UNITED STATES DEPARTMENT OF AGRICULTURE

Dietary Patterns and Risk of Type 2 Diabetes: A Systematic Review

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Plain-language summary

What is the question?
The question is: What is the relationship between dietary patterns consumed and risk of type 2 diabetes? The population of interest included infants and young children up to age 24 months, children and adolescents, and adults and older adults.

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 systematic reviews that were conducted by the 2020 Dietary Guidelines Advisory Committee and as part of the Dietary Patterns Systematic Reviews Project.

What is the answer to the question?

Children and Adolescents

- A conclusion statement cannot be drawn about the relationship between dietary patterns consumed by children and adolescents and risk of type 2 diabetes because of substantial concerns with directness. (Grade Not Assignable)

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 red and processed meats, high-fat dairy products, refined grains, and sugar-sweetened foods and beverages are associated with lower risk of type 2 diabetes. This conclusion statement is based on evidence graded as strong.

How up-to-date is this systematic review?
Conclusion statements from this review are based on articles 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 risk of type 2 diabetes? This is an update to existing systematic reviews that were conducted by the 2020 Dietary Guidelines Advisory Committee and as part of the 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 risk of type 2 diabetes 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 in children and adolescents and between January 2014 and May 2023 in adults and older adults. 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 the 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

Children and Adolescents

Conclusion statement[*] *and grade:* A conclusion statement cannot be drawn about the relationship between dietary patterns consumed by children and adolescents and risk of type 2 diabetes because of substantial concerns with directness. (Grade Not Assignable)

Summary of the evidence:

- The body of evidence includes 15 articles (1 randomized controlled trial; 14 from prospective cohort studies) published since 2019 that met inclusion for this review in children and adolescents and were assessed as they relate to the evidence included in the existing review.
- The 2025 Committee was not able to draw a conclusion due to critical limitations in the body of evidence.

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, and fish/seafood and lower intakes of red and processed meats, high-fat dairy products,

[*] 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.

refined grains, and sugar-sweetened foods and beverages are associated with lower risk of type 2 diabetes. This conclusion statement is based on evidence graded as strong.

Summary of the evidence:

- The body of evidence includes 118 articles (14 articles from randomized controlled trials; 104 articles from prospective cohort studies) published since 2014 that met inclusion for this review in adults and older adults and were assessed as they relate to the evidence included in the existing review.
- The direction and effect size of results were similar across studies.
- The size of study groups was adequate or large and variation around effect estimates was narrow across studies.
- Most studies were designed and conducted well, although there were some concerns for outcome measurement in some studies.
- The populations, dietary patterns, and outcome measures examined directly represented those of interest in the review.
- The evidence applies to the U.S. population.

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: Abbreviations) 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 risk of type 2 diabetes?

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 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: Conclusion statements from the existing systematic reviews**.**

[*] 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
July 2020	Updated 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 Risk of Type 2 Diabetes: 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.SR0103
May 2023	Systematic review protocol for the 2025 Dietary Guidelines Advisory Committee published online	Hoelscher DM, Anderson C, 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, Raghavan R, Reigh N, Higgins M, Butera G, Terry N. Dietary Patterns and Risk of Type 2 Diabetes: 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 C, 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, Raghavan R, Reigh N, Higgins M, Butera G, Terry N. Dietary Patterns and Risk of Type 2 Diabetes: 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
June 2024	Revisions to the systematic review protocol for the 2025 Dietary Guidelines Advisory Committee published online	Hoelscher DM, Anderson C, 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, Raghavan R, Reigh N, Higgins M, Butera G, Terry N. Dietary Patterns and Risk of Type 2 Diabetes: 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 risk of type 2 diabetes?

This systematic review is an update to an existing NESR systematic review that examined dietary patterns consumed by children and adolescents and risk of type 2 diabetes that was conducted as part of the Dietary Patterns Systematic Reviews Project.‡ That systematic review was updated by the 2020 Dietary Guidelines Advisory Committee.§ Eligible studies 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 is an update to an existing NESR systematic review that examined dietary patterns consumed by adults and older adults and risk of type 2 diabetes 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, and final graded conclusion statements take into consideration evidence published from January 1980 to May 2023.

Develop a protocol

A systematic review protocol is the plan for how NESR's methodology will be 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 that will be 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: Inclusion and exclusion criteria comparison between existing and updated systematic reviews.

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* 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

‡ 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

§ Boushey C, Ard J, Bazzano L,et al. Dietary Patterns and Risk of Type 2 Diabetes: 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 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 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 before evidence synthesis to clarify the intent of the intervention/exposure and comparator criteria, but do not represent a change in how the criteria were applied.
March 2024	The inclusion and exclusion criteria for the outcomes were revised to: All included study designs in children (birth to 19 years) and interventions only in adults (19 years and older): • Fasting blood glucose • Fasting insulin • Glucose tolerance/insulin resistance • Hemoglobin A1C • Prediabetes All included study designs in all included age groups: Type 2 diabetes	This revision was made to align with protocols from questions with type 2 diabetes outcomes to allow the inclusion of intervention studies in adults and older adults that only measure intermediate outcomes. The revision was made before any evidence was synthesized.

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 (**PICO**) 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 are considered during the risk of bias assessment of non-randomized and observational studies.

Figure 1 is the analytic framework for the systematic review. It shows that the intervention or exposure of interest is dietary patterns consumed by infants, young children up to age 24 months, children, adolescents, adults, and older adults. The comparators are different dietary patterns or different levels of adherence to/consumption of the same dietary pattern. The outcomes include blood glucose, insulin, and glucose tolerance/insulin resistance (in infants, toddlers, children, adolescents from all included study designs; and in adults and older adults from interventions only), hemoglobin A1C (HbA1C), prediabetes and risk of type 2 diabetes (in all populations). The key confounders may impact the relationships of interest and are sex, age, physical activity, anthropometry, socioeconomic position, race and/or ethnicity, and family history of diabetes in all populations, and alcohol intake and smoking in adults and older adults. 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 risk of type 2 diabetes?

Population	***Intervention/ exposure***	***Comparator***	***Outcome***	***Key confounders***
Infants and young children up to age 24 months	Consumption of a dietary pattern	Different dietary pattern(s) Different adherence/ consumption levels to the same dietary pattern	All included study designs in children (birth to 19 years) and interventions only in adults (19 years and older): • Fasting blood glucose • Fasting insulin • Glucose tolerance/insulin resistance • Hemoglobin A1C • Prediabetes All included study designs in all included age groups: • Type 2 diabetes	• Sex • Age • Physical activity • Race and/or ethnicity • Socioeconomic position • Anthropometry at baseline • Smoking (adults, older adults) • Alcohol intake (adults, older adults)
Children and adolescents (2 up to 19 years)				
Adults and older adults (19 years and older)				

Synthesis organization:

I. ***Population***: Infants and young children up to age 24 months; Children and adolescents; Adults and Older adults
   - i. ***Outcome:*** Blood glucose; Insulin; Glucose tolerance/insulin resistance; HbA1C; Prediabetes; Type 2 diabetes

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 – May 2023[§]	• Before January 1980
Population: Study participants	• Human	• Non-human
Population: Life stage	At intervention or exposure and outcome: • Infants and toddlers (birth up to 24 months) • Children and adolescents (2 up to 19 years) • Adults and older adults (19 years and older) At intervention or exposure: • Individuals during pregnancy	At intervention or exposure: • N/A At outcome: • Individuals during 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

[§] This review update date range encompasses the existing systematic review and systematic evidence scan date ranges.

Category	Inclusion Criteria	Exclusion Criteria

Population: Health status	• 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;
	  ○ 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 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,[†] with low birth weight,[‡] and/or small for gestational age
		  ○ 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 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 dietary pattern on the outcome(s) of interest is not analyzed 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)	All included study designs in children (birth to 19 years) and interventions only in adults (19 years and older): • Fasting blood glucose • Fasting insulin • Glucose tolerance/insulin resistance • Hemoglobin A1C • Prediabetes All included study designs in ages 2 years and older: • Type 2 diabetes	• Urinary measures of glucose • Non-fasting blood glucose • Non-fasting insulin
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
Study duration	• Intervention length ≥12 weeks	• Intervention length <12 weeks

Size of study groups	• 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 (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 (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

Category	Inclusion Criteria	Exclusion Criteria
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

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 terms using syntax appropriate for the databases being searched, and employing search refinements, such as search filters. For this existing review, 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

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[*] 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)

[†] 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.

[**] 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

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 the 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 quantitative tests of heterogeneity. Eligible studies published since October 2019 in children and adolescents and 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.

After the Committee synthesized the body of evidence, they drafted [a] conclusion statement[s]. 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[s] until they reached agreement on wording that accurately reflected the body of evidence. The Committee developed [a] conclusion statement[s] by starting with the conclusion from the existing review and determining whether updates were needed based on the newly published evidence. In doing so, the Committee determined if the existing conclusion statements and grades should be retained without any modifications or should be updated to appropriately reflect both the existing review and the newer evidence.[*]

The Committee then graded the strength of the evidence underlying each conclusion statement. They do 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.[†]

- <u>Consistency</u>: 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.

[*] USDA Nutrition Evidence Systematic Review Branch. USDA Nutrition Evidence Systematic Review: Methodology Manual, Chapter 8: Updating NESR Systematic Reviews. 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

[†] 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

- 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 a 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, 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 National Institutes of Health (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 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 articles included in this systematic review were identified from two literature searches (**Appendix 4).** The first literature search was conducted as part of existing systematic reviews[†] that examined dietary patterns and risk of cardiovascular disease, growth, body composition, and risk of obesity, as well as risk of type 2 diabetes outcome in a combined way. NESR analysts identified 28 articles from that literature search that examined dietary patterns and risk of type 2 diabetes that met inclusion criteria for this systematic review update and were not also included in the second literature search. The second literature search was conducted to identify articles specifically on dietary patterns and risk of type 2 diabetes since the first literature search was conducted. The results of the second literature search yielded 13,478 records after the removal of duplicates (see Figure 2). Dual-screening resulted in the exclusion of 11,336 titles, 1,384 abstracts, and 653 full-texts articles. Reasons for full-text exclusion are in Appendix 5: Excluded articles. The body of evidence includes

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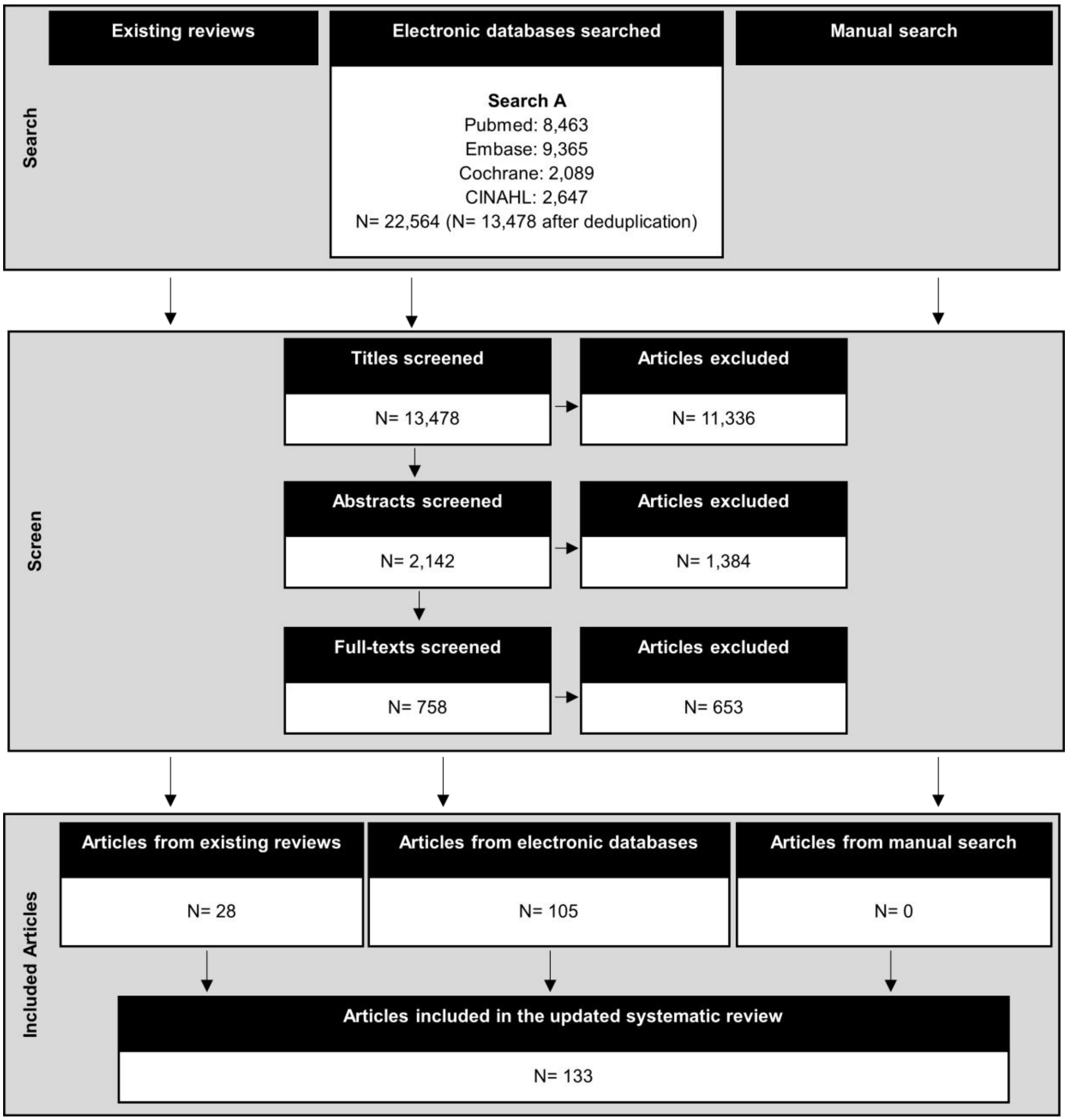
[*]2025 Dietary Guidelines Advisory Committee. 2024. Scientific Report of the 2025 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Health and Human Services and Secretary of Agriculture. U.S. Department of Health and Human Services. https://doi.org/10.52570/DGAC2025

[†]Boushey C, Ard J, Bazzano L, et al. Dietary Patterns and Risk of Type 2 Diabetes: A Systematic Review. July 2020. U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review. https://doi.org/10.52570/NESR.DGAC2020.SR0103

133 articles published since October 2019 in children and adolescents (n=15), or since January 2014 in adults and older adults (n=118). In addition, this review updates graded conclusion statements from existing reviews that were based on 1 article in children and adolescents† and 37 articles in adults and older adults.[*] No articles met inclusion that examined infants and young children up to age 24 months, individuals during pregnancy, or individuals during postpartum.

Figure 2. Literature search and screening flow chart.



[*] 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

Children and adolescents

The 2025 Dietary Guidelines Advisory Committee updates the existing systematic review by synthesizing an additional 15 articles that were published since October 2019, met inclusion criteria, and assessed how this new evidence relates to the conclusion statement from the existing systematic review.[1-15] The 15 articles examined the relationship between dietary patterns consumed by children and adolescents and risk of type 2 diabetes using the following study designs: 1 randomized controlled trial[1] and 14 prospective cohort studies.[2-15]

Description of the evidence

Population

Sample sizes ranged from N=70 to N=3991 participants. Studies enrolled participants regardless of risk for chronic disease or sex, except one intervention that exclusively enrolled female adolescents defined as meeting criteria for the metabolic syndrome.[1] The mean duration of follow-up time ranged from 12 weeks in the intervention to ~31 years (at age ~42 years) in observational studies.

Regarding the socioeconomic position (SEP) of participants, 7 articles reported parent/maternal education[4,7,9,10,12,14,15] and 2 reported household income.[2,13] None of the articles reported the specific distribution of participants by race and/or ethnicity, but many indicated heritage and/or birth country of participants, (e.g., 67.4% Dutch). Multiple articles from a single cohort study were included, but each article reported results for distinct dietary patterns and/or outcomes. Studies were conducted in the following countries: Australia; Finland; Germany; Iran; Ireland; Mexico; The Netherlands; Portugal; United Kingdom; and multiple countries (Germany, Belgium, Italy, Poland, and Spain).

Intervention/exposure and comparator

Dietary patterns during childhood or adolescence were assessed in participants at ages ranging from 2 up to 21 years. The most common dietary intake assessment method was food frequency questionnaire,[2,3,6-9,12,13,15] and other methods were diet records, histories, or food diaries.[4,5,10,11,14] Repeat measures of diet assessments were conducted in 5 articles[4,5,7,11,15] while the remaining analyzed dietary pattern exposure status at study baseline only. Methods used to examine dietary patterns included:

- Investigator-assigned dietary intervention[1]
- A priori index or score derivation[2-4,6,9,11,13,14]
- Factor, cluster, or latent class analysis[5,7,10,12,15]

Labels or names of dietary patterns varied across studies and included many “Mediterranean” style indices that differed between and within studies, several scores aligned with a Dietary Approaches to Stop Hypertension (DASH) diet, as well as investigator-defined names such as “Core Foods” or “Traditional”, which do not clearly indicate the composition of the dietary patterns compared.

Outcome

All but one of the studies collected fasted blood samples clinically using standard methods. One article reported collecting non-fasted blood to assess lipid status as well as insulin. None of the included articles reported outcomes of type 2 diabetes or prediabetes incidence. The following outcomes were reported in the included studies:

- Fasting blood glucose[1-15]
- Insulin and/or Insulin Resistance (e.g., Homeostatic Model Assessment for Insulin Resistance, HOMA-IR)[1,2,4,6-8,10-13]

Articles examined these measures continuously, 3 articles examined them categorically with high risk cut-points that defined as elevated fasting blood glucose ≥100 mg/dL[3,5,15] and 1 article defined it as HOMA-IR, insulin, or fasting blood glucose ≥ 80th percentile.[4]

Synthesis of the evidence

Results across the body of evidence suggest that dietary patterns assessed among children and adolescents that reflect higher or high intakes of vegetables, fruit, nuts and legumes, grains (particularly whole grains), fish/seafood, and lower or low intakes of red and processed meat and sugar-sweetened foods and beverages may be related to lower HOMA-IR, insulin, and/or blood glucose. Support for this association is evident by 9 of the 16 articles that are described further below. However, the reported magnitude of effect estimates, variance around effect estimates, and statistical significance varied across the evidence. Incident diagnosis of type 2 diabetes, as a primary outcome of interest, was not examined in any of the included studies.

- One intervention[1] found that adolescents at mean age 13 to 18 years, who were randomized to consume a dietary pattern higher in vegetables, fruits, grains and lower in meat and meat products and sugar compared to a control group consuming their usual diet, had lower mean HOMA-IR, fasting blood glucose, and fasting insulin after 12 weeks. The trial was conducted in Iran among only female participants with metabolic syndrome and the intervention group reported consuming diets higher in total fat, MUFA, and fiber than the control group at the end of follow-up

- Two articles[2,3] observed that adolescents at mean ages 13.6 to 16.4 years with higher (vs. lower adherence) scores for a dietary pattern reflecting higher intakes of vegetables, fruit, nuts and legumes, whole grains, fish/seafood, low-fat dairy, and lower in red and processed meat, sweetened beverages and sodium had statistically lower risk of elevated fasting glucose[3] and lower mean fasting insulin levels at follow-up.[2]

- Buckland and colleagues[4] reported that adolescents at mean age 13 years with higher (vs. lower adherence) scores for a dietary pattern reflecting higher in vegetables, fruit, pulses, legumes, grains and grain products, fish and seafood, dairy products, ratio of PUFA+MUFA/SFA, and lower in meat and meat products had statistically lower fasting insulin and HOMA-IR at ages 17 and 24 years, but fasting glucose did not differ.

- Chan She Ping-Delfos and colleagues[6] found that adolescents at age 14 years with higher (vs. lower adherence) scores for a dietary pattern reflecting higher intakes of vegetables and legumes, fruit and 100% fruit juice, grains and whole grains (relative to total), unprocessed meat and alternatives, low and reduced-fat dairy products, water as a beverage, ‘healthy’ fats, and low in ‘extra’ foods) had statistically lower mean fasting insulin and HOMA-IR levels at age 17 years, but fasting glucose levels did not differ.

- Pinto and colleagues[12] observed that two dietary patterns at age 7 years (derived using different methods but similarly reflecting higher intakes of processed meat and other energy-dense foods such as pizza, French fries and sugar-sweetened foods and beverages and lower or low in vegetables and/or fish) were associated with statistically higher HOMA-IR values ~ 3 years later, but not fasting blood glucose.

- Wu and colleagues[15] reported that children at age 9 years with a dietary pattern trajectory that shifted towards higher intakes of pork, other meats, sausages, eggs, fish, potatoes, alcoholic beverages and lower intakes of tea was related to statistically higher risk of impaired glucose by age ~ 30 years.

- Bull and Northstone (2016)[5] observed that children at age 10 years with a dietary pattern comprised of 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 had statistically higher risk of elevated fasting glucose at age 17 years. Consumption of this dietary pattern at ages 7 or 13 years was not associated with outcomes at follow-up.

Conclusion statement and grade

The 2025 Dietary Guidelines Advisory Committee updated the existing systematic review but did not develop a conclusion statement* about the relationship between dietary patterns consumed by children and adolescents and risk of type 2 diabetes due to substantial concerns with directness of the evidence.

Table 5. Conclusion statement, grade for dietary patterns consumed by children and adolescents and risk of type 2 diabetes

Conclusion Statement	A conclusion statement cannot be drawn about the relationship between dietary patterns consumed by children and adolescents and risk of type 2 diabetes because of substantial concerns with directness.
Grade	**Grade Not Assignable**
Body of Evidence	15 articles (1 RCT; 14 prospective cohort studies) assessed as they relate to the evidence in the existing review (1 article)
Rationale	• Substantial concerns with directness given no studies examined the primary outcome of incident diagnosis of type 2 diabetes • Serious concerns due to variation in the magnitude of effect estimates, lack of statistical significance and/or wide confidence intervals. • Some concerns with risk of bias for potential confounding, including family history of diabetes and potential for exposure measurement error.

The body of evidence includes 15 articles published since 2019, assessed as they relate to the evidence included in the existing review† and examined dietary patterns consumed by children and adolescents and risk of type 2 diabetes. Dietary patterns were investigated using a variety of study designs and analytic methods including a randomized dietary intervention, index/score analysis, factor/cluster analysis and latent class analysis. Outcome measures included only intermediate measures for type 2 diabetes, such as fasting blood glucose, insulin, and/or HOMA-IR, with no studies examining type 2 diabetes incidence. This review did not examine clinically prescribed diets for the purposes of treating or managing diagnosed type 2 diabetes. While some evidence suggested that improved type 2 diabetes risk factors may be related to the consumption of dietary patterns with higher or high intakes of vegetables, fruit, nuts and legumes, grains (particularly whole grains), fish/seafood, and lower or low intakes of red and processed meat and sugar-sweetened foods and beverages in children and adolescents, there were substantial limitations described further below.

A conclusion could not be drawn because of substantial concerns with directness due to a lack of studies examining the clinical outcome of type 2 diabetes risk. Endpoints included outcomes of intermediate risk (e.g., elevated fasting glucose), which may be due to the relatively low risk of diabetes incidence in children and adolescence for prospective cohort studies, and the short-term intervention period for the dietary intervention trial. Evidence included studies examining eligible biochemical markers of diabetes risk, such as fasting blood glucose, insulin, and HOMA-IR. Most of these studies reported blood glucose measurements on a continuous scale, with few using clinical cut points for elevated fasting glucose, HbA1c, or prediabetes, posing a challenge to drawing conclusions for dietary patterns and prevention of clinical outcomes. Although a grade could not be assigned, limitations were identified across the body of evidence. There was variation across the evidence in the direction and magnitude of effects, with many of the studies reporting no associations between dietary patterns and the outcomes. Sample sizes were relatively large to indicate sufficient power for continuous trait outcomes. Studies were at higher risk of bias across multiple domains (Table 8), which may have biased their

* 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.

† Boushey C, Ard J, Bazzano L,et al. Dietary Patterns and Risk of Type 2 Diabetes: 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

results. Most of the studies were at a high risk of bias from confounding, especially from family history of diabetes which may serve as a proxy of both genetic risk and shared home environment/lifestyle) and race and/or ethnicity of participants. Many studies also had high risk of bias due to potential exposure measurement error, given they analyzed diet collected at baseline only and did not account for changes in diet over time or they used diet assessment tools with uncertain validity in their study population. All of the studies directly examined the relationship between dietary patterns and diabetes-related glycemic traits that apply to the U.S. population, such as fasting blood glucose, insulin, and HOMA-IR. However, none of the studies explicitly included follow-up and analysis of incident clinical type 2 diabetes diagnosis. None of the studies were conducted in the U.S. but examined dietary patterns that would likely apply to the U.S. population with a few exceptions (e.g., “Traditional Finnish”). This body of evidence includes both large and small studies (with statistically significant as well as null findings) so publication bias may be less likely.

