outcome
1277	Zhang X, Wang Y, Liu W, et al. Diet quality, gut microbiota, and microRNAs associated with mild cognitive impairment in middle-aged and elderly Chinese population. Article. Am J Clin Nutr. Aug 2 2021;114(2):429-440. doi:10.1093/ajcn/nqab078	Outcome; Country
1278	Zhang X, Xiao D, Guzman G, Edirisinghe I, Burton-Freeman B. Avocado Consumption for 12 Weeks and Cardiometabolic Risk Factors: A Randomized Controlled Trial in Adults with Overweight or Obesity and Insulin Resistance. J Nutr. Aug 9 2022;152(8):1851-1861. doi:10.1093/jn/nxac126	Intervention or Exposure - Foods/Beverages

Number	Citation	Rationale
		Not Reported; Comparator
1279	Zhang Y, Wang YL, Zhang SW, Zhang YL, Zhang Q, Compli CNDC. Complex Association Among Diet Styles, Sleep Patterns, and Obesity in Patients with Diabetes. Diabet Metab Synd Ob. 2023;16:749-767. doi:10.2147/Dmso.S390101	Health Status- 100% Diabetes
1280	Zhang Y, Wei Y, Tang D, et al. Association of major dietary patterns and different obesity phenotypes in Southwest China: the China Multi-Ethnic Cohort (CMEC) Study. Eur J Nutr. Feb 2023;62(1):465-476. doi:10.1007/s00394-022-02997-7	Study design
1281	Zhao L, Teong XT, Liu K, et al. Eating architecture in adults at increased risk of type 2 diabetes: Associations with body fat and glycaemic control. Article in Press. British Journal of Nutrition. 2021;	Study design; Intervention or Exposure
1282	Zhao L, Zhang P, Zheng Q, Deka A, Choudhury R, Rastogi S. Does a MediDiet With Additional Extra Virgin Olive Oil and Pistachios Reduce the Incidence of Gestational Diabetes? Article. Endocr Pract. Feb 2022;28(2):135-141. doi:10.1016/j.eprac.2021.08.010	Outcome
1283	Zheng M, Lioret S, Hesketh KD, Spence A, Taylor R, Campbell KJ. Association Between Longitudinal Trajectories of Lifestyle Pattern and BMI in Early Childhood. Obesity (Silver Spring). May 2021;29(5):879-887. doi:10.1002/oby.23136	Intervention or Exposure
1284	Zheng M, Yu HJ, He QQ, et al. Protein Intake During Infancy and Subsequent Body Mass Index in Early Childhood: Results from the Melbourne InFANT Program. J Acad Nutr Diet. Sep 2021;121(9):1775-1784. doi:10.1016/j.jand.2021.02.022	Intervention or Exposure
1285	Zhou J, Leepromrath S, Tian X, Zhou D. Dynamics of Chinese Diet Divergence from Chinese Food Pagoda and Its Association with Adiposity and Influential Factors: 2004-2011. Int J Environ Res Public Health. Jan 13 2020;17(2)doi:10.3390/ijerph17020507	Study design

Number	Citation	Rationale
1286	Zhou J, Leepromrath S, Zhou D. Dietary diversity indices v. dietary guideline-based indices and their associations with non-communicable diseases, overweight and energy intake: evidence from China. Public Health Nutr. May 2023;26(5):911-933. doi:10.1017/S1368980022000556	Country
1287	Zhou L, Li H, Zhang S, Yang H, Ma Y, Wang Y. Impact of ultra-processed food intake on the risk of COVID-19: a prospective cohort study. Eur J Nutr. Feb 2023;62(1):275-287. doi:10.1007/s00394-022-02982-0	Outcome
1288	Zhu Q, Xue K, Guo HW, Yang YH. LMX1B rs10733682 Polymorphism Interacts with Macronutrients, Dietary Patterns on the Risk of Obesity in Han Chinese Girls. Nutrients. Apr 26 2020;12(5)doi:10.3390/nu12051227	Study design; Comparator
1289	Zhu R, Fogelholm M, Jalo E, et al. Animal-based food choice and associations with long-term weight maintenance and metabolic health after a large and rapid weight loss: The PREVIEW study. Article. Clin Nutr. Apr 2022;41(4):817-828. doi:10.1016/j.clnu.2022.02.002	Duration of Intervention
1290	Zhu R, Fogelholm M, Poppitt SD, et al. Adherence to a Plant-Based Diet and Consumption of Specific Plant Foods-Associations with 3-Year Weight-Loss Maintenance and Cardiometabolic Risk Factors: A Secondary Analysis of the PREVIEW Intervention Study. Article. Nutrients. Nov 1 2021;13(11)doi:10.3390/nu13113916	Size or Power
1291	Zhu S, Zhao A, Lan H, et al. Nausea and Vomiting during Early Pregnancy among Chinese Women and Its Association with Nutritional Intakes. Nutrients. Feb 13 2023;15(4)doi:10.3390/nu15040933	Study design; Intervention or Exposure
1292	Zhu Y, Hedderson MM, Brown SD, et al. Healthy preconception and early-pregnancy lifestyle and risk of preterm birth: a prospective cohort study. Am J Clin Nutr. Aug 2 2021;114(2):813-821. doi:10.1093/ajcn/nqab089	Outcome

Number	Citation	Rationale
1293	Zhu Y, Hedderson MM, Sridhar S, Xu F, Feng J, Ferrara A. Poor diet quality in pregnancy is associated with increased risk of excess fetal growth: A prospective multi-racial/ethnic cohort study. Article. International Journal of Epidemiology. 2019;48(2):423-432.	Data overlap
1294	Zhu Y. Are you what you eat? Through the lens of prepregnancy plant-based diets and risk of gestational diabetes. Am J Clin Nutr. Dec 1 2021;114(6):1892-1893. doi:10.1093/ajcn/nqab334	Study design; Publication status
1295	Zinn C, McPhee J, Harris N, Williden M, Prendergast K, Schofield G. A 12-week low-carbohydrate, high-fat diet improves metabolic health outcomes over a control diet in a randomised controlled trial with overweight defence force personnel. Academic Journal. Appl Physiol Nutr Metab. Nov 2017;42(11):1158-1164. doi:10.1139/apnm-2017-0260	Intervention or Exposure - Foods/Beverages Not Reported
1296	Zomeno MD, Lassale C, Perez-Vega A, et al. Halo effect of a Mediterranean-lifestyle weight-loss intervention on untreated family members' weight and physical activity: a prospective study. Int J Obes (Lond). Jun 2021;45(6):1240-1248. doi:10.1038/s41366-021-00763-z	Intervention or Exposure; Outcome
1297	Zoszak K, Neale E, Tapsell L, Probst Y. Exploring dietary changes in an interdisciplinary intervention trial: Application of a dietary guidelines food composition database. J Hum Nutr Diet. Apr 2021;34(2):265-272. doi:10.1111/jhn.12790	Intervention or Exposure; Outcome
1298	Zuercher MD, Harvey DJ, Santiago-Torres M, et al. Dietary inflammatory index and cardiovascular disease risk in Hispanic women from the Women's Health Initiative. Nutr J. Jan 12 2023;22(1):5. doi:10.1186/s12937-023-00838-9	Study design; Outcome

Appendix 6: Dietary pattern visualization

The Committee's synthesis was facilitated by data visualization tables that presented the dietary pattern components in each of the dietary patterns examined in the body of evidence. During evidence synthesis, these tables were used in conjunction with other materials to compare and contrast the components between and within the dietary patterns studied along with the direction, magnitude, and statistical significance of reported results. Detailed information about the body of evidence, including study and population characteristics, reported results for all relevant outcomes, key confounders accounted for, study limitations, and funding sources, are summarized in the evidence tables of this report (**Table 10**; **Table 14**; **Table 16**).