Table 6. Evidence examining the relationship between dietary patterns consumed by children and adolescents and risk of type 2 diabetes*

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Asodeh, 2023 [1] Iran, **RCT** Analytic N=70 **Selection data:** Enrolled only female adolescents with metabolic syndrome who were not on a specific 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**: Investigator-assigned dietary intervention	F/U: 12 weeks • FBG, mean ± SE: 0.6 ±0.9 v. −5.6 ±0.9; p<0.001 • FBI, mean ± SE: −1.8 ±0.7 v. −4 ±0.7; p=0.04 • HOMA-IR, mean ± SE: −0.35 ±0.1 v. −1.07 ±0.1; p<0.01 **Summary: Inverse: Meditteranean diet v. Control & FBG, HOMA-IR after 12 weeks; Inverse, NS: FBI after 12 weeks**	• Intensity was relatively high: control group was only given verbal instruction • Diet adherence via 3-day diet records • Fasted (10-12 hour) blood samples collected; HOMA-IR calculated as FPG (mmol/l) x FBI (mU/l)/22.5 • **Funding**: Tehran Endocrine and Metabolism Research Center and the Tehran University of Medical Science
Aljahdali, 2022 [2] 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	**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	**Age at outcome:** 12 to 21 y, mean 16.4 DASH score & FBG • Q2, β: -0.01824 (0.01016); p-trend= 0.0730 • Q3, β: -0.00317 (0.01002); p-trend=0.7520 • Q4, β: -0.02130 (0.01076); p-trend=0.0481 • Continuous, β: -0.00144 (0.001019); p-trend=0.1571 aMED & FBG • Q2, β: -0.00098 (0.01132); p-trend=0.9310 • Q3, β: -0.00785 (0.01002); p-trend= 0.4331 • Q4, β: 0.007172 (0.01254); p-trend=0.5674 • Continuous, β: -0.00025 (0.002693); p-trend=0.9251 DASH score & Fasting Insulin • Q2, β: -0.1192 (0.05586); p-trend=0.0332 • Q3, β: -0.05021 (0.05519); p-trend=0.3633 • Q4, β: -0.1943 (0.06607); p-trend=0.0034	• Did not account for: Race and/or Ethnicity (100% Mexican-heritage, birth cohort); Anthropometry at baseline was not accounted for in T2D results • FFQ was not formally validated; Unclear methods used to derive single estimate from multiple times; Time points used in analyses are unclear; • Fasted blood samples collected; HOMA-IR calculated • Post-exposure intervention of maternal Ca+ supplementation trial in subset; Results not be generalizable

* Abbreviations: BMI, Body mass index CVD, Cardiovascular disease; EDF, Energy-dense food; FBG, fasting blood glucose; FBI, fasting blood insulin; FFQ, Food frequency questionnaire; FPG, fasting plasma glucose; F/U, Follow-up; HbA1C, Hemoglobin A1C; HDL-C, high-density lipoprotein cholesterol; HOMA-IR, Homeostatic Model Assessment for Insulin Resistance; IFG, impaired fasting glucose; LFU, lost to follow-up; mo, months; MUFA, monounsaturated fatty acid; NFG, normal fasting glucose; NR, not reported; NS, not statistically significant; OGTT, oral glucose tolerance test; OR, odds ratio; PUFA, polyunsaturated fatty acid; Q, quantile; SFA, saturated fatty acid; SEP/SES, Socioeconomic position/status; SS, regression coefficient; T, tertile; T1D, Type 1 Diabetes Mellitus; T2D, Type 2 Diabetes Mellitus; TEI, total energy intake; WC, waist circumference; UK, United Kingdom; UPF, Ultra-processed food; US, United States; y, years; ♂ male; ♀ female; ∆ change or delta

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
factors (waist circumference, Blood pressure, FBG, fasting triglycerides, fasting HDL-C, fasting insulin, and HOMA-IR); had dietary information	Meat; Sweetened Beverages; Sodium **Method**: Index/score	• Continuous, β: -0.01475 (0.006133); p-trend=0.0164 DASH score & HOMA-IR • Q2, β: -0.1502 (0.06118); p-trend=0.0143 • Q3, β: -0.06758 (0.05980); p-trend=0.2588 • Q4, β: -0.2482 (0.07341); p-trend=0.0008 • Continuous, β: -0.01893 (0.006733;p-trend=0.0050 aMED & Fasting Insulin • Q2, β: -0.01011 (0.06014); p-trend=0.8666 • Q3, β: -0.03920 (0.05608); p-trend= 0.4847 • Q4, β: -0.06270 (0.07777); p-trend=0.4204 • Continuous, β: -0.01457 (0.01600); p-trend=0.3628 aMED & HOMA-IR • Q2, β: -0.01370 (0.06598); p-trend=0.8356 • Q3, β: -0.05244 (0.06160); p-trend= 0.3948 • Q4, β: -0.03106 (0.08427); p-trend=0.7126 • Continuous, β: -0.01332 (0.01759); p-trend=0.4491 **Summary:** • **Inverse: DASH (categorical) & Insulin (NS, Glucose; Null: DASH (continuous) & Insulin; Glucose** • **Null: aMED & Glucose, Insulin**	to those not from Mexico City • **Funding**: US Environmental Protection Agency; National Institute for Environmental Health Sciences; National Institute of Public Health/Ministry of Health of Mexico
Asghari, 2016 [3] Iran; Tehran Lipid and Glucose Study Analytic N=424 **Selection data:** Excluded those with incomplete/missing diet or outcome data; with Metabolic Syndrome, Hypertension, High triglycerids, blood pressure or fasting plasma glucose, Low HDL-C, or Abdominal obesity at baseline	**Age at dietary pattern:** 13.6 y, mean; 6 to 18 y <u>DASH score</u> [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	**Age at outcome:** ~17 y (3 y follow-up) DASH score & FPG • Q2, OR: 1.05, 95% CI: 0.50, 2.23 • Q3, OR: 0.68, 95% CI: 0.30, 1.55 • Q4, OR: 0.40, 95% CI: 0.15, 0.99 • p-trend=0.038 **Summary: Inverse: DASH (Q4 v. Q1 ref) & odds of high-FPG**	• Did not account for: Race/ethnicity (Iranian), SEP • Diet assessed using a validated 168-item FFQ at baseline only • Fasted (14-hour) blood samples collected; "High" FPG was based on ≥ 100 mg/dL or drug treatment • **Funding**: National Research Council of the Islamic Republic of Iran and the Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Buckland, 2022 [4] United Kingdom; Avon Longitudinal Study of Parents and Children (ALSPAC) Analytic N=1940 17y; 1961 24y **Selection data:** Excluded those diagnosed with diabetes, on insulin therapy, or FBG ≥ 7 mmol/L; extreme outliers on cardiometabolic score components; those with 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	**Age at outcome:** 17y, 24y**:** FBG at age 17y • c-r-Med 7y: OR: 1.04, 95% CI: 0.94, 1.15 • c-r-Med 10y: OR: 1.11, 95% CI: 1.01, 1.23 • c-r-Med 13y: OR: 1.02, 95% CI: 0.92, 1.13 FBG at age 24y • c-r-Med 7y: OR: 1.06, 95% CI: 0.96, 1.17 • c-r-Med 10y: OR: 1.04, 95% CI: 0.94, 1.15 • c-r-Med 13y: OR: 0.94, 95% CI: 0.85, 1.04 Insulin at age 17 y • c-r-Med 7y: OR: 0.99, 95% CI: 0.90, 1.09 • c-r-Med 10y: OR: 1.01, 95% CI: 0.92, 1.12 • c-r-Med 13y: OR: 0.87, 95% CI: 0.79, 0.97 Insulin at age 24y • c-r-Med 7y: OR: 1.00, 95% CI: 0.90, 1.10 • c-r-Med 10y: OR: 0.95, 95% CI: 0.86, 1.05 • c-r-Med 13y: OR: 0.84, 95% CI: 0.76, 0.93 HOMA-IR at age 17y • c-r-Med 7y: OR: 1.00, 95% CI: 0.91, 1.11 • c-r-Med 10y: OR: 1.00, 95% CI: 0.90, 1.10 • c-r-Med 13y: OR: 0.88, 95% CI: 0.79, 0.97 HOMA-IR at age 24y • c-r-Med 7y: OR: 0.99, 95% CI: 0.89, 1.09 • c-r-Med 10y: OR: 0.94, 95% CI: 0.85, 1.04 • c-r-Med 13y: OR: 0.88, 95% CI: 0.80, 0.97 **Summary: Inverse: C-rMED at 13y & insulin and HOMA-IR at ages 17 and 24y** **Positive: C-rMED at 13y & FBG at age 24y**	• Did not account for: Anthropometry at baseline, Race/Ethnicity • Dietary intake from 3-day diet diary at 7y (parent), 10 and 13y (parent with child); C-rMED from only age 7y data • Fasted (8-10 hour) blood samples collected; HOMA-IR calculated as FPG mg/dL x FBI mU/L/405 • **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
Bull and Northstone, 2016 [5] United Kingdom; Avon Longitudinal Study of Parents and Children (ALSPAC) Analytic N=2311 **Selection data:** Excluded those with missing data on	**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	**Age at outcome:** 17y Dietary patterns at age 7y and high FBG • 'Healthy', OR: 1.61, 95 % CI: 0.96, 2.69; p=0.07 • 'Processed', OR: 1.2, 95 % CI: 0.71, 2.04; p=0.5 • 'Traditional', OR: 1.17, 95 % CI: 0.66, 2.08; p=0.59 Dietary patterns at age 10y and high FBG	• Did not account for: Anthropometry (adjusted for birth weight, gestational age), Race/ethnicity, Physical activity • Diet assessed with 3-day diary once each age time point; Unclear if diet assessment methods were valid/reliable; Serious concerns with accuracy of data tables • Fasted (6-hour) blood samples

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
cardiovascular measures, dietary patterns info at all time points, and covariable data	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	• 'Processed', OR: 0.47, 95 % CI: 0.27, 0.83; p=0.01 • 'Traditional', OR: 0.74, 95 % CI: 0.45, 1.22; p=0.24 • 'Packed-lunch', OR: 0.67, 95 % CI: 0.39, 1.17; p=0.16 Dietary patterns at age 13y and high FBG • 'Healthy', OR: 0.71, 95 % CI: 0.44, 1.16; p=0.17 • 'Processed', OR: 0.84, 95 % CI: 0.50, 1.4; p=0.5 • 'Traditional', OR: 0.7, 95 % CI: 0.39, 1.26; p=0.23 **Summary: 'Processed' v. 'Healthy' at age 10y & High FBG; Null: all other dietary patterns and high FBG**	collected • **Funding**: The United Kingdom Medical Research Council; Wellcome Trust; University of Bristol
Chan She Ping-Delfos, 2015 [6] 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	**Age at outcome:** 17y • FBG, β: -0.001, 95 % CI: -0.003,0.001; p=0.404 • FBI, β: -0.028, 95 % CI: -0.042,-0.006; p=0.01 • HOMA-IR, β: -0.004, 95 % CI: -0.007,-0.001; p=0.005 **Summary:** **Inverse: DGI-CA score & HOMA-IR, FBI Null: DGI-CA score & FBG**	• Did not account for: Race/ethnicity • Diet assessed once at baseline with record validated in adults only • Fasted blood samples collected; HOMA-IR calculated • **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
Costa, 2023 [7] Portugal; Epidemiological Health Investigation of Teenagers in Porto (EPITeen) Analytic N=862	**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	**Age at outcome:** 21y mean FBG, mg/dL • 'Lower intake', 84, 95% CI: 82, 85 • ;Healthier', 83, 95% CI: 82, 85 • 'Dairy products', 83, 95% CI: 82, 85 • 'Fast food and sweets', 84, 95% CI: 82, 86 • p=0.734	• 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

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Selection data: Excluded those with missing or outliers of dietary/outcome data	'Dairy products': highest consumption of dairies 'Fast food and sweets': fast food, sweets and pastry, soft drinks and coffee or tea **Method**: Factor or cluster analysis	mean FBI, uUI/mL • 'Lower intake', 8.94, 95% CI: 8.37, 9.5 • 'Healthier', 8.29, 95% CI: 7.44, 9.13 • 'Dairy products', 8.61, 95% CI: 7.99, 9.24 • 'Fast food and sweets', 9.04, 95% CI: 8.14, 9.94 • p=0.436 HOMA-IR • 'Lower intake', 1.87, 95% CI: 1.74, 2 • 'Healthier', 1.71, 95% CI: 1.52, 1.91 • 'Dairy products', 1.78, 95% CI: 1.64, 1.92 • 'Fast food and sweets', 1.89, 95% CI: 1.68, 2.09 • p=0.436 **Summary: Null: Each dietary pattern & FBG, FBI, or HOMA-IR**	foods/food groups reported in Araujo, 2015 doi: 10.1016/j.nut.2014.06.007 • Fasted blood samples collected at age 13y and 17y • **Funding**: Portuguese Foundation for Science and Technology; University of Porto
Durão, 2022 [8] Portugal; Generation XXI Analytic N=1861 girls; 1962 boys **Selection data:** Excluded those with conditions that affect dietary intake and celiac disease, incomplete data on physical activity and screen time at 4 years, incomplete data on maternal BMI at 4 years, or no blood pressure data at 10 years.	**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**: Factor or cluster analysis	**Age at outcome:** 10y FBG • ♀ EDF, SS: 0.099, 95 % CI: -0.058, 0.256 • ♀ Snacking, SS: -0.102, 95 % CI: -0.331, 0.126 • ♂ EDF, SS: -0.11, 95 % CI: -0.274, 0.054 • ♂ Snacking, SS: -0.052, 95 % CI: -0.277, 0.173 FBI • ♀ EDF, SS: 0.14, 95 % CI: -0.001, 0.282 • ♀ Snacking, SS: 0.111, 95 % CI: -0.094, 0.316 • ♂ EDF, SS: 0.013, 95 % CI: -0.125, 0.152 • ♂ Snacking, SS: 0.102, 95 % CI: -0.088, 0.292 HOMA-IR • ♀ EDF, SS: 0.135, 95 % CI: -0.008, 0.278 • ♀ Snacking, SS: 0.092, 95 % CI: -0.115, 0.3 • ♂ EDF, SS: -0.006, 95 % CI: -0.146, 0.133 • ♂ Snacking SS: 0.09, 95 % CI: -0.102, 0.282 **Summary: Null: Snacking, EDF & Fasting blood insulin, FBG, or HOMA-IR in girls or boys**	• Did not account for: Race/Ethnicity • Diet assessed once at baseline with FFQ validated in adults only (sub-sample verified with 3-day diary) • Fasted (8-10 hour) blood samples collected; HOMA-IR calculated • **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

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Krijger, 2021 [9] 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 <u>DASH score</u> [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 <u>Child Diet Quality Score (CDQS)</u> [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	**Age at outcome:** 11 to 12y DASH score & FBG • Q1: 4.94 (0.05) • Q2: 4.88 (0.04) • Q3: 4.88 (0.05) • Q4: 4.97 (0.05) • Q5: 4.81 (0.05) • p = 0.350 CDQS & FBG • Q1: 4.96 (0.05) • Q2: 4.89 (0.05) • Q3: 4.94 (0.05) • Q4: 4.86 (0.05) • Q5: 4.87 (0.05) • p = 0.108 **Summary: Null: DASH or CDQS & FBG**	• Did not account for: Race/Ethnicity (75% Dutch) • Diet assessed once at baseline with FFQ validated in children age 4-6y • Fasted (3 hour) finger prick • Some concerns with follow-up window and selection of reported results • **Funding**: Netherlands Organization for Health Research and Development, The Dutch Heart Foundation and Sarphati Amsterdam.
Luque, 2021 [10] 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 '<u>Core Foods Pattern'</u>: Higher intakes of fruit, vegetables, potatoes, fish, white and red meat, and olive oil <u>'Poor-Quality Fats and Sugars'</u>: Positively associated with intakes of potatoes, soft cheese, saturated spreads, fruit juices, and teas and negatively associated with intakes of fish and olive oil <u>'Protein Sources'</u>: Vegetables, potatoes, white meat, red meat, processed fish, eggs, chips and snacks, flavored milk **Method**: Factor or cluster analysis	**Age at outcome:** 8y HOMA-IR • 'Core': β: -0.02, 95% CI: -0.05, 0.00; p=0.043 • 'Protein': β: 0.01, 95% CI: -0.02, 0.04; p=0.412 • 'Fats and Sugars': β: -0.00, 95% CI: -0.03, 0.03; p=0.916 SEM, direct effects • 'Core' : β: -3.91, p=0.034 • 'Protein': β: 0.21, p<0.001 **Summary: Inverse: 'Core' & HOMA-IR; Null: 'Fats and Sugars' & HOMA-IR; Positive: 'Protein' & HOMA-IR**	• Did not account for: Race/Ethnicity, Physical activity • Diet assessed at age 2y and 8y with 3-day weighted food diaries; Correlated intakes between 2y & 8y • Fasted blood samples collected using 'routine methods' • **Funding**: 5th-7th Framework Program, European Union's Horizon 2020 research and innovation programe

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
McCourt, 2014 [11] Ireland; Young Hearts I & III Analytic N=487 **Selection data:** NR	**Age at dietary pattern:** 12 to 15y <u>Mediterranean Diet Score (MDS)</u> [Trichopolou 2003]: Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol **Method**: Index/score	**Age at outcome:** 20 to 25y**:** MDS & HOMA-IR, mean [SD] • Least-least adherent: 2.6 [2.1] • Least-most adherent: 2.6[2.1] • Most-least adherent: 2.1[0.7] • Most-most adherent: 1.8[0.9] • p=0.139 **Summary:** **Null: MDS at YH1 & HOMA at YH3**	• Did not account for: Race/Ethnicity (Irish) • Diet assessed with 7-day diet history at multiple time points • Fasted blood samples collected (YH3) but non-fasted used (YH1) • Missingness not clearly accounted for • **Funding**: YHI: Northern Ireland Chest, Heart and Stroke Association and the Department of Health and Social Services; YHIII: Wellcome Trust, British Heart Foundation.
Pinto, 2020[12] Portugal; Generation XXI birth cohort Analytic N=3350 **Selection data**: Excluded twins and those without data on variables of interest (dietary data at age 7 y; cardiometabolic data at age 10 y)	**Dietary pattern age(s):** 7 y '<u>PCA-1</u>': Characterized by EDF (sugary drinks, sweets and salty snacks), negatively associated with Fish; Veg. soup; Fruits. Factor loadings, Positive: Ice cream; Sausage; Meat salty snacks; Fish snacks; Pizza, hamburger; French fries/chips, Cookies and biscuits; Cakes; Chocolate/snacks; Sugar; Candies; Butter or margarine; Coffee with milk; Coke; Soft drinks (Carbonated and non-carbonated); Ice Tea; Nectar juices. '<u>PCA-2</u>': Characterized by "healthier" foods; Factor loadings, Positive: Skim/Low-fat Milk; Yogurt; Cheese; Eggs; Ham (chorizo); Fish/seafood; Veg. soup; Vegetables (boiled and raw); Fruit Bread; Rice, potatoes, pasta; Crackers; Butter or margarine; Tea infusions; Natural fruit juice. Negative: Fish/seafood; Veg. soup; Fruit	**Age at outcome: 10 y (F/U: 3 y)** PLS-1 and: • FBG, β: 0.022, 99% CI: -0.016, 0.060 • HOMA-IR, β: 0.047, 99% CI: 0.012, 0.083 PLS-2 and: • FBG, β: -0.016, 99% CI: -0.046, 0.014 • HOMA-IR, β: -0.015, 99% CI:-0.043, 0.013 PCA-1 and: • FBG, β: 0.040, 99% CI: -0.005, 0.085 • HOMA-IR, β: 0.054, 99% CI: 0.013, 0.096 PCA-2 and: • FBG, β: -0.009, 99% CI: -0.052, 0.033 • HOMA-IR, β: -0.017 , 99% CI: -0.056, 0.022 EDF vs. Healthier and: • FBG, β: 0.028, 99% CI: -0.066, 0.122 • HOMA-IR, β: 0.055 , 99% CI: -0.032, 0.142 Snacking vs. Healthier and: • FBG, β: -0.009, 99% CI: -0.159, 0.140 • HOMA-IR, β: 0.110, 99% CI: -0.029, 0.249 **Summary:** **Positive: PLS-1 & HOMA-IR;** **Positive: PCA-1 & HOMA-IR;** **NS/Null: Other dietary patterns & FBG**	• Did not account for: Sex, Race/Ethnicity (Portuguese), Socio-economic Position • Diet assessment: FFQ once (FFQ validated only in adults but verified by 3-day diary in sub-sample) • Fasted (8-10 hour) blood samples collected • Authors documented missingness, but magnitude of difference is not high between those that completed vs. non-participating cohort at baseline. • **Funding**: Programa Operacional de Saúde (Regional Department of Ministry of Health); Portuguese Foundation for Science and Technology and by the Calouste Gulbenkian Foundation; EDER from the Operational Programme Factors of Competitiveness and national funding (Portuguese Ministry of Education and Science)

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
	‘PLS-1’: Characterized by Processed meat, EDF (cakes; soft drinks), low in vegetables (veg. soup); Factor loadings, Positive: Ice cream; Cheese; Sausage; Ham (chorizo); Bread; Cakes; Coffee with milk; Coke; Soft drinks (Carbonated and non-carbonated). Negative: Whole milk; Veg. soup ‘PLS-2’: Characterized by Fish; Lower intakes of EDF, Sugary drinks; Factor loadings, Positive: Fish/seafood; Negative: Chocolate milk; Ice cream; Sausage; Meat salty snacks; Fish snacks; Pizza, hamburger; Breakfast cereals; Crackers; Cookies and biscuits; Chocolate/snacks; Coke; Soft drinks (Carbonated and non-carbonated); Iced Tea; Nectar juices. “EDF”: Characterized by Sweets, soft drinks, salty pastry, processed meat “Snacking”: Characterized by Snack foods, lower in fish, meat, eggs, rice, pasta, potatoes, vegetables (veg. soup) “Healthier” (ref): Higher in vegetables (veg. soup), fish, and lower in EDF **DP Method(s)**: Factor or cluster analysis and Latent Class Analysis		
Siddiqui, 2022 [13] 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	**Age at outcome:** 10 y CDQS & FBI, β: 0.01, 95% CI: -0.02, 0.04 **Summary: Null: CDQS & FBI**	• Did not account for: None (all key confounders were accounted for) • Non-fasting blood samples collected for insulin and blood lipids • Missingness not clearly accounted for **Funding**: Erasmus Medical Center (EMC), the Dutch Ministry of Health, Welfare, and Sports, and the

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
			Netherlands Organization for Health Research and Development
Vallejo, 2022 [14] Germany; DONALD (Dortmund Nutritional and Anthropometric Longitudinal Designed) Study Analytic N=298 final sample; 284 sensitivity analysis **Selection data:** Excluded those younger than 15 years; had <2 diet records; missing data; underreported TEI; 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 sweeteners, ≤ 31 g/d **Method**: Index/score	**Age at outcome:** 18 y DI score & FPG • Continuous: β: 0.99, 95% CI: 0.99, 1.01; p = 0.647 • T1: β: 92.1, 95% CI: 88.9, 95.4 • T2: β: 94.7, 95% CI: 91.5, 98.1 • T3: β: 92.2, 95% CI: 89.0, 95.5 • p = 0.138 **Summary: Null: DI score & FPG**	• Did not account for: Anthropometry (adjusted for birthweight), Race/Ethnicity, Physical activity • Diet assessed with 3-day weighted food diaries • Fasted blood samples collected • 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
Wu, 2021 [15] Finland; YFS (Cardiovascular Risk in Young Finns Study) Analytic N=1007 **Selection data:** Included those with at least 3 out of 5 observations of diet	**Age at dietary pattern:** 3 to 18 y 'Traditional Finnish': Positive: rye, potatoes, butter, milk, coffee, sausage. Negative: fruits, berries 'High Carbohydrate': Positive: wheat, margarine and oils, sugar, milk, beef, eggs 'Vegetables and Dairy Products': Positive: vegetables, fruits, cheese,	**Age at outcome:** ~41-42 y (30.7 y mean f/u duration): Impaired v. normal fasting glucose (IFG v. NFG) 'Traditional Finnish ' • L-slight decrease, RR: 1.00, ref • M-slight increase, RR: 1.00, 95% CI: 0.76, 1.31 • H- stable, RR: 1.03, 95% CI: 0.67, 1.58 • High CHO • M-slight decrease, RR: 1.00, ref • M-stable/M-large increase, RR: 0.80, 95% CI:	• Did not account for: Race/Ethnicity • Diet assessed 5x over 30 y total with 48-hour recall, then changed methods to FFQ • Fasted blood samples collected; IFG defined as FBG ≥ 5.6 ≤ 6.9 mmol/L • **Funding**: Academy of Finland; Social Insurance Institution of Finland; Competitive State Research Financing of the Expert Responsibility area of Kuopio,

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
data; diet and risk factor baseline data; adult FBG or T2D data. Excluded those with T1D or pregnancy in 2001, 2007, or 2011.	other dairy products, tea, beef, alcoholic beverages. Negative: milk 'Traditional Finnish and High Carbohydrate': Positive: wheat, other grain products, rye, potatoes, butter, sausages, and sugar 'Red Meat': Positive: pork, other meats, sausages, eggs, fish, potatoes, and alcoholic beverages. Negative: tea 'Healthy': Positive: vegetables, legumes and nuts, fruits, fish, cheese, other dairy products, tea, other meats, eggs **Method**: Factor or cluster analysis	0.62, 1.04 'Vegetables and Dairy Products' • L-moderate decrease, RR: 1.00, ref • M-stable, RR: 1.01, 95% CI: 0.57, 1.36 • M-moderate increase, RR: 1.00, 95% CI: 0.57, 1.74 'Traditional Finnish' and 'High Carbohydrate' • M-stable/M-large decrease, RR: 1.00, ref • M-slight increase, RR: 0.71, 95% CI: 0.50, 1.01 'Red meat' • L-stable, RR: 1.00, ref • M-stable/M-large decrease, RR: 1.46, 95% CI: 1.12, 1.90 'Healthy' • L-stable, RR: 1.00, ref • M-stable/M-large increase, RR: 0.91, 95% CI: 0.69, 1.21 **Summary: Positive: 'Red Meat' & IFG; NS/Null: & IFG**	Tampere and Turku University Hospitals; Juho Vainio Foundation; Paavo Nurmi Foundation; Finnish Foundation for Cardiovascular Research; Finnish Cultural Foundation; The Sigrid Juselius Foundation; Tampere Tuberculosis Foundation; Emil Aaltonen Foundation; Yrjö Jahnsson Foundation; Signe and Ane Gyllenberg Foundation; Diabetes Research Foundation of Finnish Diabetes Association; EU Horizon 2020 Grant; European Research Council; Tampere University Hospital Supporting Foundation; National Health and Medical Research Council Project

Table 7. Risk of bias for randomized controlled trials examining dietary patterns consumed by children and adolescence and risk of type 2 diabetes [a]

Article	Randomization	Deviations from intended interventions (effect of assignment) or (per-protocol)	Missing outcome data	Outcome measurement	Selection of the reported result	Overall
Asoudeh, 2020 [1]	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 8 Risk of bias for observational studies examining dietary patterns consumed by children and adolescence and risk of type 2 diabetes[a]

Article	Confounding	Exposure Classification	Participant Selection	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Aljahdali, 2022 [2]	Low	Some concerns	Low	Some concerns	High	Low	High	High
Asghari, 2016 [3]	High	Low	Low	Low	Low	Low	Some concerns	High
Buckland, 2022 [4]	Some concerns	Some concerns	Low	Low	Some concerns	Low	Some concerns	High
Bull & Northstone, 2016 [5]	High	High	Low	Low	High	Low	High	Very high
Chan She Ping-Delfos, 2015 [6]	Some concerns	Low	Low	Low	Some concerns	Low	Some concerns	Some concerns
Costa, 2023 [7]	High	Some concerns	Some concerns	Low	High	Low	Some concerns	High
Durão, 2022 [8]	Some concerns	Some concerns	Some concerns	Low	Some concerns	Low	Some concerns	High
Krijger, 2021 [9]	Low	Low	Some concerns	Low	High	Low	Some concerns	High
Luque, 2021 [10]	Some concerns	Low	Low	Low	Some concerns	Low	High	High
McCourt, 2014 [11]	Some concerns	Low	Low	Low	Some concerns	Some concerns	Low	Some concerns
Pinto, 2020[12]	High	Some concerns	Low	Low	Some concerns	Low	Some concerns	High
Siddiqui, 2021 [13]	Low	Low	Low	Low	Some concerns	Some concerns	Some concerns	Some concerns
Vallejo, 2022 [14]	High	Some concerns	Low	Low	Low	Low	Some concerns	High
Wu, 2021 [15]	Low	Some concerns	Low	Some concerns	Some concerns	Low	Low	Some concerns

[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.)