Each column represents the most commonly reported foods/food groups or nutrients across dietary patterns in this body of evidence. Two additional columns, "Other, A" and "Other, B" , captured a variety of other components less frequently reported across dietary patterns that did not fit into one of the preceding columns or categories, such as fast food, ready-to-eat dishes, pizza, and chocolate. Multiple symbols in each cell mean that the dietary pattern included multiple components from that column/category. Empty cells mean that the dietary pattern did not describe a component within that column/category.

Children and adolescents

Table A 9. Visualization of dietary pattern components across dietary patterns consumed by children and adolescents from all included studies examining the relationship between dietary patterns consumed and growth, body composition, and risk of obesity organized alphabetically by first-author last-name.[*†]

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na^+	Tea and Coffee	Fiber	Other, A	Other, B
Agnihotri, 2021; a priori: NND 3y	▲	▲		▲	▼					▲					FrJ, Milk: Juice			▼											
Agnihotri, 2021; a priori: NND 7y	▲ ▲	▲		▲	▼		▲	▲		▲					FrJ, Milk: Juice			▼										▲	
Aljahdali, 2022; a priori: aMED score	▲	X	▲	▲		▲	▲			▲		▼ RP											◄					
Aljahdali, 2022; a priori: DASH score	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ Na^+				

[*]▲ Positively scored component, reflecting higher intake within the food category as part of the pattern; ▼ Negatively scored component, reflecting lower intake within the food category as part of the pattern; ◄ Neutral component, reflecting moderate (in contrast to higher or lower) intake within the food category as part of the pattern. Dietary pattern approaches included a priori index/score analysis and/or investigator-assigned intervention (RCT), a posteriori latent class (LCA) or principal component analysis (PCA), and reduced rank regression (RRR). The dietary pattern labels are abbreviated in this table due to limited space, but full details about each dietary pattern are described in Table 10**.**

[†] Abbreviations: AS, added sugar; C, coffee only; ch, cheese; D, included with Dairy/products; DP, dietary pattern; EDF, energy-dense food; fer, fermented; FF, fried potato or French fries; Fr, included with Fruits component; FrJ, included with Fruit Juice component; FS, included as Fish and/or Seafood; G, included with Grains/products; HF, high-fiber; L, included with Legumes component; LN, included as legumes and nuts; M, included as Meat/products; Med, Mediterranean; Na+, sodium; NP, not processed; NS, not sweetened; oo, olive oil; P, processed; pro, protein (total/foods); RP, red and processed; SB, sugar-sweetened beverage; T, tea only; UF: SF, ratio of unsaturated relative to saturated fat; UP, ultra-processed; V, included with Vegetables; W: R, white-to-red meat ratio; X, component excluded from pattern/analyses; y, yogurt

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na^+	Tea and Coffee	Fiber	Other, A	Other, B
Ambrosini, 2016; RRR: DP1	▼			▼			▼	HF	▲									▲	▲									▼
Ambrosini, 2016; RRR: DP2					▲				▲						▼		▼	▲		▼	▼						▼	
Arenaza, 2020; a priori: KIDMED score	▲		▲	▲	Fr	▲		▲		▲									▼	▲								
Arruda, 2021; a posteriori: 'Snacks'								▲				▲P			▲							▲			▲			
Arruda, 2021; a posteriori: 'Traditional'			▲									L	L															
Arruda, 2021; a posteriori: 'Western'								▲							▲ ch			▲	▲						▼			
Asghari, 2016; a priori: DASH score	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ Na^+				
Asoudeh, 2023; RCT: Med v. Control diet	◄			◄				◄				◄						◄	SB	▲	▲					▲		

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na^+	Tea and Coffee	Fiber	Other, A	Other, B
Bawaked, 2020; a priori: UPF, Nova4					SB			▲	▲			▲ P				▲ SB	SB	▲	▲					▲			UP	
Bekelman, 2021; a priori: aDASH Score	▲	V	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ Na^+				
Bekelman, 2021; a priori: aMED score	▲	X	▲	▲		▲	▲			▲		▼ RP								▲			X					
Bekelman, 2021; a priori: HEI-2010	▲ ▲		▲ ▲ pro	▲ ▲			▲		▼	L, M	L, M	▲ pro	L, M		▲	D	D		▼ AS	▲ UF	▼			▼ Na^+				
Biazzi, 2017; a posteriori: 'DP I'	▲		▲					▲				▲																▲
Biazzi, 2017; a posteriori: 'DP II'		▲ FF																▲						▲			▲	
Biazzi, 2017; a posteriori: 'DP III'	▲			▲	▲			▲							▲ ▲ch													▲
Biazzi, 2017; a posteriori: 'DP IV'								▲							▲										▲ C			
Buckland, 2022; a priori: c-r-Med	▲	X	▲	▲		▲	G	▲	G	▲	FS	▼	M		▲	D	D			▲								

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na+	Tea and Coffee	Fiber	Other, A	Other, B
Bull, 2016; a posteriori: 'Packed Lunch'									▲			▲							▲			▲		▲	▲		▲	
Bull, 2016; a posteriori: 'Processed'			▲					▲		▲		▲P	▲					▲	▲					▲			▲	
Bull, 2016; a posteriori: 'Traditional'	▲ ▲	▲										▲R	▲												▲		▲ ▲	
Bull, 2016; a posteriori: Healthy', ref	▲		▲	▲	▲		▲	▲		▲				▲	▲y, ch	▲						▲					▲ ▲	
Chan She Ping-Delfos, 2015 ; a priori: DGI-CA	▲		▲	▲	Fr		▲	▲				▲ NP	M, NP		▲	▲	D		◄	▲	◄	▼					▲	
Chang, 2021; a priori: UPF, NOVA4	UP				UP				UP			UP	UP		UP		UP	UP	UP			UP		UP			▲ UP	
Choy, 2020; a posteriori: 'Modern'	▲	▲					G	▲	G			▲ NP															▼	
Choy, 2020; a posteriori: 'Neotraditional'	▲ ▲			▲																							▲ ▲	

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na+	Tea and Coffee	Fiber	Other, A	Other, B
Costa, 2019; a priori: UPF, Nova4							G	▲ ▲ ▲	G			▲ P				▲ SB	SB	▲	▲		▲			▲			UP	
Costa, 2021; a priori: UPF, Nova4									▲			▲ P	UP		UP		UP	UP	UP			UP		UP			UP	
Costa, 2022; a priori: UPF, Nova4					▲			▲	▲			▲ UP	UP		▲ y	▲ SB	SB	▲	▲					▲			UP	
Costa, 2023; a posteriori: 'Dairy products'															▲													
Costa, 2023; a posteriori: 'Fast food and sweets'																		▲	▲						▲		▲	
Costa, 2023; a posteriori: 'Healthier'	▲		▲	▲							▲									▲	AF	AF					▲ ▲	
Costa, 2023; a posteriori: 'Lower intake'	▼		▼	▼							▼									▼	AF	AF					▼ ▼	
Cunha, 2018; a priori: UPF, Nova4	▲ UP			▲				▲	▲			▲ P	UP		UP		UP	UP	UP			UP		UP			UP	

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na+	Tea and Coffee	Fiber	Other, A	Other, B
Diethelm, 2014; ΔRRR1 (less healthy)				▼								▲	▼				▼		▼					▲			▲	
Diethelm, 2014; a posteriori: ΔPCA1 to 'pancakes, convenience foods'																											▲	
Diethelm, 2014; a posteriori: ΔPCA2 to 'Traditional'	▼	▲					▼	▲				▲															▲	
Diethelm, 2014; a posteriori: PCA1, 'Healthy'	▲						▲	▲										▼		▲								▲
Diethelm, 2014; a posteriori: PCA2, 'pancakes, potatoes'		▲						▲						▲														
Diethelm, 2014; RRR1			▼	▲			▼	▼							▼													

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na^+	Tea and Coffee	Fiber	Other, A	Other, B
Durão, 2017; a posteriori: 'Energy-dense foods (EDF)'												▲P						▲	▲					▲				
Durão, 2017; a posteriori: 'Healthier'	▲ ▲			▲						▲		▼ P						▼	▼					▼				▲
Durao, 2017; a posteriori: 'Snacking'	▼	▼						▼		▼		▼	M	▼										▲				▼
Durão, 2022; a posteriori: 'EDF'												▲P						▲	▲					▲				
Durão, 2022; a posteriori: 'Healthier'	▲ ▲			▲						▲		▼ P						▼	▼					▼				▲
Durão, 2022; a posteriori: 'Snacking'	▼	▼						▼		▼		▼	M	▼										▲				▼
Farhadnejad, 2018; a priori: DASH score	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ Na^+				
Fernandez-Alvira, 2017; a posteriori: 'Healthy'	▲	▼ FF		▲			▲																					▲

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na^+	Tea and Coffee	Fiber	Other, A	Other, B
Fernandez-Alvira, 2017; a posteriori: "Processed'	▼	▲ FF		▼			▼					▲ RP												▲			▲	▼
Fernandez-Alvira, 2017; a posteriori: 'Sweet'	▼				▲		▼	▼	▲						▼ NS			▲	▲									▼ ▼
Gasser, 2019; a posteriori: 'Healthy'	▲			▲				▲							▲	D	D										▼	▲
Gasser, 2019; a posteriori: 'Unhealthy'		▲	S									▲R ▲P			▲ soy			▲	▲					▲	▲ C		▼	
Gasser, 2019; a priori: Dietary Score	▲			▲											▲			▼	▼		▼							
González, 2023; a priori: UPF, Nova4									▲			▲ P							▲								UP	
Heerman, 2023; a priori: UPF, Nova4	UP				UP				UP			UP	UP		UP		UP	UP	UP			UP		UP			▲ UP	
Hu, 2016; a priori: APDQS	▲	▼	▲	▲	◄	▲	▲		◄	▲	◄	▼ RP	▲	◄		▲	▼	▼	▼	▲	◄	▼		▼	▲		▼	◄ ◄ ◄

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na^+	Tea and Coffee	Fiber	Other, A	Other, B
Johnson, 2008; RRR: DP age 5y	▼	▼		▼			▼	▲	▲						▲		▲		▲					▲				▼
Johnson, 2008; RRR: DP age 7y	▼	▼		▼			▼	▲	▲										▲					▲				▼
Krijger, 2021; a priori: CDQS	▲		▲	▲		▲	▲			▲		▼	P		▲	D	D	▼		▲								
Krijger, 2021; a priori: DASH score	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ Na^+				
Lee 2020; RCT: mDQI score	▲		▲ pro	▲				▲		L, pro	L, pro	L, pro	L, pro	L, pro	L, pro					◄	▼	▼		▼		▲	◄ ◄	▼
Lioret, 2014; a priori: DGI-CA	▲		▲	▲	Fr		▲	▲				▲ NP	M, NP		▲	▲	D		◄	▲	◄	▼					▲	
Luque, 2021; a posteriori: 'Core Foods Pattern'	▲	▲		▲						▲		▲ R	▲							▲ OO								▲
Luque, 2021; a posteriori: 'Poor-Quality Fats and Sugars'		▲			▲					▼					▲ ch					▼		▲			▲ T			
Luque, 2021; a posteriori: 'Protein Sources'	▲	▲								▲P		▲ R	▲	▲	▲ AS	AS	AS							▲				▲

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na+	Tea and Coffee	Fiber	Other, A	Other, B
Marinho, 2022; a posteriori: 'EDF'												▲P						▲	▲					▲				
Marinho, 2022; a posteriori: 'Healthier'	▲ ▲			▲						▲		▼ P						▼	▼					▼				▲
Marinho, 2022; a posteriori: 'snacking'	▼	▼						▼		▼		▼	M	▼										▲				▼
Marks, 2015; a priori: Non-core food score		▲ FF							▲ ▲			▲			▲ AS				▲ ▲					▲ ▲			▲ ▲	
Martin-Calvo, 2016; a priori: mKIDMED	▲ ▲		▲	▲ ▲	Fr	▲	NS	▲ ▲	NS	▲					◄	▲	D		▼	▲								
McCourt, 2014; a priori: MDS	▲		▲	▲		▲	G	▲	G	▲		▼ RP			▼	D	D			▲			◄					
Nguyen, 2020; a priori: CDQS	▲		▲	▲		▲	▲			▲		▼	P		▲	D	D	▼		▲								
Notario-Barandiaran, 2020; a priori: rMED	▲	X	▲	▲		Fr	G	▲	G	▲		▼ P	▼							▲ OO			X					

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na+	Tea and Coffee	Fiber	Other, A	Other, B
Oellingrath, 2017; a posteriori: 'dieting'																											▲	
Oellingrath, 2017; a posteriori: 'junk convenient'									▲										▲								▲	
Oellingrath, 2017; a posteriori: 'snacking'	▼						▼											▲	▲									▼
Oellingrath, 2017; a posteriori: 'varied Norwegian'	▲			▲			▲			▲																	▲ ▲	
Okubo, 2015; a priori: Prudent' (DQ score)	▲	V		▲						▲ FS	FS																	
Pala, 2013; a posteriori: 'Protein and Water'										▲		▲	M	▲													▲	
Pala, 2013; a posteriori: 'Snacking'																								▲			▲	

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na+	Tea and Coffee	Fiber	Other, A	Other, B
Pala, 2013; a posteriori: 'Sweet'								▲				▲ fried						▲	▲								▲	
Pala, 2013; a posteriori: 'Vegetables and Wholemeal	▲			▲			▲									▲ NS	NS											▲
Papamichael, 2019; RCT: Med v. Control diet	◀ ◀		▲	◀		◀		▲		▲	◀	◀	M		◀	D	D	◀	◀	◀				◀				
Pinto, 2021; a posteriori: 'fish based'										▲																	▼	
Pinto, 2021; a posteriori: 'DASH diet based'	▲			▲						▲					▲	D	D											▲
Pinto, 2021; a posteriori: 'energy-dense foods'	▼							▲				▲ RP																▼

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na+	Tea and Coffee	Fiber	Other, A	Other, B
Pinto, 2021; a posteriori: 'regression analysis (no label)								▲							▲ ch, y			▲										
Pinto, 2021; a posteriori: 'Western'	▼			▼						▼								▲	▲					▲				▼
Rashid, 2020; a posteriori: 'Full-fat'								▲													▼	▲						
Rashid, 2020; a posteriori: 'Healthy'	▲			▲						▲															▲ T		▲ ▲	
Rashid, 2020; a posteriori: 'Meat'									▲			▲	M														▲	
Rashid, 2020; a posteriori: 'Snacking'							▼		▲										▲									
Saldanha-Gomes, 2017; a posteriori: 'Guidelines'	▲	▲		▲				▲	▲	▲		▲	M														▲	▲