Adults and older adults

The 2025 Dietary Guidelines Advisory Committee updates the existing systematic review[*] by synthesizing an additional 118 articles that were published between January 2014 and May 2023, met inclusion criteria, and assessed how this new evidence relates to the conclusion statement from the existing systematic review. These 118 articles examined the relationship between dietary patterns consumed by adults and older adults and risk of type 2 diabetes using the following study designs:

- 14 articles from 10 randomized controlled trials (RCTs),[16-29]
- 104 articles from observational studies,[30-133] where all but one analyzed prospective cohort studies and the exception was from a nested case-control study.[111]

Description of the evidence

Population

The analytic sample sizes of study groups among RCTs ranged from N=120 up to N=43,232 and among observational studies ranged from N=1057 up to N=357,419. The mean follow-up duration ranged from 12 weeks to 8.5 years among the RCTs and from 6 months to 30 years among observational studies.

Health status.

Most of the RCTs enrolled participants at high risk for diet-related chronic disease, such as 100% of participants with overweight or obesity, 100% of participants with 3 or more risk factors for metabolic syndrome, or the majority (47 to 67%) of participants with hypertension.[16,19-22,24-27,29] Among 51 articles from observational studies, the mean body mass index of the study population at baseline was ≥ 25 kg/m^2 in.[32-34,37-39,41,42,44,48,49,51-54,58,63-66,69,70,72-74,76,81-84,86,89,94,96,98-101,104,107,110,113,118,120,123,126,130-133]

Race and/or ethnicity.

Racial and/or ethnic composition of the study participants from RCTs was reported in 4 articles as >80% white/Caucasian in 3 articles and 91% non-Hispanic Black, 6% multi-racial, and 3% Native-American in 1 article. Twenty-six articles reported that participants were primarily (≥ 68%) Caucasian or white.[31,37,39,40,42,45,49,64,65,88,89,97-99,102,103,110,113,115,117,121,123,126,130,131,133]

Within studies conducted in the United States, several articles reported diversity among participants from racial and/or ethnic minorities:

- 100% Hispanic/Latino,[93]
- 42% Japanese American, 36% White, 13% Hawaiian-American, 9% other ancestry,[71]
- 26% Japanese American, 2% Hispanic/Latino, 23% White, 16% Black, 7% Native Hawaiian, and 6% other ancestry,[72]
- 62% Black and 38% White,[48]
- 25 to 28% Japanese American, 22 to 24% White, 13 to 19% Black, 10 to 12% Hispanic/Latino, ~7% Native Hawaiian,[73]
- 74 to 92% Black, 5 to 16% Asian, and ~2 to 6% Hispanic,[65]
- 43% White, 25% Black, 21% Hispanic, 11.5% Chinese[100]

About half of all included articles did not report specific data on the racial and/or ethnic composition of

[*] 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

participants, but these articles typically indicated ancestry/heritage or country of birth, including 8 articles with a majority/exclusively Australian participants,[33,51,68-70,101,106,122,125] 7 articles with only Iranian participants [38,58,78,109,119,120] and 8 articles from studies conducted in only participants of Asian-ancestry (Chinese, Japanese, or Korean).[43,79,86,87,92,111,128114]

Socioeconomic position (SEP)

Observational studies included participants from a range of SEP, based on either education, household income, and/or other SEP indicators (e.g., ~29% low, 40% mid, 22% high household income; 31% low, 34% medium, and 35% high scores on the Socio-Economic Indexes for Areas index). In 26 articles from observational studies, participants had higher SEP based on occupation (e.g., all health professionals) or education (e.g., all with at least 12 years or some college). Ten articles did not report information on the SEP of participants.

Studies were conducted in a total of 22 different countries that included multiple articles from the same country as follows: Australia, n=8; Brazil, n=1; Canada, n=1; China, n=1; Croatia, n=1; Denmark, n=4; Finland, n=2; France, n=5; Germany, n=1; Greece, n=4; Iran, n=7; Italy, n=1; Japan, n=1; Korea, n=4; Mexico, n=1; Netherlands, n=8; Peru, 1; Singapore, n=2; Spain, n=9; Sweden, n=4;United Kingdom, n=10; and the United States, n=36. Three articles studied participants across several European countries. Multiple included articles from a single cohort study were included when each article reported unique data, such as different dietary patterns and/or outcomes, as follows:

- ARIC, n=2;
- ATTICA, n=3;
- Australian Longitudinal Study on Women's Health (ALSWH), n=4;
- BIOBANK, n=7;
- Coronary Artery Risk Development in Young Adults (CARDIA), n=4;
- Danish Diet, Cancer and Health Cohort Study, n=3;
- Etude Epidémiologique auprès de femmes de la Mutuelle Générale de l'Education Nationale (E3N), n=3;
- European Prospective Investigation into Cancer (EPIC) cohorts, n=5;
- The Galiat Study, n=3;
- Health Professionals Follow-Up Study (HPFS) and/or Nurse’s Healthy Study (NHS I, II), n=9;
- Korean Genome and Epidemiology Study (KoGES), n=4;
- Lifelines Cohort, n=4;
- Malmo Diet and Cancer (MDC) cohort, n=4;
- Multi-ethnic Cohort (MEC), n=3;
- NutriNet-Sante, n=2;
- Prevención con Dieta Mediterránea (PREDIMED), n=2;
- Rotterdam Study, n=2;
- Seguimiento Universidad de Navarra (SUN) cohort, n=4;
- Singapore Chinese Health Study, n=2;
- Tehran Lipid and Glucose study, n=6;
- Women’s Health Initiative (WHI), n=9.

Intervention/exposure and comparator

Dietary patterns were examined among adults and older adults, primarily between ages 40 to 55 years (range: 18 to 85 years). Dietary patterns were derived from food, beverage, and nutrient data obtained from validated food-frequency questionnaires (n=83), 24-hour recalls (n=9), or diet histories (n=7). Multiple dietary assessments were collected during follow-up in 28 articles, while the rest analyzed data captured at baseline only. Analytic approaches to study dietary patterns included:

- Randomized dietary interventions[16-29]
- A priori index/score derivation,[30,31,33-37,41-56,58,60-63,65-72,75-80,82-85,88-91,94-101,104-110,112,113,116-121,123,124,126,127,129-133]
- Factor/cluster or latent-class analysis,[32,38,54,57,74,81,87,92,93,105,121,122,125,128]
- Reduced rank regression.[38,40,53,64,73,82,86,103,111,114]

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, "Vegetarian", "typical Japanese", 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

Studies used various methods to determine outcomes reported, including ascertainment of participants' diagnoses of type 2 diabetes. Incident type 2 diabetes cases were determined from:

- Fasting blood samples collected clinically using standardized procedures (n=45 articles)
- Self-report of diagnosis or medication usage.[31,33,35,37,40,42,43,45,46,48,50,55,62,63,65,68-73,75,85,87-90,97,98,103,104,106,108,110,113,116,125-127,133]
- Medical records, registries, and/or databases (e.g., drug, health-insurance).[39,76,81,83,84,95,102,115,117,130]
- A combination of self-report, registries, and/or clinical exams.[32,56,57,61,74,77,82,85,94,99,105,118,124,132]

Most articles (e.g., 100 of 103 prospective cohort studies) defined type 2 diabetes using criteria such as the National Diabetes Data Group or American Diabetes Association (ADA) for cut-points of fasting blood glucose≥ 140 mg/dL (7.0 mmol/L), 2-hour value of an oral glucose tolerance test ≥ 200 mg/dL (11.1 mmol/L); ≥2 elevated fasting or non-fasting blood glucose measures on different occasions; HbA1C ≥ 6.5% if after 2010; or current treatment with anti-glycemic agents. The following outcomes were reported across the body of evidence:

- Incident type 2 diabetes, n=104 articles
- Prediabetes,[23,36,44,49,122,131]
- HbA1c,[30,66,96,131,133]
- Fasting blood glucose,[23,49,66,96,118,122]
- Insulin, HOMA-IR,[30,44,72,96,118,120,122,131]

Synthesis of the evidence

In the majority of evidence, dietary patterns related to lower incidence of type 2 diabetes similarly reflected higher intakes of vegetables, fruits, nuts, legumes, whole grains, fish/seafood and generally low or lower in red and processed meats, refined grains, sugar-sweetened beverages, and sources of added sugars, saturated fat, and sodium (see Appendix). Evidence for this relationship came from the majority of studies that shared a similar direction of findings and magnitude of effect estimates in 75 articles, including 4 articles from 3 RCTs[23-25,27] and 71 articles from observational studies.[30,32,33,35,39,41-50,55,57,60-63,65-67,69-74,77-85,87,89,92,93,95-99,102,104,105,108-113,115,116,118,121-123,125-128,130-133] Most of these dietary patterns included alcoholic beverage intake as a positive or moderate contributor to these dietary patterns (~65 of 80 dietary patterns), but few studies analyzed associations from these dietary patterns with and without alcoholic beverages. Few studies scored alcoholic beverage intake negatively (11 articles) or did not include it as a component in the dietary patterns compared. Dairy and/or milk products were often included but considered differently across these dietary patterns, such as including total dairy and/or milk products scored as a negative component compared to specifically low-fat dairy scored positively. The methods and labels for these dietary patterns varied across the body of evidence, including investigator-assigned dietary intervention in the RCTs, a priori indices or scores such as "Mediterranean" style, dietary guideline-related, DASH diet, country-specific, and other scores, as well as a posteriori or hybrid methods (e.g., factor analysis and reduced rank regression), and self-reported 'vegetarian' status (e.g. 'meat eater') across observational studies.

Four articles from 3 different RCTs reported that participants randomized to intervention diets compared to control diets had reduced risk of type 2 diabetes and/or lowered fasting blood glucose.[23-25,27] In the Women's Health Initiative Dietary Modification trial, women randomized to a healthy low-fat dietary pattern of increased vegetables, fruits, grains, fiber, and reduced intake of fat (total and saturated) had a lower risk of developing type 2 diabetes[23] requiring insulin,[25] lower risk of prediabetes,[23] and/or lower fasting blood glucose [23] compared to control participants consuming their usual diet. In the PREDIMED study, adults at high-risk for cardiovascular disease, randomized to either of two intervention diets that were abundant in vegetables, fresh fruit and juices, legumes, fish or seafood, nuts and seeds, white meat instead of red or processed meats, cook regularly with tomato, garlic and onion; wine if consuming alcohol; ad libitum eggs, fish, seafood, low-fat cheese, chocolate, whole-grain cereals and either + 15L extra-virgin olive oil or ~ 30g nuts) compared to participants randomized to the low-fat dietary intervention group had statistically lower risk of type 2 diabetes after ~4.8y follow-up.[27] Pavic et al.[24] that participants assigned to consume more olive oil, nuts, and fish as part of a 'Mediterranean' diet intervention had significantly lowered their fasting plasma glucose to a greater extent compared to those in the standard low-fat diet group, but the groups did not differ in HbA1C.

Dietary patterns derived from various indices/scores were used in the majority of the observational studies, which reported similar results despite variation in the name, label, or style of dietary pattern (e.g., Mediterranean, dietary guideline-related, DASH, "Plant-based", or other).

- "Mediterranean" style scores were associated with lower type 2 diabetes incidence,[30,35,41-43,55,60,61,63,65,71,72,78,80,96,99,105,108,127,131] in addition to lower incident prediabetes/type 2 diabetes,[131] lower HbA1C and insulin resistance,[30] lower log-serum insulin,[96] and/or lower HOMA-IR in both men and women.[72] Similarities across these "Mediterranean" indices included: scoring vegetables (not potatoes), fruit, legumes, nuts, whole grains, fish, and unsaturated vegetable oils/fats as positive components; alcoholic beverages as positive or neutral components; and red and processed meat and sugar-sweetened beverages as negative components. Some of the reported results were sex-specific e.g. significantly lower type 2 diabetes incidence in men but not women,[71,72] or differed by race/ethnicity.[72] In addition, "Mediterranean" style scores were not significantly associated with other type 2 diabetes outcomes such as pre-diabetes,[36,131] HbA1c,[96] and serum glucose.[96] No associations were reported between "Mediterranean" style scores and incident type 2 diabetes in 5 articles.[31,36,58,69,70]

- Dietary guideline-related scores were associated with lower risk of type 2 diabetes.[42,43,48,62,67,69-72,84,89,96-98,100,104,113,127] These scores included variations of the HEI, such as the HEI-2010, HEI-2005, and variations of alternative HEI (AHEI) indices. One study found an inverse relationship between AHEI scores and log-serum insulin, but not with serum glucose.[96] Similarities across these indices included vegetables (not potatoes/French Fries), fruits, legumes and nuts, whole grains, and sources of unsaturated fats (relative to saturated fats) scored positively, alcoholic beverage intake scored as a neutral component, and red and processed meats, sources of trans/solid and/or saturated fats, added sugars (e.g., sugar-sweetened foods and/or beverages including fruit juice), and sodium each scored negatively. Several (i.e., HEI-2010) scores included total protein foods and seafood/plant proteins scored positively and refined grains negatively. Using the HEI-2010, one study found no association between dietary patterns and type 2 diabetes; however, using AHEI-2010 produced a significant inverse association between dietary patterns and type 2 diabetes incidence.[71] Racial/ethnic differences in the inverse association between dietary guidelines-related scores and type 2 diabetes incidence were reported in 2 studies.[72,104] Small to moderate, as well as large, increases in AHEI scores were associated with significantly lower type 2 diabetes incidence,[89] but some differences by sex were noted when results were stratified. No associations between incident type 2 diabetes were reported in 6 articles.[34,58,68,82,117,129]

- ‘DASH’ style scores were associated with lower type 2 diabetes incidence and/or prediabetes [131], or lower HbA1C and fasting plasma glucose [66] in 9 articles. [42,43,65,66,71,72,97,127,131]All of these “DASH”-style indices scored the following components positively: vegetables (not potatoes), fruit and fruit juice, legumes and nuts, and whole grains; and the following negatively: red and processed meat, sugar-sweetened beverages, and sodium. All but one of these scores included low-fat dairy as a positive component, with the one exception that scored total dairy positively.
- “Plant-based” or plant-focused diet scores were significantly associated with lower risk of type 2 diabetes in all 9 (of 9) articles that examined that type of dietary pattern.[43,45,46,79,85,110,121,126,127] Lower risk of type 2 diabetes was reported with both the overall plant-based diet score, as well as the healthful version, which positively scores intake of vegetables; fruits; nuts; legumes; whole grains; vegetable oils; tea/coffee, and negatively score intake of any animal-based foods (animal fats; dairy; eggs, fish/seafood; meat (poultry and red meat); and miscellaneous animal-based foods). In the “healthful” version, intakes of fruit juices; sugar-sweetened beverages; refined grains; potatoes; sweets/desserts are also scored negatively scores.
- Other dietary pattern indices/scores related to lower risk of type 2 diabetes showed similar effect direction and size as those described above.[33,43-45,49,50,57,73,77,79,83-85,95,110,115,118,123,126,127,130-132] Common elements of these dietary patterns included higher intakes of vegetables, fruits, legumes, whole grains (or non-refined cereals), fish and/or seafood; and lower or low intakes of red and processed meat, and sugar-sweetened foods and beverages. Fat intake was often considered as a component, but scored differently across these dietary patterns (e.g., sources of unsaturated fats scored positively and/or other types of fats (e.g., Trans, total) scored negatively. In addition, the specificity of food sources of fat intake varied, with some studies specifying unsaturated vegetable oils, whereas others specified a ratio of intake from unsaturated fatty acids relative to saturated fatty acids. Scoring procedures and specificity of other components varied, particularly among indices that were country- or ethnically-specific, such as rye bread, organ meats, dairy and dairy products, and alcoholic beverage intake. A few of these scores had unique components that were not included across most dietary patterns, such as glycemic index and diversity of fruits and/or vegetables.

Studies using other analytic approaches to identify dietary patterns aligned with the findings from investigator-derived dietary pattern indices/scores. Some sex-specific results or results that were trending in the same direction but did not reach statistical significance were also reported.[57,87,92,102,111,121] For example, Ericson and colleagues found statistically significant associations between consumption of a dietary pattern (which had high factor loadings for cottage cheese (in women) or cream (in men), fiber-rich bread, vegetables, fruits, breakfast cereals, fish and low-fat yoghurt and low factor loadings for low-fiber bread, red and processed meat, sugar-sweetened beverages) and lower risk of type 2 diabetes in men and women.[57] Lee and colleagues[87] reported statistically significant associations between consumption of a dietary pattern in women characterized by vegetables (light-colored, green/yellow), lean fish, seaweeds, mushrooms, shellfish, kimchi, bone fish, pickled vegetables, fruits, tubers, legumes and soy products, milk, yogurt and fatty fish and lower risk of type 2 diabetes in women, but no significant association was reported in men. Ma and colleagues[92] reported lower incident type 2 diabetes among those consuming a “typical Japanese' dietary pattern, which was highest in boiled and fermented beans; fish; green vegetables, red/yellow vegetables, white vegetables; fruit; miso soup, rice, tofu, and lowest in bread, fruit juice, vegetable juice; and moderate items included milk, soy milk, yogurt, beef/pork, chicken, ham/sausage. In addition, Tison and colleagues[121] found that a dietary pattern characterized by vegetables, fruits, beans, poultry, and fish, associated with lower type 2 diabetes risk but results were not statistically significant.

Higher type 2 diabetes incidence was associated with dietary patterns that reflected low or lower intakes of vegetables, fruits, whole grains, nuts, and high or higher intakes of fried potatoes, red and processed meats, refined grains, and sugar-sweetened foods and beverages (often including tea, coffee, and juice) were associated with higher type 2 diabetes incidence in 23 articles. [37,53,54,56,74,75,79,87,88,90,103,106,109,114,116,119-121,125,126,128] Three articles examined dietary patterns using the Nova classification system for "ultra-processed food (UPF)". Results from studies using other analytic approaches to examine dietary patterns[64],[87],[114],[128],[121] aligned with those based on index/score derivation. For example, higher risk of type 2 diabetes was associated with various dietary patterns (from either factor/cluster and/or reduced rank regression analyses) that were characterized by:

- 'Fried foods, organ meats, processed meats, eggs and egg dishes, added fats, high-fat dairy foods, SSBs, and bread[121]
- Fatty fish, pizza/hamburger, processed meats, high-fat red meat, bread, poultry, red meat by-products, cake/snack/cookie, noodles/dumpling, dairy products (in men only), other seafood, carbonated beverages, and red meat [87]
- Fried food, soft drinks, and desserts[128]
- Lower intakes of vegetables, fruit, whole meal bread, high-fiber cereals low-fat dairy products and higher in fried potatoes, processed meat, white bread, butter and animal fat and added sugar[103]
- Higher intakes of sugary beverages, Added sugar, Juice (plus coffee and savory snacks in men), and lower in Vegetables, Fruits, Nuts/seeds, Cereals, Tea, and Dairy products (low fat, fermented, unsweetened) in men and women (plus Fatty fish, Other Fish, high fat Cheese, Eggs in women or in men, chocolate spreads and bread)[54]
- Higher intakes of chocolate and confectionery, butter, low-fiber bread, sugars and preserves and low intakes of fruit and vegetables[64]

In 30 articles, no associations were reported between dietary patterns and all or most reported measures of type 2 diabetes outcomes.[16-22,26,28,29,31,34,36,38,40,51,52,58,68,76,86,94,100,101,107,117,119,124,129]

Conclusion statement and grade

The 2025 Dietary Guidelines Advisory Committee updated the existing conclusion statement* (Appendix 2: Conclusion statements from the existing systematic reviews), to answer the question "What is the relationship between dietary patterns consumed and risk of type 2 diabetes?", based on their review of evidence that examined dietary patterns consumed by adults and older adults. (Table 9)

Table 9. Conclusion statement, grade for dietary patterns consumed by adults and older adults and risk of type 2 diabetes.

Conclusion Statement	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 red and processed meats, high-fat dairy products, refined grains, and sugar-sweetened foods and beverages are associated with lower risk of type 2 diabetes. This conclusion statement is based on evidence graded as strong.
Grade	Strong
Body of Evidence	118 articles (14 from 10 RCTs; 104 from observational studies) assessed as they relate to the evidence in the existing review (37 articles)
Consistency	Minimal variation in direction and significance of findings
Precision	Interventions demonstrated adequate power/sample sizes. Observational studies had large sample sizes and reported results with narrow confidence intervals.
Risk of bias	Most studies accounted for important confounding domains with few exceptions, such as potential for confounding due to not accounting for family history of diabetes. Few/no concerns with potential for misclassification of the exposure. Serious concerns with only some studies that used only self-report and/or hospital records to determine incident cases
Directness	Few concerns with directness: the populations, intervention/exposure, comparators, and outcomes were directly related to the systematic review question in most studies
Generalizability	Relative to the U.S. population, the participant characteristics, dietary patterns, and outcomes examined in most of the included studies are applicable.

Assessment of evidence

The body of evidence includes 118 articles published since 2014, assessed as they relate to the evidence included in the existing review† and examined dietary patterns consumed during adulthood and older adulthood and risk of type 2 diabetes. Dietary patterns were assessed using various (all) analytic approaches, including investigator-assigned dietary interventions, index/score analysis, factor/cluster analysis, latent class analysis, reduced rank regression, and self-reported status as 'vegetarian' or 'vegan'. Incident type 2 diabetes was determined from various methods including self-report, hospital records, registry linkage, and/or fasted blood samples based on standard criteria. As outlined and described below, the body of evidence was assessed for the following elements used when grading the strength of evidence. This body of evidence includes both large and small studies (with significant as well as null findings) so publication bias may be less likely.

Consistency:

The direction of findings was consistent. Several of the RCTs, particularly those conducted in the U.S., reported improvements in blood glucose and/or lower risk of type 2 diabetes/prediabetes among intervention

* 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.

† 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

participants who consumed dietary patterns that emphasized vegetables, fruits, nuts, legumes, whole grains, fish/seafood and reflected low or lower intakes of red and processed meats. Most observational studies demonstrated statistically significant effects that were appreciable in magnitude. Many studies supported significant associations between consumption of dietary patterns characterized by high or higher intakes of vegetables, fruits, nuts, legumes, whole grains, fish/seafood and low or lower in red and processed meats, refined grains, sugar-sweetened beverages, and sources of added sugars, saturated fat, and sodium and lower risk of type 2 diabetes and/or prediabetes. A small sub-set of evidence found dietary patterns that were low in vegetables, fruits, whole grains, and nuts, and higher in fried potatoes, red and processed meat; refined grains, and sugar-sweetened beverages were related to higher risk of type 2 diabetes.

Precision:

Interventions were well-powered; Most observational studies demonstrated statistically significant effects that came from a wide range of sample sizes (N=1,057 up to N=357,419), and demonstrated minimal variance (e.g., narrow confidence intervals).

Risk of bias:

Studies had numerous risks of bias across domains, which have the potential to influence the reported results. Most articles controlled for most key confounders with exception of family history of diabetes and race and/or ethnicity of participants. Many of the articles may be at higher risk of exposure classification from conducting only single diet assessments and not fully accounting for change in dietary patterns that may occur throughout follow-up. Many of the articles pose higher risk of bias due to outcome measurement from reliance on self-report for incident cases of type 2 diabetes (i.e., may reflect under-estimation) or hospital records (i.e., may reflect more severe cases). Because many of the studies 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:

Most studies were designed to directly examine the relationship between dietary patterns consumed during adulthood and risk of type 2 diabetes.