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na+	Tea and Coffee	Fiber	Other, A	Other, B
Saldanha-Gomes, 2017; a posteriori: 'Processed, fast foods'	▼	▲ FF	▲		▲			▲				▲ P			▲			▲						▲			▲	▼
Saldanha-Gomes, 2022; a posteriori: 'Nutrient-dense foods'	▲			▲				▲	▲			▲ RP																▲
Saldanha-Gomes, 2022; a posteriori: 'Processed and fast foods'	▼	▲ FF	▲		▲			▲				▲ P			▲			▲						▲			▲	▼
Santos, 2019; a posteriori: 'Beverages'2y					▲																				▲ T		▲	
Santos, 2019; a posteriori: 'Beverages'4y					▲																							
Santos, 2019; a posteriori: 'Meat and vegetables'2y	▲	▲	▲	▲								▲	M															▲

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na^+	Tea and Coffee	Fiber	Other, A	Other, B
Santos, 2019; a posteriori: 'Milks' 2y																▼											▲	
Santos, 2019; a posteriori: 'Milks' 4y																▲											▲	
Santos, 2019; a posteriori: 'Snacks'2y				▼				▲							▼ y										▲ C			
Santos, 2019; a posteriori: 'Snacks'4y								▲							▼ y			▼							▲		▲	
Santos, 2019; a posteriori: 'Staple'2y			▲				▲	▼																				
Santos, 2019; a posteriori: 'Staple'4y			▲				▲					▲R																
Santos, 2019; a posteriori: 'Treats'4y																			▲								▲	
Setayeshgar, 2017; a priori: mDQI	▲			▲				▲												◄ UF: SF	▼	▼		▼ Na^+		▲	◄ ◄	▼

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na^+	Tea and Coffee	Fiber	Other, A	Other, B
Shinsugi, 2020; a priori: modified Japanese Food Guide score	▲			▲				▲		▲		W:R	▲ W:R		▲								▼	Na^+			▼	
Siddiqui, 2022; a priori: CDQS	▲		▲	▲		▲	▲			▲		▼	P		▲	D	D	▼		▲								
Sirkka, 2021; a posteriori: 'Minimally processed foods'	▲							▲																▲			▲ ▲	
Sirkka, 2021; a posteriori: 'Ultra-processed foods'							▼	▲										▲						▲				
Smith, 2014; a posteriori: 'Packed Lunch'									▲			▲	M		▲ ch						▲			▲ flav -or			▲	
Smith, 2014; a posteriori: 'Traditional'	▲ ▲							▲				▲	M														▲	▲
Smith, 2014; a posteriori: 'Health Aware'	▲	▼ FF		V			▲ HF	HF		▲		▼P			▲ ch			▼						▼				▲ V

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na^+	Tea and Coffee	Fiber	Other, A	Other, B
Sorensen, 2021; a priori: children's DQI	▲	G		▲	▼		G	▲	G	▲ M		M	M		▲ch	▲ D	D	▼	▼					▼	SB		▼	
Sorensen, 2021; a priori: mMDS	▲ VL		VL	▲		Fr	G	▲	G	▲		▼	M		▼	D	D											
Temple, 2023; a priori: DGA-2020-2025	▲		▲ pro	▲			▲			L	L	L	L		▲	D	D		▼ AS			▼		▼ Na^+			▲	
Tognon, 2014; a priori: fMDS	▲ VL		VL	▲		Fr	G	▲	G	▲		▼	M		▼	D	D											
Vallejo, 2022; a priori: DI score (EAT-Lancet)	▲	◄	▲	▲		▲	▲			◄		▼ RP	▼	▼	▼	D	D		◄	◄	◄	◄						
Vedovato, 2021; a priori: UPF, Nova4	UP				UP				UP			UP	UP		UP		UP	UP	UP			UP		UP			▲ UP	
Vilela, 2022; a priori: UPF, Nova4				SB				▲	▲			▲ P	UP		UP		UP	UP	UP			UP		UP			UP	
Vinke, 2020; a priori: LLDS	▲		▲	▲		LN	▲			▲		▼ RP			▲ NS	D, NS	D, NS	▼		▲	▲	▼			▲			
Wolters, 2018 IDEFICS; ΔRRR1				▼		▼		▼	▲			▼	M	▼				▼										

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na+	Tea and Coffee	Fiber	Other, A	Other, B
Wolters, 2018 IDEFICS; a posteriori: ΔPCA1 to PCA2				▲		▲	G	▲	G			▲ fried	fried		▲ y ▲ fer												▲	
Wolters, 2018 IDEFICS; a posteriori: ΔPCA2 to 'Traditional'	▲	▲	▲	▲														▲			▲	▲						▲
Wolters, 2018 IDEFICS; a posteriori: ΔPCA3 twds PCA1															▲			▲	▲					▲				
Wolters, 2018 IDEFICS; a posteriori: PCA 2 'Med type'				▲		▲	G	▲	G			▲ not fried	not fried		▲ ch, y, NS	▲ NS	NS										▲	
Wolters, 2018 - IDEFICS; RRR1, 'nuts, meat, pizza'	▲	▼	▼	▲		▲		▼	▼			▲	M		▲				▲					▲			▲ ▲	▼ ▼
Wolters, 2018 - KOPS; a posteriori: ΔPCA1		▲						▲		▲ P		▲															▲	

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na+	Tea and Coffee	Fiber	Other, A	Other, B
Wolters, 2018 KOPS; a posteriori: ΔPCA2	▲	▲		▲								▲	M															▲
Wolters, 2018 - KOPS; a posteriori: PCA 1 'Fast food':		▲						▲		▲		▲															▲	
Wolters, 2018 KOPS; a posteriori: PCA 2 'Healthy'	▲			▲			▲	▲							▲ ch, y													▲
Wolters, 2018 KOPS; RRR1, 'Fast food'	▲	▲					▼			▲		▲	▲		▼			▲									▲	
Wolters, 2018 IDEFICS; a posteriori: PCA 1 'Snack'		▲													▲			▲	▲					▲			▲	
Wolters, 2018 KOPS; ΔRRR1 'Increased fast food, starchy CHO	▼	▲					▲			▲																	▲	▼

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated	Fat: Other	Fat: Saturated	Alcohol	Salty foods, Sodium Na^+	Tea and Coffee	Fiber	Other, A	Other, B
Wolters, 2018 KOPS; a posteriori: ΔPCA3							▼	▲																▲				

Adults and older adults

Table A 10. Visualization of dietary pattern components across dietary patterns from intervention studies evidence in adults and older adults examining the relationship between dietary patterns consumed and body composition and risk of obesity organized by first-author last-name alphabetically[*†]

Article; Dietary pattern comparison	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Alvarez-Perez, 2016; RCT: Med+Evo arm	▲		▲	▲	▲	◄	◄	▲		▲	FS	▼ RP	▲ W: R	◄	▼	◄ ch				▲ evo			◄ w			▲ V	◄
Alvarez-Perez, 2016; RCT: Med+Nuts arm	▲		▲	▲	▲	▲	◄	▲		▲	FS	▼ RP	▲ W: R	◄	▼	◄ ch				▲ oo			◄ w			▲ V	◄
Arjmand, 2022; RCT: MIND v. Control diets (calorie-restricted)	▲		▲	▲		◄	▲			▲ not fried		▼ R	F		▼				▼	▲ oo		▼	▲ w			▼	

[*] ▲ Positively-scored component, reflecting higher intake within the food category as part of the pattern; ▼ Negatively-scored component, reflecting lower intake within the food category as part of the pattern; ◄ Neutral component, reflecting moderate (in contrast to higher or lower) intake within the food category as part of the pattern. Dietary approaches included in this table are a priori investigator-assigned diet intervention and/or index/score analysis. The dietary pattern labels are abbreviated in this table due to limited space, but full details about each dietary pattern are described in Table 14.

[†] Abbreviations: AF, added fat; AP, animal products; AS, added sugar; C, coffee; ch, cheese; D, dairy/products; DG, dietary guidelines; DP, dietary pattern; evo, extra-virgin olive oil; fer, fermented; FF, fried potato or French fries; Fr, included with Fruit component; FS, fish and seafood; G, grains or grain products; HF, high-fiber; LN, legumes and nuts; M, meat/ products; Na+, sodium; NP, not processed; NS, not sweetened; oo, olive oil; P, processed; pro, protein (total/foods); RP, red and processed; rw, red wine; SB, sugar-sweetened beverage; SF, saturated fat; SO, sunflower oil; T, tea; Tr, Trans fat; UF, unsaturated; UP, ultra-processed; V, vegetable; VO, vegetable oil; w, wine; W:R, white-to-red meat ratio; X, component excluded from the dietary pattern; y, yogurt

Article; Dietary pattern comparison	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Bruno, 2020; MEDAS in IG v. Control	▲		▲	▲		▲			▼	▲		▼ RP	▲ W: R					▼		▲ oo ▲ oo to cook		▼	▲ rw			▲ V	
Calvo-Malvar, 2021 A; RCT: 'Alcohol'												▲ P								▲ oo			▲ ▲ ▲		▲ C		
Calvo-Malvar, 2021 A; RCT: 'Caloric'												▲ P						▲	▲				▼ w	▲ salty food		▲	
Calvo-Malvar, 2021 A; RCT: 'Fish and Boiled Meals'	▲ ▲	▲ boil	▲							▲ not fried ▲ fried	FS	▲ not fried		▲ not fried ▲ fried						▲ SO							
Calvo-Malvar, 2021 A; RCT: Fried'		▲ fried					▼		▲	▲ fried		▲ fried				▼	▲		▲	▲ SO							
Calvo-Malvar, 2021 A; RCT: 'Fruits, Vegetables, and Dairy Products'	▲			▲		▲	▲									▲			▲	▲ oo					▲ T	▲	
Calvo-Malvar, 2021_B; IG v. Control	▲	▲	▲	▲		▲	▲	▲	▼	▲	FS	▼ RP	▲	▲	▲				▼	▲ oo	▼	▼	◄ w			▲	

Article; Dietary pattern comparison	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Casas, 2022; RCT: MedDiets v. Control	▲ Q1		▲	▲	▲					▲	FS														▲ T		
Crosby, 2022; AHEI-2010	▲		▲	▲	SB	LN	▲					▼						▼		▲ ▲	▼ Tr		◄	▼			
Crosby, 2022; RCT: Low-Fat Vegan v. Control	▲		▲	▲			▲			▼ AP	AP	AP	AP	AP	AP	AP	AP				▼ AF						
Davis, 2017; RCT: Med diet	▲		▲	▲		▲	▲			◄		▼ RP			◄ ch, y					▲ evo	◄		◄ w				
Estruch, 2019; RCT: MEDAS, Med+EVOO v. Control	▲		▲ ▲	▲	▲	◄	▲			▲	FS	▼ RP	▲ W: R	◄	▼	◄ ch				▲ oo			◄ w			▲ V	◄
Estruch, 2019; RCT: MEDAS, Med+Nuts v. Control	▲		▲ ▲	▲	▲	▲	▲			▲	FS	▼ RP	▲ W: R	◄	▼	◄ ch				▲ oo			◄ w			▲ V	◄
Georgoulis, 2020; 2021; 2023; MDG v. SCG had higher MedDietScores	▲		▲	▲			▲			▲	FS	▼ R ▼ P	▲		▲			▼	▼	▲ oo			◄	▼ salt			
Gotfredsen, 2021; RCT: OFF v. HAB																						▼					

Article; Dietary pattern comparison	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Gotfredsen, 2021; RCT: SUB v. HAB	▲						▲													▲		▼				▲	▼ V
Jenkins, 2017; RCT: Advice group	▲		▲ soy	▲		▲	▲					▼	▼					▼	▼								
Lima, 2013; DASH diet v. Control	▲	▲	▲	▲				▲		▲		▼	▼			▲		▼						▼ salt			
Luo, 2022; RCT: 'Med Diet' (MD)	▲		▼ soy	▲		▲	▲		▼	▲		▼	▲							▲ evo	▼ SO						
Luo, 2022; RCT: Control Diet (CD)	▼		▼ soy	▼		▼	▼	▲	▲	▼		▲	▲							▼ oo	▲ SO						
Luo, 2022; RCT: 'Traditional Jiangnan Diet (TJD, traditional of SE China	▲		▲	▲		▼	◄		▲	▲	▲	▼	▼								▲ SO						
Maruyama, 2021; RCT: 'Japan Diet (JD)	▲		▲				▲			▲		▼	▼						▼			▼	▼				
Maruyama, 2021; RCT: 'Partial JD' (PJD)												▼	▼						▼			▼	▼				

Article; Dietary pattern comparison	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Murphy, 2022; RCT: MedDiet	▲	▼	▲	▲		▲	▲			◄		▼ R		▼	▼	D	D	▼	SB	▲ oo	◄	▼	◄ rw			▼ ▼	
Pattinson, 2020; RCT: FBG vs. TMR				▲																					▲	▼	
Pattinson, 2020; HEIFA score	▲ ▲		M, D	▲ ▲		▲	▲	▲				▼ P			◄			▼	▼	▲							
Pattinson, 2020; RCT: TMR v. FBG				▼																					▲	▲	
Pavić, 2019; RCT: Med diet (MD) v. SHD						▲				▲										▲ oo							
Poulsen, 2015; RCT: New Nordic diet intervention	▲	▲		▲		▲	▲			▲	▲	▲	M													▲ V	
Reidlinger, 2015; RCT: DG v. CG	▲			▲			▲			▲		▼						▼	▼		▼	▼	◄	▼ salt			
Sidahmed, 2014; RCT: 'Healthy eating'	▲			▲			▲													▼							
Sidahmed, 2014; RCT: 'Med.'	▲			▲			▲													▲							

Article; Dietary pattern comparison	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Turner-McGrievy, 2015; RCT: 'Pesco-vegetarian'	▲		▲	▲			▲			◄	◄	▼	▼	◄	◄	◄	◄										
Turner-McGrievy, 2015; RCT: 'Semi-vegetarian'	▲		▲	▲			▲			◄	◄	◄	◄	◄	◄	◄	◄										
Turner-McGrievy, 2015; RCT: 'Vegan'	▲		▲	▲			▲			▼ AP	AP	AP	AP	AP	AP	AP	AP										
Turner-McGrievy, 2015; RCT: 'Vegetarian'	▲		▲	▲			▲			▼	▼	▼	▼	◄	◄	◄	◄										
Tussing-Humphreys, 2022; MedDiet Score	▲	▲	▲	▲		▲	▲			▲		▼	▼				▼			▲ oo			◄ w				
Van Horn, 2020; RCT: IG v. Usual diet	▲		▲	▲				▲								▲					▼						

Table A 11. Visualization of dietary pattern components from observational studies that examined dietary patterns consumed by adults and older adults and body composition and risk of obesity organized alphabetically by first-author last name*,†