Generalizability:

Most studies are applicable to the U.S. population. Many of the articles (e.g., 36 of 104 observational studies) were conducted in the U.S. The body of evidence included studies from a total of 22 countries with similar HDI classification as the U.S. Many 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. Younger and older adults were slightly under-represented across this body of evidence, but it is likely that this evidence still generalizes to them. Most dietary patterns compared are applicable to those consumed by Americans, although select dietary patterns and/or isolated components were study- and/or population-specific, e.g. a ‘typical Japanese’ diet; Baltic Sea Diet score, ‘doogh’, fermented and salted seafood, organ meats, kimchi. The outcomes examined are applicable to the U.S. population and include primarily risk of type 2 diabetes incidence as well as various intermediate risk factors such as fasting blood glucose, HOMA-IR, and HbA1C.

Table 10. Evidence in adults and older adults from interventions that examined the relationship between dietary patterns and risk of type 2 diabetes[a]

Article information	Intervention/exposure and comparator	Results	Methodological considerations
Babio, 2014 [16] Spain; PREDIMED Analytic N=5801 **Participant characteristics:** • Health: 100% at high-risk for CVD with at least 3 criteria for Metabolic Syndrome • Race and/or Ethnicity: NR (Spanish) • SEP: NR	**Age at Dietary Pattern:** 55 to 80 y Meditteranean (MED) diet + Nuts, or MED+ extra-virgin olive oil (EVOO), Control diets Med+Nuts: 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; + 15g/d walnuts, 7.5g/d almonds, and 7.5g/d hazelnuts Med+EVOO: 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 Control: Advice to reduce dietary fat **Methods:** RCT	**Follow-up: 4.8 y, median** Glucose: % at f/u with High FPG: 68.9 v. 68.4 v. 71.9; p= 0.03 **Summary: NS/Null: Med+EVOO v. Med+Nuts v. Control & High FPG**	• Diet assessment: MEDAS screener • Outcomes: High FPG based o FBG ≥ 100 mg/dL • Note that the primary data from PREDIMED were included in the existing review and remained the same after republication in 2018 due to randomization errors (both Med diets v. Control & T2D: HR: 0.47, 95% CI: 0.26, 0.87) Funding: Instituto de Salud Carlos III

Article information	Intervention/exposure and comparator	Results	Methodological considerations
Bruno, 2020 [17] Italy; Fondazione IRCCS Istituto Nazionale dei Tumori di Milano Analytic N=416 **Participant characteristics:** **Health:** • 100% ♀ 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% Excluded those who dropped out; changed mind; metastases; pregnancies; variant of uncertain pathogenic significance; >70 years; had a medical condition after randomization; relapses; no final data	**Age at Dietary Pattern:** ♀ 18 to 70 y at baseline Mediterranean Diet Adherence Screener (MEDAS) [Schroder 2011], Intervention group (IG) vs. Control group (CG) 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 **Methods:** Index/RCT	**Follow-up: 6 months** Glucose: mean [SD] IG at B: 101.2 [22.0]; 6mo: 93.8 [18.3]; p<0.001 CG at B: 101.4 [24.5]; 6mo: 92.5 [19.5]; p<0.001 ∆ IG vs. CG: -7.4 vs. -8.8; p=0.51 Insulin: mean [SD] IG: B: 21.3 [18.7]; 6m: 13.5 [11.6]; p<0.001 CG: B: 20.2 [16.9]; 6m: 14.7 [12.2]; p<0.001 IG: -7.7 vs. CG: -5.5; p=0.11 **Summary: NS/Null: IG vs. CG & ∆glucose or ∆insulin after 6mo**	• Diet assessment: MEDAS screener and 24-h (FF) diary Funding: Italian Association of Cancer Research; Italian Ministry of Health

Article information	Intervention/exposure and comparator	Results	Methodological considerations
Calvo-Malvar, 2021,[18] 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% Included a random representative sample from Spanish National Health System Register (ages 18 to 85 years) and their relatives who shared home as a family unit of ≥2 members. Excluded those with alcoholism, pregnancy, major CVD, dementia, predicted survival of <1 y; using lipid-lowering medication. Analyses include both an intention-to-treat (ITT) with imputed data for missing values, and per-protocol (PP).	**Age at Dietary Pattern:** ~39y, mean (3 to 85 y at baseline) Atlantic Diet vs. Control Atlantic Diet Intervention Group, 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 Group: usualy dietary pattern **Methods:** RCT	**Follow-up: 6 months** HbA1C: ITT, ∆HbA1c, β: -0.02, 95% CI: -0.05, 0.02; p-trend=0.343 PP, ∆HbA1c, β: -0.02, 95% CI: -0.05, 0.02; p-trend=0.298 Glucose: ITT ∆ FBG, β: 0.4, 95% CI: -1.0, 1.8; p-trend=0.563 PP ∆ FBG, β: -1.0, 95% CI: -2.2, 0.3; p-trend=0.132 Insulin: ITT, ∆Insulin, β: -0.46, 95% CI: -1.12, 0.24p-trend=0.189 ITT ∆HOMA-IR, β: -0.09, 95% CI: -0.24, 0.08; p-trend=0.297 PP ∆Insulin, β: -0.43, 95% CI: -1.09, 0.28; p-trend=0.230 PP ∆HOMA-IR, β: -0.08, 95% CI: -0.24, 0.00; p-trend=0.324 **Summary: NS/Null (ITT or PP): Atlantic vs. Control & ∆Fasting Glucose, ∆HbA1c, ∆Insulin, ∆HOMA-IR**	• Diet assessment: 3-day food record • Primary outcomes were body-weight and lipid related; FPG/HOMA-IR were secondary results; Unclear reporting of data in adults vs. children; • No adjustment for multiple testing was conducted; ITT group includes imputed data • All participants were from a rural community Funding: ERDF-Innterconecta for Galicia Program

Article information	Intervention/exposure and comparator	Results	Methodological considerations
Georgoulis, 2020; 2021 and 2023[19-21] Greece; MIMOSA Analytic N=180 **Participant characteristics:** **Health:** Mean BMI 35.4, 79% Ob; 61% MetS; 77% severe OSA; 75% male & low-PA **Race and/or Ethnicity**: NR **SEP:** Income: 38% low, 46% medium, 16% high Included those with BMI ≥25, obstructive sleep apnea (≥15 events/h sleep); Excluded those with central SA; sleep disorders; chronic disease, psychiatric disorders; hospitalization due to acute or chronic respiratory disease or required oxygen during last year; sugery in <3 months; pregnancy or breastfeeding; use of antipsychotic, antidepressant, or other hypnotic drugs; use of steroids or HRT (♀); habitual excessive alcohol intake; on weight loss diet or recent change in lifestyle habits	**Age at Dietary Pattern:** 49y, mean (18-65y) Mediterranean Diet Score (MedDietScore) [Panagiotakos, 2007]: <u>MedDietScores</u> were higher in the Mediterranean diet group (MDG) v. Standard Care Group (SCG): Positive: fruits, vegetables, grains (preferably whole grains), dairy,fish & seafood, white meat, legumes, olive oil. Negative: red meat, processed meat, sugar, salt. Moderate alcohol <u>SCG</u>: Written advice for a healthy lifestyle and an indicative hypocaloric daily dietary plan, i.e., 1800 kcal for ♂ and 1500 kcal for ♀; CPAP prescription <u>MDG</u>: 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 **Methods**: RCT/Index	**Follow-up: 12 months** <u>Glucose:</u> FBG, 6mo, -0.26, 95% CI: -0.47, -0.05, P=0.006; P after Wt adjusting=0.1 12mo, -2.77, 95% CI: -6.06, 0.53, p-trend>0.999 Hyperglycemia 6mo, RR 0.68, 95% CI: 0.39, 1.19, P=0.3; P after Wt adjusting=0.7 12mo, RR: 0.80, 95% CI: 0.46, 1.39, p-trend=0.800 <u>Insulin:</u> 6mo -24.4, 95% CI: -47.1, -1.64, P=0.002; P-adj=0.7 12mo, -3.08, 95% CI: -5.95, -0.22, p-trend=0.428 <u>HOMA-IR:</u> 6mo, -1.10, 95% CI: -2.10, -0.10, P=0.001; P-adj=0.5 12mo, -0.85, 95% CI: -1.67, -0.04, p-trend=0.489 **Summary: NS/Null: MDG vs. SCG & glucose, insulin, HOMA-IR, hyperglycemia**	• Diet assessment: MedDietScore • Outcomes: Hyperglycemia (≥5.6 mmol/L or ≥100 mg/dL or taking anti-DM meds) • All participants had obstructive sleep apnea (may be less generalizable); MDG vs. SCG & DBP, hsCRP, presence of MetS, insulin, and HOMA-IR were significant in analyses that do not control for Δbody weight; No true control/placebo group; High attrition rate (e 35% for SCG, 29% for the MDG); No record of feedback on intervention; No adjustment for multiple testing; includes imputed data; SCG did not include 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

Article information	Intervention/exposure and comparator	Results	Methodological considerations
Gotfredsen, 2021 [22] Denmark; Diet and Prevention of Ischemic Heart Disease: a Translational Approach (DIPI) Analytic N=186 **Participant characteristics:** **Health:** 100% with 1+ risk factors (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% Excluded smokers; those pregnant, planning to become pregnant, or breastfeeding; history of chronic diseases that could affect study results; drug abuse; regular alcohol consumption	**Age at Dietary Pattern:** 30 to 65 y SUB DG vs. OFF groups 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) **Methods:** RCT	**Follow-up: 6 months** HbA1C: SUB DG vs. HAB 6mo, β: -0.001, 95% CI: -0.08, 0.07 12mo, β: 0.003, 95% CI: -0.07, 0.08 OFF vs. HAB 6mo, β: 0.01, 95% CI: -0.07, 0.08 12mo, β: 0.06, 95% CI: -0.01, 0.13 Glucose: SUB DG vs. HAB 6mo, β: 0.06, 95% CI: -0.05, 0.18 12mo, β: -0.01, 95% CI: -0.13, 0.10 OFF vs. HAB, 6mo, β: 0.03, 95% CI: -0.08, 0.15 12mo, β: 0.04, 95% CI: -0.07, 0.16 Insulin: SUB DG vs. HAB: 6mo, β: -2.56, 95% CI: -12.37, 7.25 at 12mo, β: -2.09, 95% CI: -11.66, 7.48 OFF vs. HAB: 6mo, β: -2.29, 95% CI: -12.00, 7.42 12mo, β: 3.58, 95% CI: -5.95, 13.10 **Summary: NS/Null: SUB DG vs. HAB & HbA1c, Glucose, Insulin NS/Null: OFF vs. HAB & HbA1c, Glucose, Insulin**	• Diet assessment: 7-day food record at baseline, 6 months, 12 months • Intervention was not well-controlled (i.e., weak) Funding: Danish Council for Strategic Research

Article information	Intervention/exposure and comparator	Results	Methodological considerations
Howard, 2018 [23] USA; Women Health Initiative (WHI) Dietary Modificantion Trial Analytic N=47,023 total; No baseline T2D: 45,579; Baseline T2D: 1,444; Subsample: 2324 **Participant characteristics:** • Health: BMI, kg/m2: 28.9 ± 5.8 v. 28.9 ± 5.8 • WC≥88cm: 47.3% v. 47.8% • Family history of diabetes: 32.8% v.33.3% • prior CVD: 3.1% v. 3.2% • Smoking, Never: 51.4% v. 51.8%; Past: 41.9% v. 41.3% • Tx for HTN: 33.0% v. 33.8% • Insulin, uIU/mL: 10.0 ± 6.9 v. 10.0 ± 7.1 • Glucose, mg/dL, median (IQR): 93.0 (15.0) v. 93.0 (12.0) • No significant differences between the randomization groups • Race and/or Ethnicity: White: ~82.5%; Black: 9.9%; Hispanic: 3.7%; American Indian: 0.4%; Asian/Pacific Islander: 2.2% • SEP: NR Excluded ♂, those with prevalent diabetes, reported insulin use during F/U without preceding or concurrent use of oral agents	**Age at Dietary Pattern:** 62y (no T2D at baseline); 64y (with T2D at baseline); enrolled 50 to 79 y Low-fat diet group: Decreased fat intake (20% of calories), reduced saturated fat to 7% of total energy, and increased vegetable/fruit (five servings per day) and grain (six servings per day) consumption; Control group: no dietary guidance, received only printed health-related materials **Methods:** RCT	**Follow-up: 17.3 y median, T2D** Risk of T2D: T2D requiring pills in Intervention phase, HR: 0.95, 95% CI: 0.88, 1.02, p-trend=0.13 Intervention + postintervention, HR: 0.96, 95% CI: 0.91, 1.00, p-trend=0.07 T2D requiring insulin; N=45,579 Intervention, HR: 0.74, 95% CI: 0.59, 0.94, p-trend=0.01 Intervention + postintervention, HR: 0.88, 95% CI: 0.78, 0.99, p-trend=0.04 No baseline T2D requiring pills in F/U, progression to T2D requiring insulin; N=45,579 Intervention: HR: 0.82, 95% CI: 0.64, 1.04, p-trend=0.10 Intervention + postintervention, HR: 0.95, 95% CI: 0.84, 1.09, p-trend=0.49 Prediabetes: subsample FBG < 100 mg/dl, OR: 0.75, 95% CI: 0.61, 0.93; P=0.008 Glucose: subsample (average of 1, 3, 6y): Intervention: 94.9 mg/dl; Comparison: 96.3mg/dl; P<0.001 ratio of geometric means: 0.98, 95% CI: 0.98, 0.99, P<0.001 **Summary: Inverse: Low-fat diet v. control & T2D, preT2D, FBG**	• Did not account for: Alcohol, SEP • Diet assessment: FFQ periodically (no Δ8y in comparison group; 1.1 serv/d increase in grains in Intervention group) • Outcome: Self-report, agreed with FBG measured in 5.8% subsample and 79% concordant with F/U medication inventory • Adjusting baseline weight and weight change for T2D requiring insulin: HR 0.73, 95% CI: 0.57, 0.93; P=0.009 • Compliance in intervention group, mean fat intakes decreased by 8.2%, with simily decreases in saturated 2.9% kcal, MUFA 3.3% kcal, PUFA 1.5% kcal; 1.1-serving/day increase in vegetable/fruit intake, 0.5-serving/day increase in grains, and an 8.1% increase in total CHO intake; no change in the comparison group. • Outcomes were not among the designated trial outcomes; glucose measures only available for a subset; info regarding DM medication incomplete; • Data on n=1444 subset that was exclusively being Tx for T2D at baseline [HR 0.92, 95% CI: 0.75, 1.14, p-trend=0.47; Cumulative, HR: 0.89, 95% CI: 0.75, 1.06, p-trend=0.21] • Funding: NHLBI; NCI; National Center for Advancing Translational Science of the NIH

Article information	Intervention/exposure and comparator	Results	Methodological considerations
Pavić, 2019 [24] Croatia; Other: Analytic N=124 **Participant characteristics:** **Health:** 100% Obesity/Overweight **Race and/or Ethnicity**: NR **SEP:** Education: 42% v. 27% uni+; Employment: 59% v. 37%; Married: 67.2% v. 67.2% Excluded newly diagnosed diabetes, hypertension or cardiovascular disease, or change in antihypertensive and oral antidiabetic therapy in the period of 3 months prior to the commencement of the study, insulin use, abuse of alcohol or drugs, pregnancy or lactation and use of drugs affecting weight control	**Age at dietary pattern:** 18-69 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 **Methods:** RCT	**Follow-up: 12 months** HbA1C: T0-T12, mean [SD] HbA1C, %, MD: 0.1 [0.6], P=0.551 SHD: 0.13 [0.7], P=0.258 MD vs SHD: P=0.214 Glucose: T0-T12, mean [SD] FPG, mmol/l MD: 0.6 [0.9], P=0.001 SHD: 0.45 [1.3], P=0.026 MD vs SHD: P<0.001 **Summary: Inverse: MD, SHD & FPG (MD more than SHD)** **Null: MD, SHD & HbA1C**	• Diet assessment: FFQ • Primary outcome Metabolic Syndrome parameters, including BG; Drop-out rate: 33.1%, reasons included lack of motivation and/or unwillingness to continue, health related issues, pregnancy, death and unknown reasons; Adherence to recommendation was "satisfactory": increase intake in olive oil, nuts, fish in MD group; Intake of red or processed meats, sweets, sweetened beverages and alcoholic drinks decreased from baseline (table 7); Co-interventions possible with physical activity and dietetic supervision Funding: Grant (Not specified)

Article information	Intervention/exposure and comparator	Results	Methodological considerations
Prentice, 2019 [25] USA; WHI Analytic N=43,232 (w/o prior CVD); 48,835 total **Participant characteristics:** • Health: BMI, 28.2 (mean); Tx: 4% DM, 47% HTN or high-BP, 12% high-cholesterol, 6% on statins; 2% MI, 100% post-menopausal, free of cancer at entry • Race and/or Ethnicity: 81% White, 11% Black, 4% Hispanic, 0.5% American Indian, 2% Asian/Pacific Islander, 1.4% Unknown • SEP: Education: 78% ≥HS diploma/GED; • Family Income. 39% ≥$50K/y Included postmenopausal ♀ aged 50-79 y with no prior history of breast or colorectal cancer, and with dietary fat intake estimated using an FFQ to be ≥ 32% of total energy intake. Excluded prior history of invasive breast cancer or colorectal cancer, any cancer except nonmelanoma skin cancer within the previous 10 y.	**Age at Dietary Pattern:** 62.3y, mean (50 to 79 y) Intervention: Increased vegetable, fruit, grain intakes (fiber & carotenoid) and decreased total fat compared to control group; Advised to reduce fat from ~35% of energy at baseline to 20% energy+ increase in veg, fruits, grains; vegetables (2.6 c), fruits (2.5 c) and total grains (5.4 c): whole grain: 1.4 c; other grains 4.0; Provided 18 dietary behavioral sessions in groups of 8-15 and 1 indiviudal session in 1st year, then quarterly group sessions throughout a median 8.5 y Control: Written health-related materials; veg (2.1 c); fruits (1.8 c); total grain (4.7 c): whole-grain: 1.1 c; other grain: 3.6 c **Methods:** RCT	**Follow-up: 8.5y, median F/U** Risk of T2D: Intervention Phase • DM req. oral agent: HR 0.94, 95% CI: 0.88, 1.01, P=0.11 • DM req. insulin: HR 0.74, 95% CI: 0.58, 0.94, P=0.01 F/U, cumulative • DM req. oral agent: HR 0.95, 95% CI: 0.91, 1.00, P=0.06 • DM req. insulin: HR 0.87, 95% CI: 0.77, 0.98, P=0.02 **Summary: Inverse: Intervention vs. control group & DM requiring insulin (Iv phase & f/u)** **Inverse, NS: Intervention vs. control group & DM requiring oral agents (f/u phase)** **Null: Intervention vs. control group & DM requiring oral agents (Iv phase)**	• Did not account for: RCT • Diet assessment: repeat FFQ • Outcome: T2D based on self-report with verification • At 1 y, intervention group had lower total energy from fat (~11% similar saturated or unsaturated fats), higher carbohydrate (~10%), protein (~1%), vegetables and fruit by 1.2 to 5.1 serv./d, and grains was higher by ~0.7 to 5.4 serv./d. • Only ~70% of the targeted difference in percentage of energy from fat was achieved; grain servings were lower than the recommened 6/d; self-reported FFQ; multiple testing; unblinded trial Funding: NIH; NHLBI

Article information	Intervention/exposure and comparator	Results	Methodological considerations
Reidlinger, 2015 [26] United Kingdom; Cardiovascular disease risk REduction Study (CRESSIDA) Analytic N=162 **Participant characteristics:** DG v. CG **Health:** • Non-smokers, mean BMI 25.5 v. 26.8; • mean WC 98 v. 97 cm; • 50% v. 56% post-menopausal **Race and/or Ethnicity**: • White: 87% v. 80% • Black: 7% v. 8% • Asian: 7% v. 8% **SEP:** NR All with BMI 25 to 35, ~20% ethnic minority; Excluded those with CVD or >20% 10y CVD risk; chronic disease; History of substance abuse; pregnancy; fluctuation in weight >3 kg in the past 2 months	**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 **Methods:** RCT	**Follow-up: 12 weeks** Glucose: FPG, -1%, 95% CI: -3, 1; p=0.397 Insulin: FBI, 9.6%, 95% CI: -21.6, 21.5; p=0.12 **Summary: NS/Null: DG v. Control & FPG or FBI**	• Diet assessment: 4d food record; FFQ before randomization and end of intervention phase 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

Article information	Intervention/exposure and comparator	Results	Methodological considerations
Salas-Salvado, 2014 [27] Spain; PREDIMED, sub-set Analytic N=3541 (273 T2D cases at F/U) **Participant characteristics:** • Health:100% at-risk for CVD • Race and/or Ethnicity: NR (100% Spanish) • SEP: Education level, primary: ~72-76%; Secondary ~16%; Graduate ~8%; Married status: ~77% Included community-dwelling ♂ age 55-80 years and ♀ at 60-80 years without prior CVD but having at least three cardiovascular risk factors (smoking, hypertension, dyslipidemia, overweight, family history of premature CVD); Included only confirmed diabetes events; Excluded participants with diabetes at baseline, and participants who lacked data on diabetes	**Age at Dietary Pattern:** 55 to 80 y <u>Med+EVOO</u>: 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 <u>Med+Nuts</u>: 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; + 15g/d walnuts, 7.5g/d almonds, and 7.5g/d hazelnuts <u>Control</u>: Advice to reduce dietary fat **Methods:** RCT	**Follow-up: 4.1 median (IQR 2.5-5.7), T2D** <u>Risk of T2D</u>: MedDiet+EVOO vs Control: HR: 0.60, 95% CI: 0.43, 0.85 MedDiet+Nuts vs. Control: HR: 0.82, 95% CI: 0.61, 1.10 Both MedDiets vs. Control, HR: 0.70, 95% CI: 0.54, 0.92 **Summary: Inverse: Either Med+EVOO, or Med+nuts, or both Med diets vs. Control & T2D**	• Diet assessment: Adherence assessed at each annual f/u visit • Outcomes: New T2D based on ADA criteria & medical records (FPG ≥ 126 mg/dl (7 mmol/l) or 2-h post 75-g glucose load ≥ 200 mg/dl (11.1mmol/l)) • No restrictions on TEI or PA were made; Results were consistent among subgroups of sex, age, presence of comorbid conditions, smoking status, family history of CVD, and several indices of adipostiy. Sensitivity analyses by including multiple imputations for participants without contact for 2 y or longer and for those who lacked repeated measurements of glucose control yielded similar results as primary finding. • Note that the primary data from PREDIMED were included in the existing review and remained the same after republication due to randomization errors (both Med diets v. Control & T2D: HR: 0.47, 95% CI: 0.26, 0.87) • Greater loss to follow-up in the control group and worse CVD risk profile among those who withdrew, suggesting a bias toward benefit in the control group • Funding: Instituto de Salud Carlos III*

* Salas-Salvado, 2014 additional funding: Centro de Investigacion Biomedica en Red de Fisiopatologı´a de la Obesidad y Nutricio´n and by grants from Centro Nacional de Investigaciones Cardiovasculares, Fondo de Investigacio´n Sanitaria–Fondo Europeo de Desarrollo Regional, Ministerio de Ciencia e Innovacio´n, Fundacio´n Mapfre 2010, Consejerı´a de Salud de la Junta de Andalucı´a, Public Health Division of the Department of Health of the Autonomous Government of Catalonia, Generalitat Valenciana, Agencia Canaria de Investigacio´n, Innovacio´n y Sociedad de la Informacio´n-EU FEDER, and Regional Government of Navarra. The Fundacio´n Patrimonio Comunal Olivarero and Hojiblanca (Malaga, Spain), California Walnut Commission (Sacramento,California), Borges (Reus, Spain), and Morella Nuts (Reus,Spain).