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Agnoli, 2018; a priori: IMI	▲		▲	▲				▲		▲		▼ R						▼		▲ oo		▼	◄				
Alae-Carew, 2020; a posteriori: 'Stage 1'	X	▲	X	▼					▼				▼	▼	▼											▼ UP	▲
Alae-Carew, 2020; a posteriori: 'Stage 2'	▼	▲	▼	▼			▼		▼			▼ R	▼	▼	▼											▼ UP	◄
Alae-Carew, 2020; a posteriori: ''Stage 3', ref	▼	◄	◄	◄					◄		▲	◄ R	◄	▼												▲ UP	◄ UP
Alae-Carew, 2020; a posteriori: 'Stage 4'	▲		◄						◄			▲ R ◄ R	▲		▲											▲ UP	◄

*▲ Positively-scored component, reflecting higher intake within the food category as part of the pattern; ▼ Negatively-scored component, reflecting lower intake within the food category as part of the pattern; ◄ Neutral component, reflecting moderate (in contrast to higher or lower) intake within the food category as part of the pattern

† Dietary approaches included methods such as a priori index/score analysis, a posteriori such as principal component analysis (PCA), and reduced rank regression (RRR). The dietary pattern labels are abbreviated in this table due to limited space, but full details about each dietary pattern are described in Table 16

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Aljadani, 2020_F; a priori: ARFS	▲		▲ pro	▲		pro		▲		pro		▼	▼	pro		▲					◄		◄				
Aljadani, 2020_I; a priori: ARFS	▲		▲ pro	▲		pro		▲		pro		▼	▼	pro		▲					◄		◄				
Allaire, 2020; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼			
Andre, 2020; a priori: LitMDS	▲		▲	▲		▲		▲		▲		▼			▼					▲ oo			◄				
Angulo, 2021; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼			
Angulo, 2021; a priori: GDQS	▲ ▲ ▲	▼	▲	▲ ▲ ▲	▼ SB	▲	▲		▼	▲ FS	FS	▼ R ▼ P	▲	▲		▲	▼	▼	▼	▲						▼	
Arabshahi, 2017; a posteriori: 'Fruit/vegetable'	▲		▲	▲			▲	▲	▼, ♀	▲	FS	▲	▲			▲						▼				▼	▲
Arabshahi, 2017; a post.:'Meat/fat'		▲ hot	▼	▼			▼	▼, ♂	▲			▲ RP	▼	▲ fried		▼	▲				▲	▲		▲ salty food	▼ T, ♀	▲ ▲	
Baldwin, 2020; a priori: ARFS	▲		▲ pro	▲		pro		▲		pro		▼	▼	pro		▲					◄		◄				

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Baratali, 2021; a posteriori: 'Fatty & Sugary'								▲														▲				▲	
Baratali, 2021; a posteriori: 'Fruits & Vegetables'	▲			▲	Fr																						
Baratali, 2021; a posteriori: 'Meat & Fries'		▲ FF										▲ RP	▲														
Baratali, 2021; a priori: aHEI	▲	X	▲ soy	▲		LN						W: R	▲ W: R							▲ UF: SF	▼ Tr	UF: SF	◄			▲ ▲	
Baratali, 2021; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼					▲ UF: SF		UF: SF	◄				
Baratali, 2021; a priori: mMDS	▲ ▲			▲		▲	▲			▲		▼ RP								▲ UF: SF		UF: SF	◄				
Beslay, 2020; a priori: UPF, Nova4	▲ UP		V	V	SB			▲ UP	G		M, P	▲ RP	M, P	M, P	▲ UP			▲	▲		▲	AF		▲ salty food			
Best, 2023; a priori: EWG	▲ VF			VF						▲ ▲		▼ RP						▼				▼		▼ salt		▲	

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Best, 2023; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼					▲ UF: SF		UF: SF	◄				
Bouzas, 2020; a priori: MedDiet, m	▲		▲	▲	▼ SB	▲	▲		▼ ▼	▲ FS	FS	▼ RP	▲				▼	▼	▼	▲ evo		▼	▲ w			▲ ▲	
Bouzas, 2020; a priori: Proveg.	▲		▲	▲	▼	▲	▲		▼	▼ FS	FS	▼	M	▼	▼			▼		▲ oo		▼			▲ C	▼ AP	
Bouzas, 2022; a priori: MEDAS	▲		▲	▲		▲				▲		▼ RP	▲ W: R					▼	▼	▲ oo ▲ oo to cook		▼	▲ w			▲	
Brayner, 2021; RRR: 'DP1'	▲			▼		▲										▼						▲					
Brayner, 2021; RRR: 'DP2'						▼											▲					▲					
Canhada, 2019; a priori: UPF, Nova4					SB			▲	▲ ▲			▲ P	M, P		▲ y			▲	▲		▲	▲	▲	▲ salty food		▲ ▲	
Cespedes Feliciano, 2016; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼			

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Cespedes Feliciano, 2016; a priori: aMED	▲	X	▲	▲		▲	▲			▲		▼ RP								▲ UF: SF		UF: SF	◄				
Cespedes Feliciano, 2016; a priori: DASHs	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼			
Cespedes Feliciano, 2016; a priori: HEI-2010	▲ ▲ L	V	V, pro	▲ ▲			▲		▼	▲ pro	pro	pro	pro		▲			▼	SB	▲ UF		▼		▼			
Chaltiel, 2019; a priori: PNNS-GS2, m	▲	◄	▲	V		▲	▲	◄		▼ FS	◄	▼ R ▼ P	◄	◄	▲	D	D	▼	▼		▼A F		▼	▼ salt			
Chen, 2019; a priori: PDI, m	▲ ▲	▲	▲	▲		▲	▲		▲	▼ FS		▼ RP	▼	▼	▼	▼	▼	▲	▲	▲ VO		▼	▲		▲	▼ AP	
Choi, 2020; a priori: APDQS	▲	◄	▲	▲	◄	▲	▲		◄	▲ ▼ Fried	◄	▼	▲	◄		▲	▼	▼	▼	▲	◄	▼	▲	▼ salty food	▲	◄ ◄ ◄ ◄ ◄ ◄ ◄	▼ FF ▼
Cordova, 2021; a priori: Q5 v. Q1 UPF, Nova4	▲ UP	▲	▼	▼	SB			▲ UP	▲	▼		▲ RP	M, P	◄	▲ UP		▲	▲	▲		◄ AF	▲	X	▲ salty food	◄ C	▲ UP	

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Cuenca-Garcia, 2014; a priori: DQI	▲		G	V				▲													▼	▼ ▼		▼		▲ pro	
Cuenca-Garcia, 2014; a priori: IDIs	▲		▲	V		LN	▲			▲		▼ P						▼	SB			▼		▼			
Cuenca-Garcia, 2014; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼					▲ UF: SF		UF: SF	◄				
Ericson, 2019; a posteriori: 'Dressing-Vegetables'	▲	▲ fried						▲					▲		▲ ch			▼			▲			▲ salty food		▼	
Ericson, 2019; a posteriori: 'Health-Conscious'	▲			▲			▲ HF	▲	▼	▲		▼ RP			▲	▲ y		▼									
Ericson, 2019; a posteriori: 'Low-Fat Products'																▲ y ▲ milk					▲	▼					
Ford, 2017; a priori: aMED	▲	X	▲	▲		▲	▲			▲		▼ RP								▲ UF: SF		UF: SF	◄ 4/wk				
Ford, 2017; a priori: HEI-2010	▲ ▲ L	V	V, pro	▲ ▲			▲		▼	▲ pro	pro	pro	pro		▲			AS	▼	▲		▼	◄	▼			

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Ford, 2017; a priori: Low-fat	▲			▲				▲															◄ 3/wk				
Ford, 2017; a priori: Reduced-carbohydrate	◄			◄				◄															▲ 6/wk				
Fung, 2015; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼			
Fung, 2015; a priori: DASHs	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼			
Fung, 2015; a priori: modified aMED	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼			
Fung, 2021; a priori: GDQS	▲ ▲ ▲	▼	▲	▲ ▲ ▲	▼ SB	▲	▲		▼	▲ FS	FS	▼ R ▼ P	▲	▲		▲	▼	▼	▼	▲						▼	
Funtikova, 2014; a priori: MDS-rec, Spain	▲		▲	▲		▲		▲		▲		▼ RP	M		▼					▲ oo			◄ rw				
Funtikova, 2014; a priori: mMDS or R-MDS, Spain	▲		▲	▲		▲		▲		▲		▼ RP	M		▼					▲ oo			◄ rw				
Glenn, 2021; a priori: DASHs	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼			

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Gómez-Donoso, 2018 A; a priori: DOS	▲		▲	▲		▲			▼	▲ FS	FS	▼ RP			▲ y			▼				▼	▼			▼ UP	
Gómez-Donoso, 2019 a; a priori: hPDI	▲	▼	▲	▲	▲	▲	▲		▼	▼ FS	FS	▼	M	▼	▼	D	D	▼	▼	▲ VO		▼			▲	▼ AP	
Gómez-Donoso, 2019 a; a priori: uPDI, variants	▼	▲	▼	▼	▼	▼	▼		▲	▼ FS	FS	▼	M	▼	▼	D	D	▲	▲	▼ VO		▼			▼	▼ AP	
Gómez-Donoso, 2019 a_Proveg; a priori: Proveg. FP	▲	▲	▲	▲		▲		▲		▼ FS	FS	▼	M	▼	▼	D	D			▲o o		▼					
Gómez-Donoso, 2019 b; a priori: SENC-FP	▲		▲ pro	▲		pro	▲	W G		pro	pro	◄ RP	pro	pro	▲	D	D		◄	▲ oo	◄A F		◄ fer	◄ salty food		▲	
Hennein, 2019; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼			
Hennein, 2019; a priori: aMED, m	▲	X	▲	▲		▲	▲			▲		▼ RP								▲ UF: SF		UF: SF	◄				
Hodge, 2021; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼			

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Hodge, 2021; a priori: MDS, m	▲		▲	▲		▲	▲			▲		▼ RP			▼	D	D			▲ oo			◄				
Huo, 2023; a priori: hPDI	▲	▼	▲	▲	▼	▲	▲		▼	▼ FS	FS	▼	M	▼	▼			▼	▼	▲ VO		▼			▲	▼ AP	
Huo, 2023; a priori: uPDI	▼	▲	▼	▼	▲ SB	▼	▼		▲	▼ FS	FS	▼	M	▼	▼			▲	▲	▼		▼			▼	▼ AP	
Jennings, 2020; a priori: aMED	▲	X	▲	▲		▲	▲			▲		▼ RP								▲ UF: SF		UF: SF	◄				
Jennings, 2020; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼	D	D			▲ UF: SF		UF: SF	◄				
Johns, 2015; RRR: "Energy Dense, High Sat. Fat, Low Fiber"	▼	▲		▼		▲	▼	▼	▲	▼		▲	▲	▲	▲ milk	▼y	▲ y, ch	▲	▲	▲	▲		▲			▲	▼
Jung, 2022; a priori: hPDI, m	▲ ▲	▼	▲	▲		▲	▲		▼	▼ FS	FS	▼	M	▼	▼			▼	▼			▼		V	▲	▼ AP	
Jung, 2022; a priori: PDI	▲ ▲	▲	▲	▲		▲	▲		▲	▼ FS	FS	▼	M	▼	▼			▲	▲			▼		V	▲	▼ AP	
Jung, 2022; a priori: uPDI, m	▼ ▼	▲	▼	▼		▼	▼		▲	▼ FS	FS	▼	M	▼	▼			▲	▲			▼		V	▼	▼ AP	
Kanerva, 2018; a priori: BSD	▲	X	▲	▲			▲			▲		▼ RP									▲		◄				

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Kang, 2021; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼			
Kang, 2021; a priori: aMED	▲	X	▲	▲		▲	▲			▲		▼ RP								▲ UF: SF		UF: SF	◄				
Kang, 2021; a priori: DASHs	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼			
Kang, 2021; a priori: HEI-2015	▲ ▲ VL	V	V	▲ ▲			▲		▼	▲ pro	pro	pro	pro		▲			▼	SB	▲ UF: SF		▼		▼			
Khoury, 2022; a priori: FSAm-NPS	▼		V	V		V												AS	▲	▼ oo ▼ ▼		▲		▲		▲	▼
Kim, 2020; a priori: hPDI	▲	▼	▲	▲	Fr	▲	▲		▼	▼ FS	FS	▼	M	▼	▼	D	D	▼	▼			▼		▼	▲	▼ AP	
Kim, 2020; a priori: PDI	▲	▲	▲	▲	Fr	▲	▲		▲	▼ FS	FS	▼	M	▼	▼	D	D	▲	▲			▼		▲ salty food	▲	▼ AP	
Kim, 2020; a priori: Proveg. FP	▲	▲	▲	▲		▲		▲		▼ FS	FS	▼	M	▼	▼	D	D			X		▼					
Kim, 2020; a priori: uPDI	▼	▲	▼	▼	Fr	▼	▼		▲	▼ FS	FS	▼	M	▼	▼	D	D	▲	▲			▼		▼ salty food	▼	▼ AP	

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Konieczna, 2019; a priori: MEDAS	▲		▲	▲		▲			▼	▲		▼ RP	▲ W: R					▼		▲ oo ▲ oo to cook		▼	▲ rw			▲ V	
Konieczna, 2021; a priori: UPF, Nova4												▲ P			▲			▲	SB				▲		▲	▲ ▲ ▲	
Li, 2015 BJN; a priori: HNFI	▲	▲		▲			▲ ▲			▲																	
Li, 2015 BJN; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼	D	D			▲ UF: SF		UF: SF	◄				
Li, 2016 DP; a posteriori: 'ADA, 'Animal offal/dessert/alcohol'										▲	▲	▲ R ▲	▲						▲				▲			▲	
Li, 2016 DP; a posteriori: 'Meat'								▲				▲ R	▲	▲													
Li, 2016 DP; a posteriori: 'Vegetable'	▲	▲	▲	▲	▲	▲	▲			▲					▲										▲ T		▲
Li, 2021; a priori: UPF, Nova4			▲ soy					▲	▲ ▲			▲							▲				▲ L	AS			

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Li, 2022; RRR: 'Healthy' (HDP)	▲ ▲	▲	▲ soy	▲		▲	▲	▼	▲	▲	▲	▼	▲	▲	▲	▲ milk	▲ milk	▲	SB	▲	▲	▲		V, FS		▲ ▲ M, P	
Li, 2022; RRR: 'Unhealthy' (UHDP)	▲ ▲	▲	▲ soy	▲		◄	▲	▲		◄	◄	◄	◄	◄	◄	◄ milk	▲ milk	▲	SB	◄	◄	◄		V, FS			
Lim, 2021; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲			◄				
Lim, 2021; a priori: DASHs	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼									
Liu, 2022; a posteriori: 'Grain-vegetable'	▲						G	▲	G																		
Liu, 2022; a posteriori: 'High-salt and high-oil'			▲																		▲					▲ V	
Liu, 2022; a posteriori: 'Junk food'																		▲	▲							▲	
Liu, 2022; a posteriori: 'Western'		▲	▲							▲		▲	M	▲	▲ milk												