Article information	Intervention/exposure and comparator	Results	Methodological considerations
Sidahmed, 2014 [28] United States; Healthy Eating for Colon Cancer Prevention Study Analytic N=120 **Participant characteristics:** **Health:** 64% family history of CRC, 27% history adeoma, or 9% both **Race and/or Ethnicity**: 88% Caucasian **SEP:** NR Excluded those on a medically prescribed diet/require diet counselling, or on a Mediterranean or low-fat diet already; Enrolled those with one 1st- or 2, 2nd-degree relatives with CRC/polyps; generally healthy, at least 21y, BMI between 18.5 and 35	**Age at Dietary Pattern**: 53 y, mean '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 **Methods:** RCT	**Follow-up: 6mo** Insulin: Effects were NS on measures related Insulin status (Data NR) **Summary: NS/Null: 'Mediterranean' vs. 'Healthy-eating' arms & Insulin**	• Diet assessment: 2d records + 24h-recall • Compliance with assigned interventions was differential (low) at 6mo: Healthy 67% v. Mediterranean 32% compliant with meeting 100% of dietary goals; Healthy 89% v. Mediterranean 85% compliant with meeting ≥7 0% of dietary goals Funding: NIH; Cancer Center Support

Article information	Intervention/exposure and comparator	Results	Methodological considerations
Tussing-Humphreys, 2022 [29] 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:** 22% <$20K, 23% $20-$40K, 54% >$40K; 99% health-insured; Degree: 30% graduate, 20% college, 10% associate; 25% single; 28% married; 16% widowed; 31% divorced Included if BMI 3-50; Cognitive Assessment score ≥19; MedDiet score <50% adherence; English-speaking. Excluded if: inability to exercise; HbA1c >9%; severe chronic, autoimmune, neurologic conditions; on Warfarin; recent or pending bariatric surgery; in weight loss program; in cognitive research in past year	**Age at Dietary Pattern**: 55 to 85 y MedDiet Score [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 MedDiety v. Control at 8mo F/U; Assigned to follow MDS recommendations, maintain body Wt and PA; Increased by F/U Control Group: No dietary recommendation provided; Health education materials provided weekly. No change in MedDiet score by F/U, but lower MDS than MedDiet at F/U **Methods:** Index, RCT	**Follow-up: 8mo** HbA1C: mean Δ MedDiet, -0.1, 95% CI: -0.2, 0.0 Control, -0.0, 95% CI: -0.2, 0.1 between groups, p-trend=0.72 Glucose: mean Δ MedDiet -0.9, 95% CI: -6.7, 4.8 Control, -5.9, 95% CI: -13.6, 1.8 between groups, p-trend=0.51 Insulin: mean Δ MedDiet, -0.6, 95% CI: -1.6, 0.4 Control, -0.5, 95% CI: -1.8, 0.8 between groups, p-trend=0.046 HOMA-IR: mean Δ MedDiet, -0.2, 95% CI: -0.4, 0.1 Control -0.2, 95% CI: -0.6, 0.1 between groups, p-trend=0.08 **Summary: NS/Null: Diet Group & ΔHbA1c, ΔGlucose, ΔInsulin or HOMA-IR**	• Did not account for: Smoking • Diet assessment: MedDiet adherence • Primary outcomes were cognitive/executive function (T2D secondary); MedDiet group advised to maintain weight; No differences in self-reported physical activity at follow-up between groups Funding: NIH

[a] Abbreviations: BMI, body mass index; DM, Diabetes; FBG, fasting blood glucose; FBI, fasting blood insulin; FFQ, Food frequency questionnaire; FPG, fasting plasma glucose; F/U, Follow-up HbA1C, Hemoglobin A1C; Homeostatic Model - Insulin Resistance HOMA-IR, ; HS, high school; HTN, hypertension; ITT, intent-to-treat; Med, Mediterranean; mo, month(s); N/A, Not applicable NR, not reported; NS, not statistically significant; Ob, Obesity; OW, Overweight; SEP/SES, Socioeconomic position/status; T2D, Type 2 Diabetes; TC, total cholesterol; TG, triglyceride; Tx, treatment; UPF, Ultra-processed food; WC, waist circumference; Δ, change; ♂ male; ♀ female

Table 11. Risk of bias for randomized controlled trials examining dietary patterns consumed by adults and older adults and risk of type 2 diabetes[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
Babio, 2014 [16]	SOME CONCERNS	LOW	LOW	LOW	LOW	HIGH	HIGH
Bruno, 2020 [17]	SOME CONCERNS	LOW	LOW	LOW	LOW	SOME CONCERNS	SOME CONCERNS
Calvo-Malvar, 2021[18]	SOME CONCERNS	LOW	SOME CONCERNS	LOW	LOW	HIGH	HIGH
Georgoulis, 2020, 2021, and 2023[19-21]	LOW	SOME CONCERNS	n/a	LOW	LOW	HIGH	HIGH
Gotfredsen, 2021 [22]	LOW	LOW	LOW	LOW	LOW	HIGH	HIGH
Howard, 2018 [23]	LOW	SOME CONCERNS	n/a	LOW	SOME CONCERNS	SOME CONCERNS	SOME CONCERNS
Pavić, 2019 [24]	LOW	n/a	SOME CONCERNS	SOME CONCERNS	LOW	SOME CONCERNS	SOME CONCERNS
Prentice, 2019 [25]	LOW	HIGH	n/a	SOME CONCERNS	HIGH	SOME CONCERNS	HIGH
Reidlinger, 2015 [26]	LOW	LOW	LOW	LOW	LOW	LOW	LOW
Salas-Salvado, 2014 [27]	SOME CONCERNS	LOW	SOME CONCERNS	SOME CONCERNS	LOW	LOW	SOME CONCERNS
Sidahmed, 2014 [28]	LOW	LOW	LOW	LOW	LOW	HIGH	HIGH
Tussing-Humphreys, 2022 [29]	SOME CONCERNS	LOW	n/a	LOW	LOW	HIGH	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 et al. RoB 2: a revised tool for assessing risk of bias in randomised trials. BMJ 2019; 366: l4898.

Table 12. Evidence in adults and older adults from observational studies examining the relationship between dietary patterns and risk of type 2 diabetes [a]

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Ahmad, 2018 [30] USA; Women's Health Study Analytic N=25994 **Participant characteristics:** • Health: BMI: 24.3 to 25, median; 25% HTN; 2% diabetes; 14% family history of MI • Race and/or Ethnicity: NR • SEP: NR, all health professionals Selection data: All free of CVD at baseline; Excluded if missing biomarker data or FFQ	**Age at Dietary Pattern:** ≥45 y traditional Med Diet Score (tMED) [Mitrou 2007 modified Fung 2005]: Positive: Vegetables (not potatoes); Legumes; Fruit and Nuts; Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol **Methods:** Index/Score	**Follow-up: 12y** Risk of T2D: T2D' tMED 0-3, HR: 1, ref tMED 4-5, HR 0.79 95% CI: 0.69, 0.92; tMED 6+, HR 0.72 95% CI: 0.61, 0.86, p=0.002 Short-term T2D risk, tMED 4-5, HR 0.79 95% CI: 0.68, 0.91; tMED 6+, HR 0.75 95% CI: 0.63, 0.89, p<0.001 5-y T2D risk, tMED4-5, HR 0.81 95% CI: 0.70, 0.94; tMED 6+, HR 0.8 95% CI: 0.68, 0.95, p=0.007 HbA1C: tMED 4-5 vs. 0-3 ref & HbA1c, HR 0.77 95% CI: 0.67, 0.89; tMED 6+ vs. 0-3 ref & HbA1c, HR 0.74 95% CI: 0.62, 0.88, p<.001 HOMA-IR: Lipoprotein IR score: tMED 4-5 vs. 0-3 ref, HR 0.81 95% CI: 0.70, 0.94; tMED 6+ vs. 0-3 ref, HR 0.79 95% CI: 0.67, 0.94, p=0.005 **Summary: Inverse: Higher tMED & lower risk of T2D incidence, short-term and 5-y T2D risk, lower HbA1C, and lower lipoprotein IR**	• Did not account for: SEP (all well-educated, health professionals); Race and/or ethnicity; Family history of diabetes • Diet assessment: FFQ once (baseline) • Outcomes: Data NR, short-term and 5-y T2D risk based on scale of 0 to 100 (higher score= higher risk) • Indirect due to CVD as primary outcome of interest • Funding: NIH
Ahmad, 2020 [31] USA; Women's Health Study Analytic N=25317 **Participant characteristics:** • Health: Higher MED intake generally had better biomarker	**Age at Dietary Pattern:** 52.9 y [9.9], mean Mediterranean Diet Score (mMDS) [Trichopolou 2003; modified by Ahmad, 2018], Positive: Vegetables; Legumes; Fruit, Nuts; Cereals/Whole	**Follow-up: 19.8 [5.8] y mean [SD], T2D;** Risk of T2D: MED 0-3: HR 1, ref MED 4-5: HR 1.08, 95% CI: 0.98, 1.19 MED ≥6: HR 0.91, 95% CI: 0.81, 1.03 P for trend=0.80	• Did not account for: SEP (all health professionals); Family history of diabetes • Diet assessment: FFQ once (baseline) • Outcomes: Self report, may include T1D

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
profiles, except for 9 biomakers that were similar across MED categories, including HbA1c, Blood pressure, LDL, TG, total cholesterol, lipoprotein (a), apolipoprotein B100, LDL particle concentration, TRL particle concentration and size etc. • Race and/or Ethnicity: 'predominantly' White • SEP: NR, all health professionals Selection data: Excluded participants who had missing information on all the traditional and novel metabolic biomarkers and baseline diabetes	Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. Neutral: Alcohol **Methods:** Index/Score	**Summary: Null: MED &T2D**	• Significant association in ♀ with BMI≥25: MED 0-3, HR 1, ref; MED 4-5: HR 1.02, 95% CI: 0.92, 1.13; MED≥6: HR 0.84, 95% CI: 0.73, 0.96, P for trend=0.02; NS in ♀ with BMI<25: MED 4-5: HR 1.13, 95% CI: 0.89, 1.44; MED≥6: HR 1.12, 95% CI: 0.85, 1.49; P for trend=0.40. (both models without further adjusting BMI); • Limited generalizibility of population; self-reported BMI, potential surveillance bias • Funding: NIH; Swedish Heart-Lung Foundation and Henning och Johan Throne-Holst Stiftelse; Swedish Heart-Lung Foundation; NHLBI; NIDDK; AHA; Molino Family Trust; LabCorp
Alae-Carew, 2020 [32] Peru; CRONICAS Analytic N=2313, T2D **Participant characteristics:** • Health: BMI ≥ 25 kg/m2: 67.3%; HTN: 25.4%; T2D: 8.3%; TV ≥ 2 h/d: 57.2%; Never smokers 56.6%; Moderate PA 55.2% • Race and/or Ethnicity: NR • SEP: Education: None 7.4%, Primary 38.4%, Secondary 32.7%, Further 21.6%; Currently Employed: Yes 64.5%, No 35.5%; SES: Lowest 32.1%, Middle 33.8%, Highest 34.2% Selection data: Excluded some with HTN, T2D, high BMI, and all with	**Age at Dietary Pattern:** ≥ 35 y 'Stage 3', ref: Moderate refined grains; Moderate red meat; Moderate poultry; Low cooked vegetables; Moderate fruit; High seafood; Moderate potatoes; Moderate legumes; Low egg; Moderate UPF; High UPF 'Stage 1': Low refined grains; Low dairy; No poultry; Low poultry; No green vegetables; No raw vegetables; High cooked vegetables; Low fruit; High potato; No legumes; Low egg; Low UPF 'Stage 2': Low whole grains; Low refined grains; Low dairy; Low red meat; Low poultry; Low green vegetables; Low raw vegetables; Moderate cooked vegetables; Low	**Follow-up: 30mo** Risk of T2D: Prevalence Stage 3, PR: 1, ref Stage 1, PR: 0.29, 95% CI: 0.09, 0.99 Stage 2, PR: 0.73, 95% CI: 0.53, 1.01 Stage 4, PR: 0.86, 95% CI: 0.67, 1.09 Incidence Stage 3, IRR: 1, ref Stage 1, IRR: 0.64, 95% CI: 0.22, 1.87 Stage 2, IRR: 1.00, 95% CI: 0.55, 1.80 Stage 4, IRR: 1.32, 95% CI: 0.84, 2.05 **Summary: Inverse: Stage 1 v. Stage 3 & T2D prevalence** **Inverse, NS: Stage 2 or Stage 4 v. Stage 3 & T2D prevalence** **Inverse, NS: Stage 1 v. Stage 3 & T2D incidence**	• Did not account for: TEI; Family history of diabetes • Diet assessment: FFQ once (baseline) • Outcomes: Combination of self-report of physican diagnosis or n FPG ≥ 126 mg/dl • Ethnicity was accounted for but not adjusted due to its collinearity with other risk factors • Funding: None

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
pregnancy, active tuberculosis, physical disability, bedridden, unable to consent at baseline or LFU	fruit; High potato; Low legumes; Low egg; Low UPF 'Stage 4': Moderate refined grains; High dairy; High red meat; Moderate red meat; High poultry; High green vegetables; Moderate raw vegetables; Moderate cooked vegetables; High fruit; Moderate legumes; High UPF **Methods:** Latent Class Analysis	**Null: Stage 2 v. Stage 3 & T2D incidence** **Positive, NS: Stage 4 v. Stage 3 & T2D incidence**	

Alhazmi, 2014 [33]
Australia; Australian Longitudinal Study on Women's Health
Analytic N=8370
 	
Participant characteristics:
• Health: Ob, BMI≥30 kg/m2: 13-20%; High-PA 18-34%; Most self-rated health as good (86-93%) and did not consume Alcohol (74-88%); Smoke ≥ 20/d: 3-18%
• Women with higher diet scores tended to have higher physical activity levels, better self-rated health indices, less likely to be obese and heavy smokers, more likely to consume less alcohol and to have higher energy intakes.
• Race and/or Ethnicity: NR (Australian)
• SEP: No differences by ARFS; Higher DGI more likely to live in urban area:
• DGI, Q1 v. Q5
  ○ Urban 32 v. 37%;
  ○ University degree: 11 v. 21%
 	
Selection data: Excluded nonrespondents who did not complete the third survey, withdrew
	Age at Dietary Pattern: 45 to 50 y
	
	Australian 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
	
	modified Dietary Guideline Index (mDGI) [McNaughton, 2008], Postive: Vegetables; Fruits; Legumes; Cereals (breads, rice, pasta, and noodles); Whole Grain Cereals; Lean Meat/Meat alternatives (including fish); Total Dairy; Negative: SFA; Total fat; Added Sugars; Extra foods; Neutral: Alcohol (excluded salt and fluid components)
	
	Methods: Index/Score
		Follow-up: 6 y mean, T2D; disease status every 3 years
		
		Risk of T2D:
		
		ARFS, Q1: OR 1, ref
		Q2: OR 1.39, 95% CI: 0.96, 2.02
		Q3: OR 1.41, 95% CI: 0.96, 2.06
		Q4: OR 1.03, 95% CI: 0.72, 1.47
		Q5: OR 0.99, 95% CI: 0.68, 1.43
		p-trend=0.42
		
		DGI, Q1: OR 1, ref
		Q2: OR 0.79, 95% CI: 0.56, 1.11
		Q3: OR 0.80, 95% CI: 0.57, 1.25
		Q4: OR 0.71, 95% CI: 0.49, 1.03
		Q5: OR 0.51, 95% CI: 0.35, 0.76
		p-trend=0.01
		
		Summary: Inverse: DGI & T2D
		Null: ARFS & T2D
			• Did not account for: Race and/or ethnicity, Family history of T2D
			• Diet assessment: FFQ once
			• Outcomes: Self report, may include T1D (T1D differentiated in 3rd survey, not 4th or 5th)
			• Funding: Australian Government Department of Health and Ageing; the Ministry of Higher Education, Riyadh, Saudi Arabia

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
from the study completely or could not be contacted; ♀ who reported a daily energy intake <3347 kJ or >25104 kJ or who had a history of diabetes			
Allaire, 2020 [34] USA; Diabetes Prevention Program (DPP) Analytic N=2914 **Participant characteristics:** • Health: 100% at high risk for diabetes (impaired glucose tolerance)and BMI ≥24 • Race and/or Ethnicity: 45% minority: 19% African American, 16% Hispanic, 5% American Indian, 4% Asian • SEP: NR Selection data: Included those with BMI ≥24 (≥22 in Asian Americans) & impaired glucose tolerance. Excluded those with diabetes at baseline; ever used antidiabetic medication other than during pregnancy; with medical conditions likely to limit life span and/or increase risk of intervention; CVD	**Age at Dietary Pattern:** 50.8y, mean (baseline ≥25 y) 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 **Methods:** Index/Score	**Follow-up: 3.2 y F/U, T2D** Risk of T2D: All, HR: 0.980, 95% CI: 0.874, 1.098 Caucasian, HR: 0.899, 95% CI: 0.767, 1.055 African American, HR: 1.275, 95% CI: 0.981, 1.657 Hispanic, HR: 1.043, 95% CI: 0.788, 1.382 American Indian, HR: 0.662, 95% CI: 0.333, 1.317 Asian, HR: 1.422, 95% CI: 0.666, 3.034 between groups, p-trend=0.1391 **Summary: Null: AHEI & incident T2D**	• Did not account for: N/A (all accounted for) • Diet assessment: FFQ at baseline and 1y • Outcomes: Fasted blood samples at mid-year visits and 2-h OGTT annual; T2D defined by 1997 ADA criteria as FPG ≥ 126 mg/dl (7 mmol/l) or 2-h post 75-g glucose load ≥ 200 mg/dl (11.1mmol/l) or use of anti-DM meds; Fasted blood samples at mid-year visits and 2-h OGTT • AHEI change associated with Wt loss in Caucasian [-1.13 kg (0.19,p < 0.001)], Hispanic [-0.85 kg (0.29, p = 0.003)] and American Indian (-0.90, p = 0.156) participants. Effect sizes for African American (-0.36, p = 0.216) and Asian (0.49, p = 0.286) participants were small/NS. No difference in incident T2D by R/E; Secondary analysis reported results by lifestyle vs. metformin vs. placebo arms; no adjustment for multiple testing; Increases in AHEI over 1 year were largely driven by participants consuming less sodium, fewer trans fats, and fewer sugar-sweetened beverage • Funding: NIH

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Andre, 2020 [35] United Kingdom; BIOBANK Analytic N=21,585 **Participant characteristics:** • Health: Baseline differences in number of meds (p<0.0001) and comorbidities (p<0.0001) between those who did vs. did not develop T2D • Race and/or Ethnicity: NR • SEP: Baseline education level (college or university) differed between those who did vs. did not develop T2D (p<0.0001): 51% vs. 39% college or university Selection data: Included those with data from at least 1 follow-up & w/out withdrawal of consent. Excluded those w/out diabetes status at baseline or at least 1 follow-up; with prevalent diabetes; ♀ w/ GDM; with diabetes at time 1 but not at time 2; without nutritional data; with nutritional data not reflecting usual diet	**Age at Dietary Pattern:** 56.5y, mean 40 to 69 y at baseline literature Mediterranean Diet Score (LitMDS) [Sofi 2014], Positive: Vegetables; Legumes; Fruit and Nuts; Cereals; Fish; Olive Oil. Negative: Meat; Dairy Products. Neutral: Alcohol **Methods:** Index/Score	**Follow-up: 6.1y, mean** Risk of T2D: Direct effect (LitMDS → T2D) HR: 0.96, 95% CI: 0.93, 0.99; p-trend=0.0197 Indirect effect (LitMDS→ T2D mediated by overweight) HR: 0.90, 95% CI: 0.87, 0.92; p-trend<0.0001 Total effect (LitMDS → Overweight → T2D) HR: 0.86, 95% CI: 0.82, 0.90; p-trend<0.0001 **Summary: Inverse: litMDS & T2D [direct (4% reduced risk) & total effect (14% reduced risk)]**	• Did not account for: Age; Race and/or ethnicity; Anthropometry; Family history of diabetes • Diet assessment: 24-hr recalls, five times (DP based on average of 2.2 surveys) • Outcomes: Self-report, may include T1D • 10% of total effect of litMDS & T2D was mediated by reduced overweight per additional point of Medi diet score; Missing data (<3%) accounted for via imputation; • Funding: Joint Programming Initiative, Healthy Diet for Healthy Life; French National Research Agency; Research Council for Biotechnology and Biological Sciences (UK); Ministry of Economy and Competitiveness (Spain)
Bantle, 2016 [36] USA; CARDIA Analytic N=3358 **Participant characteristics:** • Health: BMI 24.4 kg/m2 mean; Weight: 156.2 lbs, mean • Race and/or Ethnicity at F/U Y25: • T2D/Prediabetes: Black 36%, White 64%; • Prediabetes: Black 54%, White	**Age at Dietary Pattern:** 18 to 30 y "Americanized" Mediterranean Diet Score (AmMed Diet) [Bantle 2016, modified Stefan, 2014], Positive: Vegetables; Legumes; Fruit and Nuts; Whole Grains; Fish and Seafood; Eggs; Milk; MUFA+PUFA/SFA. Negative: Red and Procesed Meat; Dairy Products; Sugar-sweetened and diet beverages; Refined Grains; Snack foods; Potatoes. Netural: Alcohol	**Follow-up: 25 y, T2D** Risk of T2D: Per SD, OR: 0.90, 95% CI: 0.79, 1.03, P=0.13 Prediabetes: Per SD, OR: 1.00, 95% CI: 0.92, 1.08, P=0.96 **Summary: Null: AmMedDiet & Pre-T2D, T2D**	• Did not account for: Family history of diabetes • Diet assessment: Diet assessed once at baseline using diet history questionnaire for CARDIA/this study • Outcomes: Fasted/non-fasted blood measured via "standard protocols"; T2D from measures or self-report of diabetes-meds • Funding: NHLBI; University of

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
46%; • T2D: Black 69%, White 31% • SEP: NR Selection data: Included data from Y0 and Y25. Excluded participants who had diabetes or prediabetes at Y0, no fitness or dietary intake data at Y0, unknown diabetes status at Y25.	**Methods:** Index/Score		Alabama at Birmingham; University of Minnesota; Kaiser Foundation Research Institute; Johns Hopkins University School of Medicine; NIA; NIH
Bao, 2016 [37] USA; Diabetes & Women's Health study; Nurses' Health Study II Analytic N=4502 **Participant characteristics:** • Health: BMI, kg/m2: 25.4 (5.5) to 29.1 (6.9); Family history of diabetes: 25% to 33%; Current smoking: 7.5% to 15%; PA, MET h/week: 15.4 (19.1) to 19.2 (23.1) • Race and/or Ethnicity: 90-95% White • SEP: NR Selection data: Included ♀ who reported GDM before 1991 or incident GDM through 2001. Excluded participants who reported chronic disease including T2D, CVD, cancer before GDM pregnancy or before the return of their first post-GDM FFQ, had a multiple-birth pregnancy, or did not return any post-GDM FFQ	**Age at Dietary Pattern:** 24 to 44 y Low-carbohydrate diets (LCD) score [Halton, 2006] (Q5 v. Q1): Lower intakes of Vegetables; Fruits; Whole grains; Sugar-sweetened beverages and Higher Red meat [Similar poultry; fish; eggs; nuts]; intake data NR for animal- or plant-based LCD **Methods:** Index/Score	**Follow-up: up to 20 y, T2D** Risk of T2D: LCD score, Q1, HR: 1, ref Q2, HR: 0.95, 95% CI: 0.70, 1.30 Q3, HR: 1.02, 95% CI: 0.77, 1.36 Q4, HR: 1.28, 95% CI: 0.96, 1.71 Q5, HR: 1.36, 95% CI: 1.04, 1.78 p-trend=0.003 Animal LCD score, Q1, HR: 1, ref Q2, HR: 0.97, 95% CI: 0.71, 1.32 Q3, HR: 1.12, 95% CI: 0.84, 1.50 Q4, HR: 1.18, 95% CI: 0.88, 1.58 Q5, HR: 1.40, 95% CI: 1.06, 1.84 p-trend=0.004 Vegetable LCD score, Q1, HR: 1, ref Q2, HR: 1.38, 95% CI: 1.05, 1.81 Q3, HR: 1.24, 95% CI: 0.94, 1.63 Q4, HR: 1.14, 95% CI: 0.86, 1.51 Q5, HR: 1.19, 95% CI: 0.91, 1.55 p-trend=0.50 **Summary: Positive: Overall LCD, animal LCD & T2D** **Null: Vegetable LCD & T2D**	• Did not account for: Family history of diabetes • Diet assessment: Diet assessed every 4y via FFQ • Outcomes: Self-reported physician diagnosis, confirmed with self-report; T2D defined by ADA criteria as FPG ≥ 7 mmol/l, random PG (or no symptoms + OGTT) ≥ 11.1mmol/l, a/o use of anti-diabetes meds; sub-study validated • Potential misclassification of dietary intakes, screening bias, limited generalizibility • Funding: Eunice Kennedy Shriver National Institute of Child Health and Human Development, NIH; NIH; American Diabetes Association
Beigrezaei, 2023 [38] Iran; YaHS-TAMYZ; Shahedieh	**Age at Dietary Pattern:** 20 to 60+y (~6% 20-29; 26% 30-39; 32% 40-49; 22% 50-59; 13% 60+)	**Follow-up: 4-6 y (TaHS-TAMYZ 6 y; Shahedieh 6y)** Risk of T2D:	• Did not account for: Race and/or ethnicity, alcohol, family history of diabetes

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Analytic N=8667 **Participant characteristics:** • Health: Majority OW/Ob with mean BMI 25-29.9, 40%; 30-34.9, 22%, 35+ 8%; Majority never smokers (~12% current; 83% never) • Race and/or Ethnicity: NR (Iranian) • SEP: Education: 19-25% none; ~42% elementary; 19-24% high-school; 13-16% BS degree +; Marital status: ~92-93% married Selection data: Excluded those: with implausible/incomplete dietary intake data; previous T1D or T2D; without response data or national identifier code; and/or who died	PCA -DP1: Positive: processed meats, organ meats, fish, margarine, fruit juice, pizza, snacks, sweet dessert, and soft drinks. Negative: whole grains PCA-DP2: Positive: dairy products, fruits, tomatoes, other vegetables, potatoes, refned grains, and vegetable oils PCA-DP3: Positive: tea, mayonnaise, nuts, hydrogenated fats, sugars, and sof drinks PLS-DP1: Positive: whole grains. Negative: processed meats, organ meats, poultry, fish, margarine, fruit juice, pizza, snacks, and sweet dessert PLS-DP2: Negative: tea, potatoes, refned grains, sugars, and vegetable oils PLS-DP3: Positive: fruits, tomatoes, other vegetables, and yoghurt drink. Negative: margarine DP1 -RRR: Positive: whole grains. Negative: processed meats, red meats, poultry, fsh, margarine, fruit juice, pizza, snacks, sweet dessert, and sof drinks DP2-RRR: Positive: poultry, fruits, sof drinks, and yoghurt drink. Negative: potatoes, refined grains, and mayonnaise DP3-RRR: Positive: fruits, fruit juice, refined grains, and vegetable oils. Negative: processed meats, organ meats, margarine, and hydrogenated fats **Methods:** Factor or cluster analysis: PCA and RRR	PLS-DP2 & T2D, Q3 vs Q1, RR: 0.613, 95% CI: 0.39, 0.95, P-trend: 0.975 DP2-RRR & T2D, Q3 vs Q1, RR: 0.564, 95% CI: 0.36, 0.87, P-trend: 0.786 DP3-RRR & T2D, Q5 vs Q1, RR: 0.540, 95% CI: 0.33, 0.87, P-trend: 0.020 data NR for PCA-DP1, PCA-DP2, PCA-DP3, PLS-DP3, DP1-RRR or PLS-DP1 & T2D (all NS) **Summary: Null: PCA-DP1, 2, 3 & T2D** **Null: PLS-DP1, 3 & T2D** **Null: DP1-RRR & T2D** **Inverse (Q1 vs. Q3 only): PLS-DP2, DP2-RRR & T2D** **Inverse (Q1 vs. Q5): DP3-RRR & T2D**	• Diet assessment: FFQ once (baseline) • Outcomes: Fasted (8-12h) blood samples collected in both cohorts; T2D based on registry linkage in YaHS-TAMYZ and phone call in Shahedieh • Data not reported for results from multiple dietary patterns • Identified 245 cases; Alcohol intake NR (presume due to religious/cultural factors) • Funding: Shahid Sadoughi University of Medical Sciences

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Boonpor, 2022 [39] United Kingdom; BIOBANK Analytic N=203,790 **Participant characteristics:** • Health: Mean BMI ~25-28, WC ~12.5cm; Most (41-64%) never smoked • Race and/or Ethnicity: ~83% White ○ Vegetarians: 83.3% White; 15.1% South Asian; 0.3% Black; 0.1% Chinese; 1.2% mixed ○ Fish eaters: 94.8% White; 2.9% South Asian; 0.9% Black; 0.1% Chinese; 1.2% mixed ○ Fish & poultry eaters: 92.7% White; 4.0% South Asian; 1.4% Black; 0.1% Chinese; 1. • SEP: Townsend Deprivation Index: low 26.8-34.9%, middle 32.7-35.2%, high (most deprived) 30.7-40.5% Selection data: Excluded vegans; those with missing dietary data, no linked pimary care data to ascertain T2D; prevalent diabetes at baseline or within first 2 y F/U	**Age at Dietary Pattern:** 55y, mean; 37 to 73y Vegetarians: consumption of cheese, milk, but not fish, poultry or red meat Fish eaters: consumption of cheese, milk and fish but not poultry or red meat Fish & poultry eaters: consumption of cheese, milk, fish and poultry, but not red meat Meat eaters: consumption of cheese, milk, fish, poultry and red meat Varied: reported that diets varied often **Methods:** Other: Vegetarian	**Follow-up: 5.4y, median** Risk of T2D: Multivariable + BMI Fish & poultry eaters, HR: 0.82, 95% CI: 0.59, 1.16, p-trend=0.264 Fish eaters, HR: 0.69, 95% CI: 0.51, 0.92, p-trend=0.013 Vegetarians, HR: 1.15, 95% CI: 0.90, 1.47, p-trend=0.27 Varied, HR: 1.06, 95% CI: 0.96, 1.16, p-trend=0.233 **Summary: NS/Null: 'Fish eater', 'Vegetarian' , or 'Varied DP (vs. 'Meat eater' DP) & T2D** **Inverse: 'Fish eater' vs. 'Meat eater' DP & (lower) T2D**	• Did not account for: Race/Ethnicity, Family history of diabetes, Other: TEI • Diet assessment: FFQ once and a 24h in sub-set • Outcomes: T2D based on linkage to medical records • Similar results in model that controlled for WC rather than BMI; Excluded 'Vegan' group due to small sample size; Dietary patterns lack full description of all food groups conusmed • Funding: Chilean Government PhD Scholarship Program; Royal Thai Government Scholarship
Brayner, 2021 [40] United Kingdom; BIOBANK Analytic N=16523 (T2D; CVD; Ob); 14927 (WC) **Participant characteristics:** • Health: Family history of diabetes, 9.5% • Race and/or Ethnicity: 97.5% White; 2% Mixed; <1% Other	**Age at Dietary Pattern:** 55y, mean 'DP1': higher intake of nuts, seeds, 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 **Methods:** RRR: Response variables	**Follow-up: 6.3y, mean** Risk of T2D: DP1 T2, OR: 1.13, 95% CI: 0.82, 1.56; DP1 T3, OR: 1.09, 95% CI: 0.78, 1.53; p-trend=0.59 DP2 T2, OR: 1.02, 95% CI: 0.73, 1.41; DP2 T3, OR: 1.01, 95% CI: 0.73, 1.40; p-trend=0.96	• Did not account for: Race/Ethnicity • Diet assessment: 24-h record/FFQ "hybrid" at baseline and every 6 months (≥3 nonconsecutive, validated, web-based) • Outcomes: Self-report in 2 of 3 F/U of physician diagnosis; May include T1D

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
• SEP: Townsend Deprivation Index: low 41%, middle 34%, high (most deprived) 25% Selection data: Excluded those with missing exposure/outcome/covariate, <2 valid diet assessments; pregnancy; self-reproted T2D, CVD, Obesity, or Abdominal Obesity prior to baseline and at first F/U	were %E from SFAs, PUFAs, and MUFAs	**Summary: Null: DP1 or DP2 & T2D incidence**	• Funding: None
Cea-Soriano, 2021 [41] Spain; PREDAPS Analytic N=1184 **Participant characteristics:** • Health: 100% Prediabetes; 43% Ob; 67% abdominal Ob; 100% Prediabetes; 38% Family history of diabetes; 67% HTN; 79% High-LDL, 24% Low-HDL; 8% CVD; <3% kidney failure; 55% inactive; 14% heavy alcohol use; 17% current smoker • Race and/or Ethnicity: NR (Spanish) • SEP: NR Selection data: Included participants aged between 30 and 74 y whom consecutviely sought medical attention for any reason, and who had prediabetes, i.e., glucose impairment; Excluded participants who had diabetes, terminal disease, pregnancy, surgery or hospital admission in the previous three months at study entry, or any hemotologic disease that could alter HbA1c values.	**Age at Dietary Pattern:** 30 to 74 y Adapted Mediterranean-based Diet Score (adMedDietScore) [Panagiotakos 2007], Positive: Vegetables; Potatoes; Legumes; Nuts; Fruit; Rice, pasta, bread; Fish; Veg. Oils. Negative: Meats; Cold Meats and Sausage; Dairy; Alcohol; Sweets [Cake]; Animal fat; Fried food; Ready meals; Preserved food and snacks **Methods:** Index/Score	**Follow-up: 4.2 y mean T2D** Risk of T2D: Multivariate adjusted, High v. Low/Medium: HR 0.67, 95% CI: 0.47, 0.98 **Summary: Inverse: MedDietScore & T2D**	• Did not account for: Race and/or ethnicity, SEP • Diet assessment: FFQ once (baseline) • Outcomes: Fasted blood samples collected, HbA1C via HPLC and calcuated via IFCC • Stratified analysis: among age<65y, age-specific propensity score HR 0.48, 95% CI: 0.27, 0.86; age≥65y, HR 0.80, 95% CI: 0.49, 1.32. • Did not include prediabetes diagnosed based on impaired glucose tolerance; • Funding: Sanofi and Novartis (French multinational pharmaceutical & healtcare company)

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Cespedes, 2016s[42] USA; Women Health Initiative (WHI) Analytic N=101,504 **Participant characteristics:** • Health: BMI: 26-28 kg/m2, mean; Family history of T2D, 27-31%; Current HRT 36-47%; Current smoker 3-12%; PA, mean (sd): 9 (12) to 19 (16) MET-hr/wk; Alcohol use, mean (sd): 0.36 (0.9) 0.49 (0.68)drinks/wk. • Women with better-quality diets had lower BMI, and were more likely to be physical active, current users of hormone therapy and less likely to have a family history of T2D; • Race and/or Ethnicity: non-Hispanic white: ~85% • SEP: College-educated: 41% • Neighborhood SES (range 20 to 100), mean (sd) by aMED score SD <-1; -1 to 1; > 1: 75 (9); 76 (8); 78 (7) Selection data: Participants from the WHI Observational Study and the Calcium and Vitamin D and Hormone Therapy trials. Excluded ♀ in both arms of the WHI diabetes Trial due to the likelihood of dietary changes and the systematically higher (>32%) intake of energy from fat; ♀ with missing dietary intake data or missing information on prevalent diabetes at baseline; those with prevalent diabetes outside of	**Age at Dietary Pattern:** 50 to 79 y <u>Alternate Med Diet Score [Fung 2005]</u> <u>aMED:</u> Positive: Vegetables (not potatoes); Legumes; Fruit; Nuts; Whole Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. Neutral: Alcohol: Wine. [low to moderate dairy, fish, poultry] <u>Healthy Eating Index [Guenther 2013]</u> <u>HEI-2010:</u> 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 <u>Alternative HEI [Chiuve 2012]</u> <u>AHEI-2010:</u> Positive: Vegetables (not potatoes, French fries); Fruit; Legumes; Whole Grains; Oily fish; PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Trans FA; Sodium. Neutral: Alcohol <u>DASH score [Fung 2008]:</u> 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 [low in sweets] **Methods:** Index/Score	**Follow-up: 15 y median, T2D** <u>Risk of T2D</u>: aMED: Per-SD increase, HR: 0.95, 95% CI: 0.95, 0.97 Per 10% increase, HR: 0.97, 95% CI: 0.96, 0.98 Q1, HR: 1, ref Q2, HR: 0.90, 95% CI: 0.85, 0.96 Q3, HR: 0.95, 95% CI: 0.90, 1.01 Q4, HR: 0.92, 95% CI: 0.87, 0.98 Q5, HR: 0.85, 95% CI: 0.80, 0.90 HEI-2010 Per-SD increase, HR: 0.93, 95% CI: 0.92, 0.95 Per 10% increase, HR: 0.94, 95% CI: 0.92, 0.96 Q1, HR: 1, ref Q2, HR: 0.92, 95% CI: 0.87, 0.97 Q3, HR: 0.90, 95% CI: 0.85, 0.95 Q4, HR: 0.85, 95% CI: 0.80, 0.91 Q5, HR: 0.83, 95% CI: 0.78, 0.89 AHEI-2010 Per-SD increase, HR: 0.92, 95% CI: 0.90, 0.94 Per 10% increase, HR: 0.92, 95% CI: 0.90, 0.94 Q1, HR: 1, ref Q2, HR: 0.93, 95% CI: 0.88, 0.99 Q3, HR: 0.87, 95% CI: 0.82, 0.92 Q4, HR: 0.84, 95% CI: 0.79, 0.90 Q5, HR: 0.78, 95% CI: 0.73, 0.83 DASH score Per-SD increase, HR: 0.90, 95% CI, 0.89, 0.92 Per 10% increase, HR: 0.93, 95% CI, 0.92, 0.95 Q1, HR: 1, ref Q2, HR: 0.87, 95% CI: 0.82, 0.92	• Did not account for: N/A • Diet assessment: FFQ once (baseline) • Outcomes: Self-reported physician diagnosis, confirmed with self-report of anti-diabetes meds (accuracy validated for WHI) • Sensitivity analysis adding alternative and additional measures of adiposity, hypertension, geographic region, neighborhood socioeconomic status, or coffee intake to the models did not materially alter the results. • Single diet assessed used • Potential misclassification due to self-reported T2D; FFQ may not fully capture culturally specific foods; residual confounding • Results examined by race/ethnicity demonstrated that inverse association between aMED & T2D was NS among black and Asian ♀; DASH score & T2D was NS among Asian ♀ • Funding: NIDDKD;NHLBI; FDA; Department of Veterans Affairs; NIH; Cystic Fibrosis Foundation;

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
pregnancy and implausible energy intakes (<600 or >5/k kcal/d)		Q3, HR: 0.83, 95% CI: 0.78, 0.88 Q4, HR: 0.77, 95% CI: 0.72, 0.82 Q5, HR: 0.74, 95% CI: 0.69, 0.80 **Summary: Inverse: aMED, HEI-2010, AHEI-2010, DASH & T2D**	
Chen, 2018(Diet)43 Singapore; Singapore Chinese Health Study Analytic N=45,411 **Participant characteristics:** • Health: BMI, kg/m2, mean: ~ 23.0; HTN: ~ 17 to 21%; Current smoker: ~8 to 33%; Current alcohol drinker: ~11 to 30%; High-PA: ~27 to 43% • Race and/or Ethnicity: 100% Chinese in Singapore; Cantonese dialect, %: • SEP: Higher education,% • aMED Q1: 20.2% Q5: 42.3% • AHEI-2010 Q1: 26.9% Q5: 39.8% • DASH Q1: 26.8% Q5: 36.6% • PDI Q1: 21.8% Q5: 39.3% • hPDI Q1: 30.9%Q5: 32.5% Selection data: Excluded participants who had known diabetes, CVD, or cancer at baseline; had unrealistic energy intake; or LFU/died before diagnosis of diabetes	**Age at Dietary Pattern:** 45 to 74 y 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 Alternative HEI (AHEI)-2010 [Chiuve 2012], Positive: Vegetables (not potatoes/French fries); Fruit; Legumes and Nuts; Whole Grains; Oily fish; PUFA. Negative: Red and Processed Meat; Sugar Sweetened Beverages and Fruit Juice; Sodium. Neutral: Alcohol [excluded Trans FA] DASH score [Fung 2008], Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Total (not just low-fat) Dairy. Negative: Red and Processed Meat; Sweetened Beverages; Sodium 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	**Follow-up: 11.1 y median, T2D** Risk of T2D: aMED Q1, HR: 1, ref Q2, HR: 0.96, 95% CI: 0.88, 1.05 Q3, HR: 0.92, 95% CI: 0.84, 1.00 Q4, HR: 0.83, 95% CI: 0.76, 0.91 Q5, HR: 0.84, 95% CI: 0.77, 0.92 P-trend < 0.001 Per SD increment, HR: 0.93, 95% CI: 0.91, 0.96 AHEI-2010 Q1, HR: 1, ref Q2, HR: 0.93, 95% CI: 0.86, 1.01 Q3, HR: 0.93, 95% CI: 0.86, 1.01 Q4, HR: 0.86, 95% CI: 0.79, 0.94 Q5, HR: 0.79, 95% CI: 0.73, 0.87 P-trend < 0.001 Per SD increment, HR: 0.93, 95% CI: 0.90, 0.95 DASH index Q1, HR: 1, ref Q2, HR: 0.95, 95% CI: 0.87, 1.03 Q3, HR: 0.87, 95% CI: 0.79, 0.96 Q4, HR: 0.83, 95% CI: 0.76, 0.91 Q5, HR: 0.71, 95% CI: 0.65, 0.79 P-trend< 0.001 Per SD increment, HR: 0.90, 95% CI: 0.87, 0.93 PDI Q1, HR: 1, ref Q2, HR: 0.96, 95% CI: 0.87, 1.05 Q3, HR: 0.92, 95% CI: 0.85, 1.01 Q4, HR: 0.87, 95% CI: 0.79, 0.95	• Did not account for: Family history of diabetes • Diet assessment: FFQ once (baseline) • Outcomes: Self-reported physician diagnosis by phone; incident T2D validated with hospital data linkage, anti-diabetes Tx, or symptom report • Sensitivity analyses by recontrcuting aMED and AHEI-2010, or excluding T2D cases within the first 4 years of follow-up yielded similar results • Other limitations: Deviation of Dietary pattern scores from original version: trans-fat omitted from AHEI-2010; total dairy food rather than low-fat dairy food for DASH; potential misclassification of diabetes due to self-report; Inverse associations between each DP & T2D were mostly similar in never smokers and former smokers (associations were n/s for PDI and hPDI in former smokers); NS in lighter smokers (1–12 cigarettes/day) or heavier smokers (≥13 cigarettes/day) • Funding: NIH; National Medical Research Council, Singapore; China Scholarship Council

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
	meat); Miscellaneous animal-based foods Healthful PDI (hPDI) [Satija, 2016], 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 **Methods:** Index/Score	Q5, HR: 0.83, 95% CI: 0.76, 0.92 P-trend < 0.001 Per SD increment, HR: 0.94, 95% CI: 0.92, 0.97 hPDI Q1, HR: 1, ref Q2, HR: 0.93, 95% CI: 0.85, 1.01 Q3, HR: 0.93, 95% CI: 0.85, 1.01 Q4, HR: 0.82, 95% CI: 0.75, 0.90 Q5, HR: 0.81, 95% CI: 0.75, 0.89 P-trend<0.001 Per SD increment, HR: 0.93, 95% CI: 0.90, 0.95 **Summary: Inverse: aMED, AHEI-2010, DASH, PDI, or hPDI & T2D**	

Chen, 2018 [44]
Netherlands; Rotterdam Study
Analytic N=6798 total; Insulin resistance: 6514; PreT2D: 5768; T2D: 6770
 	
Participant characteristics:
• Health: BMI, kg/m2. mean: 26.6 ± 3.9
• Family history of diabetes: 10.8%; HTN: 42.3%; HC: 45.4%; Current smoking: 22.7%
• Physical activity, 58.4 ± 55.8 MET-hr/wk; Current food supplement use: 16.5%
• Race and/or Ethnicity: NR (Dutch)
• SEP: Education level, %
  ○ Primary: 11.8%
  ○ Lower: 40.9%
  ○ Intermediate: 29.0%
  ○ Higher: 18.3%
 	
Selection data: Excluded those with: non-valid/unreliable/extreme dietary
	Age at Dietary Pattern: 62.0 [7.8] y, mean (enrolled ≥45+ y)
	
	Plant-based dietary index, adapted (aPDI) [Martinez-Gonzalez 2014; Satija, 2016], Positive: Vegetables; Fruits; Nuts; Legumes; Whole grains; Vegetable oils; Tea/coffee; Fruit juices; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts; Alcoholic drinks; Negative: Yogurt, lowfat; Yogurt, high-fat; Animal fats; Milk, lowfat; Milk, whole fat; Cheese; Eggs, Fish/seafood; Unprocessed lean mea (poultry); Processed and red meat; Dairy-desserts
	
	Methods: Index/Score
		Follow-up: 5.7 y median, preT2D 7.3 y median, T2D
		Risk of T2D: aPDI, HR: 0.87, 95% CI: 0.79, 0.99
		P-trend<0.05
		Prediabetes: aPDI, HR: 0.93, 95% CI: 0.85, 1.03; p-trend NS
		HOMA-IR: aPDI, β = -0.05, 95% CI: -0.06, -0.04; p-trend<0.001
		
		Summary: Inverse: PDI & HOMA-IR, T2D; NS, Inverse: PDI & Prediabetes
			• Did not account for: Race and/or ethnicity
			• Diet assessment: FFQ once (baseline)
			• Outcomes: Fasted blood samples collected; HOMA-IR calculated as FPG (mmol/l) x FBI (mU/l)/22.5
			• Sensitivity analyses by controlling dietary guidelines score, additionally adjusting HTN and hypercholesterolemia, excluding participants with chronic diseases at baseline did not show substantially different results; excluding participants who developed T2D or preT2D in the first 2 y F/U modestly attenuated the association.
			• Funding: Erasmus University Medical Center and Erasmus University Rotterdam; The Netherlands Organization for Health Research and

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
intake according to a trained nutritionist at baseline; missing diabetes data at F/U, prediabetes data or HOMA-IR data for respective analyses; or who had T2D or Prediabetes at baseline			Development; the Research Institute for Diseases in the Elderly; The Netherlands Genomics Initiative; the Ministry fo Education, Culture and Science; the Ministry of Health, Welfare and Sports; the European Commission, the Municipality of Rotterdam.
Chen, 2021[45] USA; HPFS/NHS Analytic N=192,567 (NHS: 76,530; NHS II: 81,569; HPFS: 34,468) **Participant characteristics:** • Health: Family history of diabetes: 25-35%; HTN: 8.5-32%; HC: 20-46%; Current smoker: 8-19% • Race and/or Ethnicity: >90% White • SEP: NR, all health professionals Selection data: Excluded those with diabetes, cancer, or CVD and those who died before baseline of this analysis; those without follow-up dietary data or who did not complete two consecutive FFQs; those who reported implausible calorie intakes	**Age at Dietary Pattern:** 25 to 75 y at baseline (NHS: 30-55y; NHS II: 25-42y; HPFS: 40-75y) <u>Plant-Based Diet Index (PDI) [Satija, 2016]:</u> 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 (excluded alcohol and margarine) <u>healthful PDI (hPDI)</u>: 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 (excluded alcohol and margarine) <u>unhealthful PDI (uPDI)</u>: Negative: Whole grains; Fruits; Vegetables; Nuts; Legumes; Vegetable oils; Tea/coffee; Animal fats; Dairy; Eggs, Fish/seafood;	**Follow-up: 22 y (NHS); 27 y (NHS II); 26 y (HPFS)** <u>Risk of T2D</u>: Incident T2D- ΔPDI Large ↓, HR: 1.12, 95% CI: 1.05, 1.20 Small ↓, HR: 1.05, 95% CI: 1.00, 1.11 No change, HR: 1.00 , ref Small ↑, HR: 0.93, 95% CI: 0.89, 0.98 Large ↑, HR: 0.91, 95% CI: 0.86, 0.97 p-trend<0.0001 per 10% ↑, HR: 0.93, 95% CI: 0.91, 0.95 Incident T2D- ΔhPDI Large ↓, HR: 1.23, 95% CI: 1.16, 1.31 Small ↓, HR: 1.11 95% CI: 1.05, 1.16 No change, HR: 1.00, ref Small ↑, HR: 0.97, 95% CI: 0.92, 1.02 Large ↑, HR: 0.97, 95% CI: 0.85, 1.10 p-trend=0.002 per 10% ↑, HR: 0.91, 95% CI: 0.87, 0.95 Incident T2D- ΔuPDI Large ↓, HR: 1.03, 95% CI: 0.92, 1.17 Small ↓, HR: 1.07, 95% CI: 0.98, 1.16 No change, HR: 1.00 , ref Small ↑, HR: 1.02, 95% CI: 0.97, 1.07 Large ↑, HR: 1.06, 95% CI: 0.99, 1.13 p-trend=0.78 per 10% ↑, HR: 0.99, 95% CI: 0.94, 1.05	• Did not account for: SEP • Diet assessment: Diet assessed every 4y via FFQ, outcomes collected every 2 y • Outcomes: Self-reported physician diagnosis, confirmed with self-report; Incident T2D defined by FPG ≥ 7 mmol/l (7.8 if <1998), random PG (or no symptoms + OGTT) ≥ 11.1mmol/l, a/o use of anti-diabetic agents; sub-study validated Funding: NIH

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
	Meat (poultry and red meat); Miscellaneous animal-based foods; Positive: Fruit juices; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts (excluded alcohol and margarine) **Methods:** Index/Score	**Summary: Null: ΔuPDI & incident T2D** **Inverse: ΔPDI, ΔhPDI & incident T2D**	

Choi, 2020 [46]
USA; CARDIA
Analytic N=2534
 	
Participant characteristics:
• Health: BMI, kg/m2: 23.1 ± 4.5 to 25.2 ± 5.6; Parental history of diabetes: 18 to 32%
• WC: 75-80 cm; Weight: 66.4±13.2 to 74.1±17.1 kg; PA: 344-486 units; Current smoker: 17-34%; Alcohol use, drinks/d, Y0: 0.64 ± 1.28 to 1.08 ± 1.68
• Race and/or Ethnicity: 31.8-37.4% White < median vs. 72.2-83.7% White ≥ median Y0-20 APDQS
• SEP: Highest grade of education, years:
  ○ < median Y0 APDQS, 20-y change in APDQS Q1: 14.7 ± 2.6; Q3: 15 ± 2.6; Q5: 15.7 ± 2.6
  ○ ≥ median Y0 APDQS, 20-y change in APDQS Q1: 16.5 ± 2.4; Q3: 16.8 ± 2.4; Q5: 17 ± 2.3
Selection data: Recruited black and white men and ♀ aged 18-30 years from communities at 4 U.S. cities who attended CARDIA at Y20. Excluded participants who did not
	Age at Dietary Pattern: 18 to 30 y
	
	<u>A Priori Diet Quality Score, APDQS</u> [Sjitmsa, 2012], plant-centered focus, Positive: Vegetables; Legumes; Fruit; Nuts, Seeds; Whole Grains; Fish; Low-Fat Dairy; Vegetable Oil; Beer, Wine, Liquor; Tea, Coffee; Negative: Fried potatoes; High-fat meat; High-Fat Dairy; Desserts; Sugar-sweetened soft drinks; Butter; Fried Foods; Salty Snacks; Neutral: Potatoes; Fruit Juices; Refined grains; Eggs; Shellfish; Lean meat; Margarine; Chocolate & Diet Soft Drinks
	
	Methods: Index/Score
		Follow-up: 9.3 [1.7] y mean, T2D
		<u>Risk of T2D</u>: 20-year change APDQS predicting Y20-Y30 T2D
		Q1: HR 1.30, 95% CI: 0.84, 2.01
		Q2: HR 1, ref
		Q3: HR 1.02, 95% CI: 0.66, 1.55
		Q4: HR 0.90, 95% CI: 0.58, 1.40
		Q5: HR 0.52, 95% CI: 0.31, 0.85
		Each 1-SD increment: HR 0.71, 95% CI: 0.59, 0.86
		P for trend<0.001
		Y0 APDQS predicting Y20-Y30 T2D
		Q1: HR 1, ref
		Q2: HR 0.59, 95% CI: 0.40, 0.88
		Q3: HR 0.53, 95% CI: 0.35, 0.81
		Q4: HR 0.41, 95% CI: 0.25, 0.66
		Q5: HR 0.31, 95% CI: 0.17, 0.58
		Each 1-SD increment: HR 0.63, 95% CI: 0.51, 0.78
		P for trend<0.001
		Y20 APDQS predicting Y20-Y30 T2D
		Q1: HR 1, ref
		Q2: HR 0.97, 95% CI: 0.69, 1.38
		Q3: HR 0.59, 95% CI: 0.38, 0.91
		Q4: HR 0.57, 95% CI: 0.35, 0.93
		Q5: HR 0.33, 95% CI: 0.18, 0.61
		Each 1-SD increment: HR 0.68, 95% CI: 0.57, 0.80
		P fro trend<0.001
		
		Summary: Inverse: APDQS 20-year change, Y0, Y20 & T2D incidence
			• Did not account for: N/A
			• Diet assessment: Diet history at year 0, 7, and 20 (validated; change assessed)
			• Outcomes: Self-reported use of anti-diabetic meds, FBG ≥ 126 mg/dl, 2h-OGTT ≥ 200 mg/dL and/or HbA1C ≥ 6.5% (48 mmol/L) defined incident T2D at Y25 or Y30
			• Similar but weaker inverse association as the 20-year change was observed for 7-year change in APDQS in relation to risk of diabetes in the subsequent 23-year period; results for 7-year change and change in BMI, WC and Wt were similar to 20-year change as well.
			• There was no interaction between APQDS change and age, race, sex and education.
			• Change in diet quality may not have been fully captured using only two time points, Y0 and Y20.
			• Funding: NHLBI; the Healthy Food, Healthy Lives Institute and the MnDRIVE Global Food Ventures Professional

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
complete dietary history at Y0 and Y20; had an implausible energy intake; did not provide information regarding smoking status at Y0 or physical activity at Y0 or Y20. Excluded participants who had diabetes in Y0-Y20 or were not examined at Y25 or Y30 for these analyses.		**from Y20 to Y30**	Development Program, University of Minnesota Twin Cities
Choi, 2023 [47] USA; CARDIA Analytic N=4547 **Participant characteristics:** • Health: CVH health score 9.2-11.1 (highest in no- group) • Parental history of diabetes: 24.4% in No diabetes group; 53.5% in early onset diabetes group; 41.8% in later-onset diabetes group • Race and/or Ethnicity: 49% Black; 51% White (No diabetes 46.7% Black; early onset diabetes 66.4% Black; later-onset diabetes 64.1% Black) • SEP: Maximum educational attainment: 15.5y no diabetes; 14.7y early-onset diabetes; 15.1y later-onset diabetes Selection data: Excluded those with hisotry of diabetes at or before baseline; pregnancy; lacked data on diabetes; never attended F/U; lacked Y0 information on any cardiovascular health components; withdrew consent	**Age at Dietary Pattern:** 24y, mean; 18 to 30 y at baseline <u>a priori diet quality score, APDQS</u> [Sjitmsa, 2012]: Positive: Vegetables-Green; Vegetables-Yellow; Vegetables-Other; Tomatoes; Beans/Legumes; Fruit; Avocado; Nuts and 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; Organ meat; Fried Fish; Fried Poultry; Whole-Fat Dairy; Butter; Soft drinks; Grain Desserts; Pastries; Sweets; Salty Snacks; Sauces. Neutral: Potatoes; Lean red meats; Fruit Juices; Refined grains; Eggs; Shellfish; Margarine; Chocolate; Diet Soft Drinks; Meal replacements; Pickled foods; Soups, Sugar substitutes **Methods:** Index/Score	**Follow-up: 30y** <u>Risk of T2D</u>: Early onset v. no diabetes T1, OR: 1.52, 95% CI: 0.85, 2.72 T2, OR: 1.34, 95% CI: 0.77, 2.33 T3, OR: 1, ref Late onset v. no diabetes T1, OR: 1.38, 95% CI: 1.05, 1.83 T2, OR: 1.26, 95% CI: 0.98, 1.62 T3, OR: 1, ref **Summary: Inverse: APDQS & late-onset diabetes** **NS/Null: APDQS & early onset diabetes**	• Did not account for: Physical activity, Anthropometry, or Smoking in APDQS analysis as co-exposures • Diet assessment: one diet history • Outcomes: Fasted (8h+) blood samples collected; T2D cases FBG ≥ 126 mg/dL; 2-h OGTT 75g ≥ 200 mg/dL; HbA1C ≥ 6.5%, or reported Tx with anti-diabetes meds (verified med at clinic); may include T1D • Physical activity, anthropometry (BMI), and smoking evaluated as components of Cardiovascular Health score & separately as individual predictors. Smoking & early/late onset diabetes NS. Physical activity & early/late onset diabetes NS. BMI & early/late onset diabetes postively associated. • Funding: NHLBI; University of Alabama at Birmingham; University of Minnesota; Kaiser Foundation Research Institute

Article Information	Intervention/exposure and comparator	Results	Methodological considerations

Conway, 2018 [48]
USA; Southern Community Cohort Study
Analytic N=38,064 total: 24000 black, 14064 white in primary analyses, from entry to 1st F/U
 	
Participant characteristics:
• Health, among blacks, whites:
  ○ BMI 25-29.9 kg/m2: 30.9%, 33.5%;
  ○ BMI 30-34.9: 22.8%, 20.5%;
  ○ BMI 35-39.9: 12.3%, 8.7%;
  ○ BMI≥40: 10.4%, 6.8%
  ○ HTN: 53.4%, 42.4%;
  ○ Current smoking: 38.8%, 30.6%;
  ○ PA: 19-33% MET-h
• Race and/or Ethnicity: Black: 63%; White: 38%
• SEP: Education: < HS: 22.3%; HS/vocational: 37.9%; ≥HS: 39.8%
• Income: < $15K: 46.5%; $15K-$24999: 21.1%; ≥$25K: 32.4%
• Insurance coverage: None: 35.4%; Medicaid/Medicare: 30.4%; Other: 34.2%
Selection data: Restricted to cohort members who completed 1st F/U and did not report diabetes at entry for incident T2D cases, and restricted cases to self-reported T2D on anti-diabetic meds; Or participants who did not report diabetes ever and restriced cases to T2D as those on meds at F/U; Excluded few participants with missing data on covariates
	Age at Dietary Pattern: 40 to 79 y
	
	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
	
	Methods: Index/Score
		Follow-up: ~ 7.5y total (1st F/U: 4.5 y median (1 to 10 y), 2nd F/U: 3y median after 1st)
		Risk of T2D: Among Black
		Q1, OR: 1, ref
		Q2, OR: 1.06, 95% CI: 0.93, 1.20
		Q3, OR: 1.00, 95% CI: 0.88, 1.14
		Q4, OR: 0.94, 95% CI: 0.82, 1.08
		P-trend=0.37
		Among White
		Q1, OR: 1, ref
		Q2, OR: 1.00, 95% CI: 0.81, 1.24
		Q3, OR: 1.08, 95% CI: 0.86, 1.35
		Q4, OR: 0.95, 95% CI: 0.74, 1.22
		P-trend=0.78
		Second Follow-up:
		Among Black
		Q1, OR: 1, ref
		Q2, OR: 1.09, 95% CI: 0.91, 1.29
		Q3, OR: 0.91, 95% CI: 0.75, 1.09
		Q4, OR: 0.86, 95% CI: 0.71, 1.06
		P-trend=0.08
		Among White
		Q1, OR: 1, ref
		Q2, OR: 0.98, 95% CI: 0.75, 1.29
		Q3, OR: 0.87, 95% CI: 0.65, 1.16
		Q4, OR: 0.69, 95% CI: 0.49, 0.96
		P-trend=0.12
		
		Summary: Inverse, NS: Higher HEI-10 & Lower T2D
			• Did not account for: Alcohol, Physical activity (analyzed), Smoking (analyzed), Family history of diabetes, Other: TEI
			• Diet assessment: FFQ once
			• Outcomes: Self-reported physician diagnosis, confirmed with self-report of anti-diabetes meds (accuracy validated)
			• Secondary/Sensitivity analyses classifying all people self-reporting diabetes as cases generated similar results.
			• Funding: NIH; NCI; NIDDK

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
den Braver, 2019 Netherlands; The Hoorn Study + The New Hoorn Study Analytic N=2951, T2D 2629, pre-T2D 1603, FPG **Participant characteristics:** • Health: BMI, kg/m2: 26.1 (3.5) mean; HTN, N (%): 1015 (34.4%) • FBG, mmol/L: 5.4 ± 0.5 • Current smoking, N (%): 676 (22.9%) • Cigarette years: 230.2 ± 497.4 • Moderate PA min/wk: 7.0 ± 8.2 • TG, mmol/L: 1.2 ± 0.8; Alcohol, g/d: 7.3 ± 14.9 • Race and/or Ethnicity: White, 'predominantly' • SEP: Education Low: 14%; Middle 58%; High 27% Selection data: Excluded participants with preT2D based on FPG, 2-h glucose and HbA1c, and T2D based on blood parameters, physician diagnosis and medication use, at baseline for the analyses with outcome preT2D, and T2D at baseline for analyses with outcome T2D; extreme/missing dietary intake or missing data on preT2D/T2D at baseline or F/U	**Age at Dietary Pattern:** 56.5 [7.5] (40 to 65) y, at baseline Dutch Healthy Diet Index 2015 (DHD 15-index) [Looman 2015], Positive: Vegetables; Legumes; Fruit; Nuts; Fish (fatty); Tea; Whole Grains; Filtered Coffee; Replace butter/hard fats with oils; Replace Refined with Whole-Grains; Negative: Red Meat; Processed Meat; Sweetened beverages and fruit juices, Alcohol; Sodium. Neutral: Dairy Products [Excluded filtered coffee and sodium] **Methods:** Index/Score	**Follow-up: 6.3 [0.7] y mean, T2D** Risk of T2D: T1: PR 1, ref T2: PR 0.86, 95% CI: 0.65, 1.13 T3: PR 0.76, 95% CI: 0.56, 1.02 P for trend=0.04 per 10 point increase: PR 0.96, 95% CI: 0.88, 1.05 Prediabetes: T1: PR 1, ref T2: PR 0.92, 95% CI: 0.78, 1.09 T3: PR 0.89, 95% CI: 0.75, 1.06 P for trend=0.18 per 10 point increase: PR 0.97, 95% CI: 0.92, 1.01 HbA1C: x Glucose: Change in FBG T1, PR: 1, ref T2, PR: -0.009, 95% CI: -0.073, 0.054 T3, PR: -0.016, 95% CI: -0.084, 0.052 Per 10 point higher: β= -0.012, 95% CI: -0.034, 0.009 **Summary: Inverse: DHD15-index & T2D** **Inverse, NS: DHD15-index & preT2D** **Null: DHD15-index & change in FBG**	• Did not account for: Race and/or ethnicity (predominantly white); Family History of diabetes • Diet assessment: FFQ once • Outcomes: Fasted/non-fasted OGTT collected and venous HbA1C determined; Different methods between cohorts and F/U were used (HPLC in HS but SRCEC in NHS at baseline then spot cards at F/U); Pre-T2D and T2D defined by 2006 WHO, complementary to 2009 expert panel and 2011 WHO cut-offs • Excluded coffee and sodium from DHD15; some missing OGTT and venous HbA1c in the NHS; Sensitivity analysis excluding HbA1c defined preT2D and T2D: for T2D, T3 vs. T1 PR: 0.63, 95% CI: 0.43, 0.90, P-trend=0.01; for preT2D: T3 vs. T1 PR: 0.75, 95% CI: 0.60, 0.93 (model remained sig after adjusting BMI); or excluding those w/ CVD, cancer, or both at baseline: for T2D, T3 vs. T1 PR: 0.53, 95% CI: 0.31, 0.87, P trend=0.007; for preT2D, T3 vs. T1 PR: 0.79, 95% CI: 0.59, 1.05 (similar results after adjusting BMI). • Funding: NR
Dominguez, 2015 [50] Spain; Seguimiento Universidad de Navarra (SUN) cohort Analytic N=17292 **Participant characteristics:**	**Age at Dietary Pattern:** 32.1 to 43.2y Dietary-Based Diabetes-Risk Score (DDS) [Dominguez, 2015], Positive: Vegetables; Fruit; Whole cereals; Nuts; Low-fat dairy; Fiber; PUFA; Coffee. Negative: Red meat; Processed	**Follow-up: 9.2 y mean, T2D** Risk of T2D: Low DDS, HR: 1, ref Intermediate, HR: 0.43, 95% CI: 0.21, 0.89 High, HR: 0.32, 95% CI: 0.14, 0.69 P-trend= 0.019	• Did not account for: Race and/or ethnicity; SEP (did marital status) • Diet assessment: FFQ once • Outcomes: Self-reported T2D, confirmed with self-report of anti-

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
• Health: ○ BMI, kg/m2: 22.7 ± 3.3 to 23.9 ± 3.5 ○ Family history of diabetes: 11-19% ○ HTN: 3-11%; HC: 8-24% ○ Smoking, current: 20-25%; former: 19-40% ○ Alcohol use: 5-9 g/d ○ PA: 19-26 MET-h/wk ○ Sitting: 5.5 to 5.9 h/d ○ TV: 4.5 to 4.7, h/d • Race and/or Ethnicity: NR (Spanish) • SEP (Low, Intermediate, High DDS): • Marital status, married: 38.7%; 51%; 59% • Years of university education: 4.8±1.3; 5.1±1.5; 5.2±1. Selection data: Included participants who had spent enough time in the study (>2.75 y) as to be able to complete and return F/U data; Excluded participants who did not meet the above criteria at F/U, reported extreme TEI, previous diabetes	meats; Sugar-sweetened beverages. Moderate: Alcohol **Methods:** Index/Score	DDS per 5-pt, HR: 0.85, 95% CI: 0.73, 0.98, P=0.026 DDS per 1-pt, HR: 0.96, 95% CI: 0.94, 0.99, P=0.029 **Summary: Inverse: DDS & T2D**	diabetic meds (accuracy validated) • Sensitivity analyses High vs. low score, ♂: HR 0.31, 95% CI: 0.12, 0.76, P=0.011; in ♀: HR 0.39, 95% CI: 0.09, 1.70, P=0.21; in age > 50 y: HR 0.19, 95% CI: 0.07, 0.51, P=0.001; in age < 50 y: HR 0.68, 95% CI: 0.19, 2.40, P=0.56; in BMI ≥ 30: HR 0.18, 95% CI: 0.04, 0.75, P=0.018; in BMI< 30: HR 0.46, 95% CI: 0.18, 1.19, P=0.11; excluding cases diagnosed within first 2-y of F/U: HR 0.48, 95% CI: 0.19, 1.20, P=0.12. • Funding: the Spanish Ministry of Health and European Regional Development Fund; the Navarra Regional Government; the Spanish Government
Dow, 2019[51] Australia; AusDiab Analytic N=6242 **Participant characteristics:** • Health: 19.3% Ob (BMI≥ 30); 41.2% OW (BMI 25-30 kg/m2); 39.5% BMI <25 kg/m2 • Smoking, never: 59.8% ex-smoker: 28.7% current: 11.5%	**Age at Dietary Pattern:** 50.3 (12.5) y Australian Dietary Guidelines, 2013, (ADG-13) [Dow, 2019], Positive: Vegetables and Legumes; Fruits; Grains, Dairy (milk, yogurt, cheese, alt.), Proteins (lean meats and poultry, fish, eggs, tofu, nuts/seeds, and legumes/bean); Neutral: Alcohol (2 or less drinks/day)	**Follow-up: 11.7 y median (2.0 to 13.1y), T2D** Risk of T2D: ADG-13 1-3 pts: HR 0.93, 95% CI: 0.75, 1.16 ≥3 pts (strong adherence): HR 0.64, 95% CI: 0.39, 1.06 **Summary: NS/Null: Adherence to Australian Dietary Guidelines, 2013**	• Did not account for: Race and/or ethnicity; Physical activity (analyzed as exposure), Smoking (analyzed as exposure), Anthropometry (WC-group analyzed as exposure), • Diet assessment: FFQ once • Outcomes: Fasted blood samples collected; T2D based on OGTT, FPG ≥ 7.0 mmol/l, 2h

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
• Family history of T2D: 18.1% • WC health-risk: high 31.1%, increase 26.9, low: 42% • PA: sedentary (<75 min): 15.1%, insufficient (75-149 min): 30.4%, sufficient (≥150 min): 54.6% • HTN: 27.2% • TG ≥ 2.0 mmol/L: 19.9% • HDL cholesterol < 1.0 mmol/L: 9.3% • Race and/or Ethnicity: NR (Australian) • SEP: Education: Secondary, trade, technician's certificate or less: 66.1%; Bachelor's degree, post-graduate, nursing or teaching qualification: 33.9% Selection data: Eligible participants were≥25 years of age and residing at their address for ≥6 months; Excluded participants with diabetes at baseline, who did not participate in F/U, had incomplete dietary data, or extreme TEI values	**Methods:** Index/Score	**& T2D**	PG≥ 11.0 mmol/L or current Tx with anti-diabetes agends (insulin/oral hypoglycemic agent). • Sensitivity analysing treating moderate alcohol as strong adherence instead of no alcohol: 1-3 pts, HR 0.80, 95% CI: 0.65, 0.99, ≥3 pts: HR 0.59, 95% CI: 0.36, 0.96; • BMI or WC and physical activity were comined with diet to examine a "healthy behavior index" in this study. • Funding: Cardiovasulaire, Obésité, Rein, Diabète Program; National Health and Medical Research Senior Fellowship; National Research Agency's program "Investing in the Future"; IDEX Paris Saclay Nutriperso project;
Duan, 2022_L[52] Netherlands; Lifelines cohort Analytic N=61,869 **Participant characteristics:** • Health: mean BMI: 26.1; FPG 4.95 mmol/L; HbA1C 5.54%; Family history of diabetes: 8.8% ; Risk drinking: 16.5%; PA recs, 150 min/wk: 59.2% • Smoker: Never 45%; former 37%; current 17% • Race and/or Ethnicity: NR (Dutch) • SEP: Education: low, 29%; middle, 40%; high, 31%	**Age at Dietary Pattern:** 48y, mean (35 to 65y) Lifelines Diet score (LLDS) [Vinke, 2018], 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 Margarines **Methods:** Index/Score	**Follow-up: ~3.4y, median; 41 months** Risk of T2D: LLDS T1 v. T3 (ref), HR: 1.20, 95% CI: 0.99, 1.45 LLDS T2 v. T3 (ref), HR: 0.99, 95% CI: 0.83, 1.19 **Summary: NS/Null: LLDS & T2D**	• Did not account for: Race and/or ethnicity (all Dutch/Caucasian), or Physical Activity, Alcohol, Smoking as co-exposures • Diet assessment: FFQ once • Outcomes: Fasted blood samples HbA1C collected at 4th visit; Combination of self-report at 2nd & 3rd visits; measured FBG & HbA1C at 4th visit; T2D based on self-report of diagnosis since last survey or FBG ≥ 7 mmol/L; HbA1C ≥ 6.5% (48 mmol/L), 900 cases T2D • Insufficient physical activity;

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Selection data: Excluded those with diabetes at baseline; missing lifestyle data; missing f/u data; who reported development of T1D or GDM during f/u			smoking; and risk-drinking (>15g alcohol/d) were not associated w T2D in fully adjusted model when analyzed separated or as components of overall HLS • Funding: European Union; Dutch Ministry of Health, Welfare, and Sport; Dutch Ministry of Economic Affairs; University Medical Center Groningen; University of Groningen; Provinces in the north of The Netherlands (Drenthe, Friesland, and Groningen)
Duan, 2021 [53] Netherlands; Lifelines cohort Analytic N=64,777 (♀ 39000; ♂ 2577) **Participant characteristics:** • Health: Baseline characteristics ♀ ; ♂: • BMI, kg/m2: 25.4 ± 4.4; 26.0 ± 3.4 • WHR: 0.862 ± 0.070; 0.955 ± 0.066 • FBG, mmol/L: 4.77 ± 0.42; 5.00 ± 0.41 • HTN: 32.9%; 55.6% • TG ≥ 1.70 mmol/L: 7.3%; 21.5% • PA (moderate/vigorous), min./wk: 300 (120, 760); 385 (150, 1195) • Current smoker: 17.4%; 20.6% • Alcohol use, g/d: 27 (2, 76); 106 (36, 215) • Race and/or Ethnicity: NR (northern Dutch) • SEP: University degree ♀ ; ♂: 31.1%; 34.9% • High income (>€3000/mo)♀ ; ♂ : 28.6%; 34.8%	**Age at Dietary Pattern:** 43.2 ♀, 43.5 ♂ (18 to 65) y at baseline ♀ Positive: Sugary beverages, Added sugar, Juice. Negative: Tea, Fruits, Vegetables, Nuts/seeds, Cereals, Dairy products (low fat, fermented, unsweetened), Fatty fish, Other Fish, high fat Cheese, Eggs ♂ Positive: Sugary beverages, Added sugar, Juice, Cofffee, Savory snacks. Negative: Tea, Fruits, Vegetables, Nuts/seeds, Cereals, Dairy products (low fat, fermented, unsweetened), Chocolate spreads and Bread products **Methods:** RRR	**Follow-up: ~3.5y (43 month mean), T2D** Risk of T2D: ♀ Q1, OR: 1, ref ♀ Q2, OR: 0.97, 95% CI: 0.62, 1.51 ♀ Q3, OR: 1.16, 95% CI: 0.76, 1.79 ♀ Q4, OR: 1.46, 95% CI: 0.95, 2.25 ♀ Q5, OR: 1.57, 95% CI: 1.01, 2.44 ♀ P-trend=0.012 ♂ Q1, OR: 1, ref ♂ Q2, OR: 1.11, 95% CI: 0.69, 1.77 ♂ Q3, OR: 1.19, 95% CI: 0.74, 1.89 ♂ Q4, OR: 1.21, 95% CI: 0.75, 1.93 ♂ Q5, OR: 1.65, 95% CI: 1.04, 2.62 ♂ P-trend=0.034 **Summary: Positive: Dietary pattern in ♂ or ♀ & T2D**	• Did not account for: Race and/or ethnicity (Northern Netherland); Family history of diabetes • Diet assessment: FFQ once • Outcomes: Fasted/non-fasted blood test at 2nd F/U; Self-report used at 1st and 2nd F/U, confirmed with blood test at 2nd F/U; T2D defined as FBG ≥ 7 mmol/L and/or HbA1C ≥ 6.5% (48 mmol/L) • Complete case analyses including missing class for missing data yielded stronger associations and larger confidence intervals than results from multiple imputation • Funding: European Union's Horizon 2020 research and innovation programme, Marie Sklodowska-Curie grant; Fonds Economische Structuurversterking, Samenwerkingsverband Noord Nederland, Ruimtelijk Economisch Programma

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
• Selection data: Included participants 18 to 65 y at baseline with valid dietary intake and blood data Excluded participants with cancer and liver cirrhosis, as well as participants who took lipid modifying agents, corticosteroids for systemic use and anabolic steroids; non-fasting participants and participants with unreliable energy intake level; participants with any kinds of diabetes, including T1D or GDM or prediabetes at baselne; participants who lost to follow-up or without any valid follow-up data on diabetes, or who did not have anthropometric data			
Duan, 2022 (Ultra)54 Netherlands; Lifelines cohort Analytic N=70421 **Participant characteristics:** • Health: mean BMI, 26.2; HbA1C 5.55%; median UPF intake ~24.9% weight • Race and/or Ethnicity: NR (Dutch) • SEP: Education: Low 30.4%, Middle 38.9%, High 30.3% Selection data: Excluded participants with only baseline data; reported GDM or T1D during F/U, non-valid/extreme dietary intake, who have prevalent T2D	**Age at Dietary Pattern:** 49.1y, mean; (35 to 70y) 'UPF' Nova classification, group 4 [Monteiro, 2016]: starchy food and cereals like sliced bread and granola (22.1%); non-cheese dairy like chocolate milk and ice cream (13.7%); sugary beverages like lemonade or ice tea (9.7%) 'warm savory snack': high intake of fried snacks, fries, and snack sauce; 'cold savory snack': high intake of cheese, deli meat, and savory spreads for crackers or French bread; 'traditional Dutch cuisine': high intake of main meal items typical for the Dutch culture, such as sliced bread, lunch meat, and gravy;	**Follow-up: 41mo** Risk of T2D: UPF, Nova 4 Q1, OR: 1, ref Q2, OR: 1.04, 95% CI: 0.87, 1.26 Q3, OR: 1.20, 95% CI: 0.99, 1.45 Q4, OR: 1.56, 95% CI: 1.27, 1.92 p-trend< 0.001 per 10%, OR: 1.17, 95% CI 1.09, 1.26, p-trend<0.001 'warm savory snack' Q1, OR: 1, ref Q2, OR: 1.02, 95% CI: 0.86, 1.22 Q3, OR: 1.11, 95% CI: 0.92, 1.34 Q4, OR: 1.17, 95% CI: 0.96, 1.44 p-trend=0.097 cont. OR: 1.07, 95% CI: 1.00, 1.14; p=0.057 'cold savory snack' Q1, OR: 1, ref Q2, OR: 1.04, 95% CI: 0.87, 1.23 Q3, OR: 1.20, 95% CI: 1.00, 1.42	• Did not account for: Race/Ethnicity (Duthc); Family history of diabetes • Diet assessment: FFQ once (baseline) • Outcomes: Fasted blood samples/HbA1C collected at T4; T2D from comination of self-report at T2, T3, T4 and/or measured FBG ≥ 7 mmol/L or HbA1C ≥ 48 mmol/L (6.5%). • Identified 1128 cases; Analyzed missing data via complete case and those LFU < 24mo • Funding: European Union's Horizon 2020 research and innovation programme, Marie Sklodowska-Curie grant; Fonds Economische Structuurversterking, Samenwerkingsverband Noord Nederland, Ruimtelijk

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
	'sweet snack': high intake of sweet biscuits/cookies, pastries, and chocolate **Methods:** Index/Score (UPF) and Factor or cluster analysis (UPF)	Q4, OR: 1.20, 95% CI: 1.00, 1.44 p-trend=0.020 Cont. OR: 1.11, 95% CI: 1.04, 1.18; p=0.001 'traditional Dutch cuisine' Q1, OR: 1, ref Q2, OR: 1.03, 95% CI: 0.87, 1.23 Q3, OR: 1.11, 95% CI: 0.92, 1.33 Q4, OR: 1.07, 95% CI: 0.87, 1.31 p-trend=0.411 Cont. OR: 1.03, 95% CI: 0.95, 1.11 ; p=0.476 'sweet snack' Q1, OR: 1, ref Q2, OR: 0.75, 95% CI: 0.64, 0.88 Q3, OR: 0.68, 95% CI: 0.57, 0.81 Q4, OR: 0.69, 95% CI: 0.57, 0.84 p-trend< 0.001 Cont. OR: 0.87, 95% CI: 0.80, 0.94; p=0.001 **Summary:** **Positive: Nova 4 (per 10%, Q4 v. Q1) & T2D; 'warm savory snack' (cont.; Q4 v. Q1) & T2D; 'cold savory snack'(cont.; Q4 v. Q1) & T2D** **Inverse: 'sweet snack (cont., Q2, 3, 4) & T2D** **NS/Null: 'traditional Dutch cuisine' & T2D**	Economisch Programma
Eguaras, 2017 [55] Spain; Seguimiento Universidad de Navarra (SUN) cohort Analytic N=18225 **Participant characteristics:** • Health: Low adherence to MedDiet (≤4/9) and BMI<25; 25-40; or >30 kg/m2 • BMI, kg/m2: 21.6 ± 2.0; 26.9 ± 1.3;	**Age at Dietary Pattern:** 38 y (mean) at baseline Mediterranean Diet Score (MDS) [Trichopolou 2003]: MDS, Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol	**Follow-up: 9.5 y median, T2D** Risk of T2D: Low MDS, BMI <25, HR: 1, ref BMI 25-30, HR: 4.07, 95% CI: 1.58, 10.50 BMI >30, HR: 17.70, 95% CI: 6.29, 49.78 High MDS, BMI <25, HR: 1, ref	• Did not account for: Race/Ethnicity; Family history of diabetes • Diet assessment: FFQ once (baseline) • Outcomes: Self-reported physician diagnosis, confirmed with self-report of details e.g., anti-diabetes meds, medical records

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
32.4 ± 2.3 • PA, METs: 20.2 ± 21.7; 20.3 ± 21.9; 15.7 ± 18.2 • Smoking, current: 23.4%; 21.1%; 20.0% vs. former: 21.1%; 32.8%; 37.9% • HC: 10.7%; 20.1%; 30.9% • HTN: 2.5%; 10.3%; 21.5% • CVD: 0.4%; 1.3%; 1.3% • Cancer: 2.4%; 2.6%; 4.2% • Depression: 4.8%; 3.4%; 2.2% • TV, h/wk: 1.6 ± 1.2; 1.7 ± 1.2; 1.8 ± 1.2 • Alcohol use, g/d: 3.5-5.5 • High adherence to MedDiet (>4/9) and BMI<25; 25-40; or >30 kg/m2 • BMI, kg/m2: 21.8 ± 1.9; 26.9 ± 1.3; 32.7 ± 3.1 • PA, METs: 25.3 ± 25.6; 23.4 ± 22.8; 17.5 ± 17.1 • Smoking, current: 21.6%; 19.2%; 18.4% vs, former: 27.8%; 41.9%; 46% • Hypercholesterolaemia: 14.7%; 30%; 35% • HTN: 3.9%; 15%; 27.4% • CVD: 0.7%; 2.4%; • Cancer: ~3% • Depression: ~4% • TV, h/wk: 1.6 ± 1.2; 1.7 ± 1.1; 1.8 ± 1.2 • Race and/or Ethnicity: NR (Spanish) • SEP: By BMI (<25; 25-39; >30) • Marital Status, Single: 26-58%; Married: 39-69% • University edu.: Graduate: 17%-27%; Postgrad. 49-53%; M.S. Degree: 8-9%; PhD: 9-13%	**Methods:** Index/Score	BMI 25-30, HR: 3.13, 95% CI: 1.63, 6.01 BMI > 30, HR: 10.70, 95 % CI: 4.98, 22.99 p-int=0.002 **Summary: Inverse: MDS & T2D**	• Indirect analyses of MDS attenuating the association between high BMI & T2D • Funding: European Research Council; the Spanish Government-Instituto de Salud Carlos III, the European Regional Development Fund, the Navarra Regional Government and the University of Navarra

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Selection data: Excluded participants who had diabetes at baseline, not remained in the cohort enough time for 2y F/U; extreme TEI			
Ericson, 2018 [56] Sweden; Malmo Diet and Cancer (MDC) cohort Analytic N=25069 **Participant characteristics:** • Health: Excluded participants with self-reported diabetes • Characteristics by diet risk score: low; mid; high • BMI, kg/m2: 25.4 ± 3.8; 25.6 ± 3.9; 26.0 ± 4.0 • Fasting blood glucose, mmol/L: 4.94 ± 0.7; 4.98 ± 0.7; 5.07 ± 0.9 • Fasting plasma insulin, mIU/L: 7.4 ± 7.3; 7.7 ± 8.0; 8.7 ± 7.6 • HOMA-IR: 1.52 ± 1.49; 1.58 ± 1.07; 1.81 ± 1.35 • Alcohol intake, g/day: 11.5 ± 12.0; 11.4 ± 12.6; 11.7 ± 13.8 • Smoking (ever): 65.2%; 61.3%; 58.5% • Leisure time physical activity, high: 22.3%; 19.3%; 18.9% • Race and/or Ethnicity: NR (Swedish) • SEP, % education 10y+: diet risk score low: 37.7%; mid: 31.6%; high: 26.3% Selection data: Excluded participants based on self-reported diabetes, diabetes meds, or medical registries, who did not complete questionnaires	**Age at Dietary Pattern:** 58.2 y mean, 45 to 74 y at baseline Diet Risk Score (DRS) [Ericson, 2018]: Positive: Negative: Whole grains; Coffee. Positive: Processed meat (sausage and cured meat), SSB (energy containing sweeteners); Extended DRS (eDRS): Negative: Vegetables and Fruit; Whole grains; Vegetables and Fruit; Dairy fermented; Fish, high-fat; Coffee. Positive: Processed meat (sausage and cured meat), SSB (energy containing sweeteners) **Methods:** Index/Score	**Follow-up: 17 [5.6] y mean (range 0-24), T2D** Risk of T2D: DRS, Low, HR: 1, ref ♀+♂ Medium, HR: 1.19, 95% CI: 1.09, 1.30 High, HR: 1.40, 95% CI: 1.26, 1.56; P-trend<0.0001 ♀ Medium, HR: 1.33, 95% CI: 1.18, 1.50 High, HR: 1.45, 95% CI: 1.26, 1.71; P for trend<0.0001 ♂ Medium, HR: 1.07, 95% CI: 0.95, 1.22 High, HR: 1.33, 95% CI: 1.14, 1.55; P for trend=0.0002 DRS+fruit&vegetable Medium, HR: 1.23, 95% CI: 1.13, 1.33 High, HR: 1.37, 95% CI: 1.24, 1.51; p-trend<0.0001 ♀ Medium , HR: 1.33, 95% CI: 1.18, 1.48 High, HR: 1.45, 95% CI: 1.26, 1.67; p-trend<0.0001 ♂ Medium, HR: 1.15, 95% CI: 1.01, 1.30 High, HR: 1.29, 95% CI: 1.11, 1.49; p-trend=0.001 DRS+fermented dairy Medium, HR: 1.21, 95% CI: 1.11, 1.32 High, HR: 1.36, 95% CI: 1.23, 1.50; p-trend<0.0001	• Did not account for: Race and/or ethnicity (Swedish); Family history of diabetes • Diet assessment: Diet history once (validated; interview + 7d menu + Q) • Outcomes: Combination of seven registries (90%) or exams (10%); diagnosis from FBG ≥ 7 mmol/L and/or 2+ HbA1C ≥ 6% • Sensitivity analyses: model excluding BMI, replacing BMI with waist or body fat percent did not substantially change results; excluding individuals with dietary change in the past, and excluding individuals with prevalent cardiovascular disease at baseline did not change results either. • Funding: the European Research Council; the Swedish Research Council; the Swedish Heart and Lung Foundation; the Region Skane, the Novo Nordic Foundation and the Albert Pahlsson Research Foundation

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
or have available DNA and genotyped SNPs		♀ Medium , HR: 1.32, 95% CI: 1.18, 1.48 High, HR: 1.51, 95% CI: 1.31, 1.73; p-trend<0.0001 ♂ Medium, HR: 1.10, 95% CI: 0.98, 1.26 ♂ High, HR: 1.22, 95% CI: 1.06, 1.41 ♂ P for trend=0.005 DRS + high-fat fish ♀+♂ Medium, HR: 1.18, 95% CI: 1.09, 1.29 ♀+♂ High, HR: 1.36, 95% CI: 1.24, 1.51 ♀+♂ P- trend<0.0001 ♀Medium, HR: 1.30, 95% CI: 1.15, 1.46 ♀High, HR: 1.54, 95% CI: 1.34, 1.77 ♀P for trend<0.0001 ♂ Medium, HR: 1.07, 95% CI: 0.94, 1.20 ♂ High, HR: 1.21, 95% CI: 1.04, 1.40 ♂ P for trend=0.01 eDRS Medium, HR: 1.18, 95% CI: 1.08, 1.30 High, HR: 1.39, 95% CI: 1.23, 1.56 P for trend<0.0001 ♀Medium, HR: 1.21, 95% CI: 1.07, 1.37; High, HR: 1.45, 95% CI: 1.23, 1.71; P for trend<0.0001 ♂ Medium, HR: 1.17, 95% CI: 1.00, 1.36; High, HR: 1.30, 95% CI: 1.14, 1.63; p- trend=0.001 **Summary: Positive: DRS, eDRS & T2D**	

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Ericson, 2019 [57] Sweden; Malmo Diet and Cancer (MDC) cohort Analytic N=2627 **Participant characteristics:** • Health: 100% BMI < 25 without diabetes, CVD, or cancer • Race and/or Ethnicity: NR (Iranian) • SEP: Academic education (%) across EDIH quantiles: 23 to 32% (p<0.001); across EDIP quantiles: 27 to 33% (p-trend=0.036) Selection data: Excluded those with diabetes/diabetes meds at baseline; history of Coronary events or stroke; substantial changes in diet; no longer living in Sweden	**Age at Dietary Pattern:** 45 to 74 y at baseline ‘Health-Conscious’: Higher loadings for cottage cheese (♀) 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 **Methods:** Factor or cluster analysis	**Follow-up: 6.2 y, mean** Risk of T2D (Q1, HR 1 REF): ‘Health conscious ♀ ♀Q2, HR: 1.09, 95% CI: 0.91,1.31 ♀Q3, HR: 0.92, 95% CI: 0.76,1.11 ♀Q4, HR: 0.96, 95% CI: 0.79,1.16 ♀Q5, HR: 0.75, 95% CI: 0.61, 0.92 ♀p-trend=0.003; p-trend, cont.=0.003 ♂ Q2, HR: 0.98, 95% CI: 0.81, 1.17 ♂ Q3, HR: 0.95, 95% CI: 0.79, 1.15 ♂ Q4, HR: 0.83, 95% CI: 0.68, 1.00 ♂ Q5, HR: 0.82, 95% CI: 0.68, 1.00 ♂ p-trend=0.01; p-trend, cont.=0.01 Low-fat products ♀ ♀Q2, HR: 1.03, 95% CI: 0.84,1.26 ♀Q3, HR: 0.75, 95% CI: 0.61,0.92 ♀Q4, HR: 1.02, 95% CI: 0.84,1.26 ♀Q5, HR: 1.19, 95% CI: 0.98,1.45 ♀p-trend= 0.1; p-trend, cont.=0.24 ♂ Q2, HR: 1.07, 95% CI: 0.88,1.30 ♂ Q3, HR: 0.98, 95% CI: 0.80,1.19 ♂ Q4, HR: 1.1, 95% CI: 0.90,1.33 ♂ Q5, HR: 1.15, 95% CI: 0.96,1.40 ♂ p-trend= 0.12; p-trend, cont.=0.1 Dressing and vegetables ♀ ♀Q2, HR: 1.02, 95% CI: 0.85,1.22 ♀Q3, HR: 0.92, 95% CI: 0.76,1.11 ♀Q4, HR: 0.96, 95% CI: 0.79,1.18 ♀Q5, HR: 1.12, 95% CI: 0.91,1.37 ♀p-trend= 0.54; p-trend, cont.=0.33 ♂ Q2, HR: 0.92, 95% CI: 0.76,1.12 ♂ Q3, HR: 1.06, 95% CI: 0.87,1.28 ♂ Q4, HR: 1, 95% CI: 0.82,1.21 ♂ Q5, HR: 1.09, 95% CI: 0.90,1.33 ♂ p-trend= 0.25; p-trend, cont.=0.24 **Summary:**	• Did not account for: Race/Ethnicity, Family history of diabetes • Diet assessment: Diet history once (validated; interview + 7d menu + Q) • Outcomes: Combination of seven registries (90%) or exams (10%); diagnosis from FBG ≥ 7 mmol/L and/or 2+ HbA1C ≥ 6% • Funding: Swedish Research Council, the Region Skåne, the Skåne University Hospital, the Novo Nordic Foundation, the Albert Påhlsson Research Foundation

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
		Inverse: 'Health conscious' ♀ or ♂ & Risk of T2D; **Inverse: 'Low-fat products ♀ (Q3 v. Q1 only) & Risk of T2D** **Null, NS: 'Low-fat products ♀ or ♂ & Risk of T2D** **Null, NS: 'Dressing and vegetables ♀ or ♂ & Risk of T2D**	
Esfandiar, 2022 [58] Iran; Tehran Lipid and Glucose Study (TLGS) Analytic N=6112 **Participant characteristics:** • Health: BMI mean, 27.1 [4.5]; WC: 89.8 cm; Current smokers 22.6% • Race and/or Ethnicity: NR (Iranian) • SEP: NR Selection data: Excluded those with pregnancy/lactating, extreme energy intake, baseline diabetes; incomplete/missing data or LFU	**Age at Dietary Pattern:** 41.2y Healthy Eating Index (HEI-2015) [Krebs-Smith 2018] Mediterranean Diet Score (MDS) [Trichopoulou 2003] 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 MDS: Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. (Excluded Alcohol) DASH score: Positive: Vegetables; Nuts and Legumes; Fruit and Fruit Juice; Whole Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages; Sodium **Methods:** Index/Score	**Follow-up: 6.6y, mean** Risk of T2D: HEI-2015 & T2D Q2, HR: 1.26, 95% CI: 0.99, 1.62 Q3, HR: 1.07, 95% CI: 0.73, 1.38 Q4, HR: 1.20, 95% CI: 0.94, 1.53 p-trend=0.21 MDS & T2D Q2, HR: 1.02, 95% CI: 0.82, 1.26 Q3, HR: 0.89, 95% CI: 0.63, 1.24 Q4, HR: 1.06, 95% CI: 0.87, 1.30 p-trend=0.52 DASH & T2D Q2, HR: 0.93, 95% CI: 0.72, 1.20 Q3, HR: 0.89, 95% CI: 0.69, 1.15 Q4, HR: 1.13, 95% CI: 0.88, 1.46 p-trend=0.23 **Summary: NS/Null: HEI-2015; MDS; DASH & T2D**	• Did not account for: Race and/or ethnicity (Iranian); Anthropometry; Family history of diabetes • Diet assessment: FFQ once (baseline) • Outcomes: Fasted (12-14h) blood samples; T2D cases FBG ≥ 126 mg/dL; 2-h OGTT 75g, ≥ 200 mg/dL or Tx with anti-diabetes meds • 549 T2D cases; Data for each dietary pattern & T2D in all participants NR (only sex-stratified values reported in Supplemental Table 1, all NS) • Funding: Shahid Beheshti University of Medical Sciences
Farhadnejad, 2021[59] Iran; Tehran Lipid and Glucose Study (TLGS) Analytic N=3734 **Participant characteristics:**	**Age at Dietary Pattern:** ≥20 y at baseline Empirical dietary index for hyperinsulinemia (EDIH) or insulin restistance (EDIR) [Tabung, 2016]	**Follow-up: 6.2 y, mean** Risk of T2D: EDIH & Incident T2D Q1, OR: 1.00, ref Q2, OR: 1.39, 95% CI: 0.96, 2.01 Q3, OR: 0.86. 95% CI: 0.58, 1.29 Q4, OR: 0.95, 95% CI: 0.63, 1.44	• Did not account for: Race/Ethnicity; Family history of diabetes • Diet assessment: FFQ once • Outcomes: Fasted (12-14h) blood samples and 2-h OGTT

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
• Health: 100% BMI < 25 without diabetes, CVD, or cancer • Race and/or Ethnicity: NR (Iranian) • SEP: Education by EDIH; EDIR, N (%) • Q1, 215 (23.0); 249 (26.9) • Q2, 273 (29.3); 270 (29.2) • Q3, 301 (32.3); 304 (33.0) • Q4, 300 (32.2); 266(28.8) • p-trend<0.001; p-trend=0.036 Selection data: Excluded those with underreporting or over-reporting dietary intakes; on hyperglycemic diets; with history of MI, cerebral vascular accident, or cancer; with diabetes; with BMI <18.5 or >40; lactating and pregnant ♀; missing F/U data	EDIH: 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 EDIR [13 instead of 18 foods]: Positive: Tomatoes; Other vegetables; Fruit juice; Refined grains; Red meat; Margarine; Processed meat; Fish. Negative: Vegetables (green leafy); Vegetables (dark yellow); Nuts; Dairy products (high-fat), Coffee **Methods:** Index/Score	p-trend=0.377 EDIR & Incident T2D Q1, OR: 1.00, ref Q2, OR: 1.14, 95% CI: 0.76, 1.72 Q3, OR: 1.45, 95% CI: 0.96, 2.19 Q4, OR: 1.58, 95% CI: 1.03, 2.44 p-trend=0.025 **Summary: Positive: EDIP & T2D; NS/Null (Inverse): EDIH & T2D**	collected; T2D defined by ADA criteria as FPG ≥ 126 mg/dl or 2-h post 75-g glucose load ≥ 200 mg/dl or use of anti-diabetes meds • Notable magnitude: 58% higher T2D risk from EDIR but EDIH weak/ns inverse • Funding: Shahid Beheshti University of Medical Sciences
Filippatos, 2016 [60] Greece; ATTICA Analytic N=1875 **Participant characteristics:** • Health: Those with IFG were more likely to be male, older, smoker, HTN, HC, and higher BMI, WC, Blood pressure and Cholesterol and TG, lower HDL-C; Those with higher MedDiet adherence were more likely to be female, younger, and lower BMI, WC, TG and less frequent HTN, HC, and higher HDL-C. • Race and/or Ethnicity: NR (Greek) • SEP: Education, mean y ~ 12.3 (IFG) or 12.4 (normal glucose)	**Age at Dietary Pattern:** ≥18 y at baseline Mediterranean-based Diet Score (MedDietScore) [Panagiotakos 2007]: Positive: Vegetables; Potatoes; Legumes; Fruit; Whole Grains; Fish; Olive Oil. Negative: Red and Processed Meat; Poultry; Full-Fat Dairy; Alcohol **Methods:** Index/Score	**Follow-up: 10y** Risk of T2D: MedDietScore <25, ref MedDietScore 26-35, OR: 0.31, 95% CI: 0.13, 0.83; MedDietScore >35,OR: 0.13, 95% CI: 0.03, 0.63 per unit, OR: 0.99, 95% CI: 0.93, 1.05 **Summary: Inverse: MedDietScore & 10-y T2D incidence**	• Did not account for: Race and/or ethnicity; TEI • Diet assessment: FFQ once • Outcomes: Fasted (12h+) blood samples collected; T2D defined by ADA criteria as FPG >125 mg/dl or use of anti-T2D meds; IFG by FBG 100-125 mg/dl; • Funding: Coca-Cola SA

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Selection data: All with IFG=100-125 mg/dl; Excluded those with CVD, chronic viral infection, missing CVD data, and T2D at baseline			
Freisling, 2020 [61] Denmark, Germany, Italy, the Netherlands, Spain, Sweden, UK; EPIC Analytic N=291,778 **Participant characteristics:** • Health: Excluded those w/ cancer, MI and angina, stroke, and T2D at baseline • Race and/or Ethnicity: NR • SEP: NR Selection data: Excluded those with prevalent cancer, MI and angina, stroke, and T2D at baseline; with missing data on T2D status at baseline; missing education, smoking, or physical activity data	**Age at Dietary Pattern:** 35 to 70 y 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 **Methods:** Index/Score	**Follow-up: 10.7 y, median (mean ♂: 9.2-13.4 y and in ♀: 9.0-13.3 y (varied by country))** Risk of T2D: T2D (fatal + non-fatal) Per 3-pt, HR: 0.91, 95% CI: 0.89, 0.94 **Summary: Inverse: rMED & T2D**	• Did not account for: Race and/or ethnicity, Physical activity (analyzed as Co-E), Anthropometry (analyzed as Co-E), Smoking (analyzed as Co-E) • Diet assessment: Questionnaires once (validated; country/centre-specific) at baseline • Outcomes: Combination of self-report, linkage to registries, hospital/mortality data • Funding: French Ministry of Health, French National Cancer Institute, Cancéropôle Ile-de-France
Fung, 2021 [62] USA; NHS II Analytic N=88,520 **Participant characteristics:** • Health: GDQS quantiles ranged in mean BMI ~24.2-24.6 and current smokers ~ 9-18% • Race and/or Ethnicity: NR • SEP: NR, all health professionals Selection data: Included only ♀. Excluded those with diabetes, GDM, cancer, or CVD at baseline; who died before the first dietary assessment; who did not complete	**Age at Dietary Pattern:** 25 to 42 y at baseline modified Global Diet Quality Score (GDQS) [Bromage, 2021]; Alternative HEI (AHEI)-2010 [Chiuve 2012]; Minimum Dietary Diversity for Women [MDD-W; Gicevic, 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	**Follow-up: ≤26 y f/u** Risk of T2D: GDQS (all) & T2D (incidence) Q1, HR: 1, ref Q2, HR: 0.91, 95% CI: 0.84, 0.97 Q3, HR: 0.94, 95% CI: 0.87, 1.01 Q4, HR: 0.87, 95% CI: 0.80, 0.94 Q5, HR: 0.83, 95% CI: 0.76, 0.91 p-trend<0.001 GDQS (< 50 y)& T2D (incidence) Q1, HR: 1, ref Q2, HR: 0.86, 95% CI: 0.76, 0.98 Q3, HR: 1.00, 95% CI: 0.88, 1.13 Q4, HR: 0.90, 95% CI: 0.79, 1.02 Q5, HR: 0.85, 95% CI: 0.73, 0.98 p-trend=0.02	• Did not account for: Race and/or ethnicity, Alcohol (in GDQS); SEP (all health professionals) • Diet assessment: FFQ every 4y • Outcomes: Self-report confirmed with reported f/u based on NDDG Group criteria: classic symptoms and FPG ≥ 7.8 mmol/L (or 7 for cases post-1998 via ADA criteria) or NF ≥ 11.1 mmol/L; or 2+ elevated BG (F, or NF) on different occasions; or Tx with anti-diabetes agents • Adjustment for multiple testing

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
additional questionnaires beyond baseline; who reported implausible energy intakes at baseline; pregnant during a questionnaire period (excluded from that questionnaire period only)	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; Whole Grains; Oily fish; 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-rich"); Vegetables (Other); Fruit (Other); Nuts and Seeds; Dairy; Animal flesh; Eggs **Methods:** Index/Score	GDQS (≥ 50 y)& T2D (incidence) Q2, HR: 0.93, 95% CI: 0.85, 1.02 Q3, HR: 0.91, 95% CI: 0.82, 1.00 Q4, HR: 0.85, 95% CI: 0.77, 0.94 Q5, HR: 0.82, 95% CI: 0.74, 0.91 p-trend<0.001 AHEI-2010 (all)& T2D (incidence) Q2, HR: 0.95, 95% CI: 0.89, 1.02 Q3, HR: 0.88, 95% CI: 0.82, 0.95 Q4, HR: 0.80, 95% CI: 0.74, 0.87 Q5, HR: 0.62, 95% CI: 0.56, 0.68 p-trend<0.001 AHEI-2010 (<50 y)& T2D (incidence) Q2, HR: 0.91, 95% CI: 0.81, 1.02 Q3, HR: 0.89, 95% CI: 0.78, 1.00 Q4, HR: 0.76, 95% CI: 0.66, 0.88 Q5, HR: 0.64, 95% CI: 0.55, 0.75 p-trend<0.001 AHEI-2010 (≥ 50 y)& T2D (incidence) Q2, HR: 0.97, 95% CI: 0.89, 1.06 Q3, HR: 0.88, 95% CI: 0.80, 0.96 Q4, HR: 0.83, 95% CI: 0.75, 0.91 Q5, HR: 0.61, 95% CI: 0.54, 0.69 p-trend<0.001 MDD-W (all) & T2D (incidence) Q2, HR: 1.08, 95% CI: 0.99, 1.17 Q3, HR: 1.04, 95% CI: 0.95, 1.13 Q4, HR: 1.11, 95% CI: 1.01, 1.21 Q5, HR: 1.09, 95% CI: 0.99, 1.21 p=0.88 MDD-W (>50y) & T2D (incidence) Q2, HR: 1.10, 95% CI: 0.96, 1.26 Q3, HR: 0.98, 95% CI: 0.84, 1.13 Q4, HR: 1.09, 95% CI: 0.93, 1.27 Q5, HR: 1.10, 95% CI: 0.93, 1.29 p-trend=0.64 MDD-W (≥ 50 y) & T2D (incidence) Q2, HR: 1.07, 95% CI: 0.97, 1.19 Q3, HR: 1.08, 95% CI: 0.97, 1.21 Q4, HR: 1.12, 95% CI: 1.00, 1.26	NR • Funding: FHI Solutions, NIH

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
		Q5, HR: 1.10, 95% CI: 0.97, 1.24 p-trend=0.82 **Summary: Inverse: GDQS & T2D (all age groups); Inverse: AHEI-2010 & T2D (all age groups)** **NS/Null: MDD-W & T2D (all age groups)**	
Galbete, 2018 [63] Germany; EPIC-Potsdam Analytic N