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Liu, 2023; RRR: 'Sulfur Microbial Diet'	▼		▼		▼							▲ P						▲	▼				▲				▼
Livingstone, 2022; a priori: HDS	▲		▲	V		LN				▲		▼ RP	M					AS	▼	◄	▼	▼				▲ ▲	◄ ◄
Livingstone, 2022; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼	D	D			▲ UF: SF		UF: SF	◄				
Livingstone, 2022; a priori: RFS, m	▲ ▲ ▲	▲ ▲	▲	▲ ▲ ▲	▲ ▲ ▲	▲	▲	▲	▲	▲			▲			▲						▼						
Livingstone, 2022-B; RRR: 'DP1'	▼			▼					▲							▼			▲								
Livingstone, 2022-B; RRR: 'DP2'	▲			▲				▲	▲					▼			▼c h					▼					
Livingstone, 2022-B; RRR: 'DP3'	▲							▼									▲					▲	▼				
Maskarinec, 2017; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼			

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Maskarinec, 2017; a priori: aMED	▲	X	▲	▲		▲	▲			▲		▼ RP								▲ UF: SF		UF: SF	◄				
Maskarinec, 2017; a priori: DASHs	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼			
Maskarinec, 2017; a priori: HEI-2010	▲ ▲ VL	V	V	▲ ▲			▲		▼	▲ pro	pro	pro	pro		▲			AS	▼	▲		▼		▼			
Maskarinec, 2020; a priori: HEI-2010	▲ ▲ L	V	V, pro	▲ ▲			▲		▼	▲ pro	pro	pro	pro		▲			AS	▼	▲		▼		▼			
Mattei, 2017; a priori: AHA-ds	▲ ▲			V	V		▲			▲								▼	SB		▼	▼	◄	▼			
Mattei, 2017; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼			
Mattei, 2017; a priori: DASHs, m	▲	X	▲	▲	Fr	LN	▲					▼ RP			▲	D	D	▼						▼			
Mattei, 2017; a priori: HEI-2005	▲		▲	▲			▲	▲	G			▲			▲			▼	SB	▲		▼	▼	▼			
Mattei, 2017; a priori: MDS	▲		▲	▲		▲	▲			▲		▼ RP			▼	D	D			▲ UF: SF		UF: SF	◄				

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Mendonca, 2016; a priori: UPF, Nova4					SB			▲	▲			▲ P	M, P		▲			▲			▲					▲	
Mirmiran, 2015; a priori: LitMDS	▲		▲	▲		Fr		▲		▲	FS	▼ RP			▼	D	D			▲ oo			X				
Mirmiran, 2015; a priori: mMDS	▲		▲	▲		▲		▲		▲		▼ RP			▼	D	D			▲ UF: SF		UF: SF	X				
Mirmiran, 2017; a posteriori: 'Traditional'	▲ ▲		▲	▲		▲	▲			▲		◄	▲	◄		▲	▲				▼						
Mirmiran, 2017; a posteriori: ''Western'							▼			▼		▲ R	▼	▼				▲	▲	▲				▲ salty food		▲	▼ V
Olstad, 2017; a priori: aADGI	▲		▲	▲			▲	▲					▲ L			▲		AS	▼		▼	▼	◄			▲	▼
Otto, 2015; a priori: aDASHs	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼		▲ UF	▼			▼			
Otto, 2015; a priori: aHEI	▲	X	▲ soy	▲		LN						W: R	▲ W: R							▲ UF: SF	▼ Tr	UF: SF	◄			▲ ▲	
Otto, 2015; a priori: aPDQS	▲ ▲ ▲ ▲	◄	▲ ▲s oy	▲ ▲	◄	▲	▲		◄	▲	◄	▼ P ▼	◄	◄		▲	▼	▼	▼ ▼	▲	◄	▼	▲	▼ salty food	▲	◄ ◄ ◄ ◄ ◄	▼ FF ▼ ▼

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Perala, 2017; a priori: BSD	▲	X	▲	▲			▲			▲		▼ RP									▲		◄				
Pribisalić, 2021; a priori: MDSS	▲	▼	▼	▲		▲		▲		▼		▼ R	▼	▼	▲	D	D		▼	▲ oo			▲ w				
Rauber, 2021; a priori: UPF, Nova4					SB			▲	▲									▲	▲		▲			AS		▲	
Riboldi, 2022; a priori: IFI				▼	▲ NS ▲ SB	▼	▼				▲	▲ R ▲ P ▲ ▲	▼					▲ ▲ ▲ C				▼	▼ w		C, SB	▼	▲ be er
Roswall, 2014; a priori: HNFI	▲	▲		▲			▲			▲																	
Roswall, 2014; a priori: rMED	▲	X	▲	▲		Fr	▲	W G	W G	▲		▼ RP	M							▲			◄				
San-Cristobal, 2017; a priori: MEDAS	▲		▲	▲		▲				▲		▼ RP	▲ W: R					▼	▼	▲ oo ▲ oo to coo k		▼	▲ w			▲	
Satija, 2019; a priori: hPDI	▲	▼	▲	▲	▼	▲	▲		▼	▼ FS	FS	▼	M	▼	▼	D	D	▼	▼	▲ VO		▼			▲	▼ AP	

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Satija, 2019; a priori: PDI	▲	▲	▲	▲	▲	▲	▲		▲	▼ FS	FS	▼	M	▼	▼	D	D	▲	▲	▲		▼			▲	▼ AP	
Satija, 2019; a priori: uPDI	▼	▲	▼	▼	▲ SB	▼	▼		▲	▼ FS	FS	▼	M	▼	▼	D	D	▲	▲	▼ VO		▼			▼	▼ AP	
Shakeri, 2019; a priori: EDIP	▲ ▲				▲				▼	▼		▼ P ▼ R ▼						▼						▲ salty food	▲ T ▲ C	▲	▼ ▼ V
Steffen, 2014; a priori: mMDS	▲		▲	▲	▲ FV	▲	▲		▼	▲		▼ RP			▼	D	D	▼		▲ UF: SF		UF: SF	◄		▲ CT	▼ ▼	
Sweetman, 2023; RRR: DP	▼			▼			▼		▲										▲			▲				▲	
Tabung, 2019; a priori: EDIH	▼	▲F F		▼						▲		▲ R ▲ P	▲	▲		▲	▼	▲			▲		▼ w		▼ C	▲ ▲	
Tabung, 2019; a priori: EDIP	▲ ▲				▲				▼	▼		▼ P ▼ R ▼						▼						▲ salty food	▲ T ▲ C	▲	▼ ▼ V
Tobias, 2016; a priori: aMED	▲	X	▲	▲		▲	▲			▲		▼ RP								▲U F:SF		UF: SF	◄				

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Tobias, 2016; a priori: aMED	▲	X	▲	▲		▲	▲			▲		▼ RP								▲U F:SF		UF: SF	◄				
Tobias, 2016; a priori: DASHs	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼			
Um, 2023; a priori: DQs	▲			▲	▼		▲		▼			▼ RP						▼								▼	
Vinke, 2020; a priori: LLDS	▲		▲	▲		LN	▲			▲		▼ RP				▲		▼		▲		▼			▲		
Wang, 2018 BMJ; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼			
Wang, 2018 BMJ; a priori: aMED	▲		▲	▲		▲	▲			▲		▼ RP								▲		▼	◄				
Wang, 2018 BMJ; a priori: DASHs	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼			
Winkvist, 2017; a priori: HDS	▲	▼ fried		▲	X		▲			▲		▼						▼	▼								
Xu, 2021; a priori: ADG score	▲			▲				▲			▲		▲		▲								▼10+/ wk				

Article; Dietary pattern approach and label	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats (Poultry)	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole, high fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Tea and Coffee	Other, A	Other, B
Yang, 2022; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼			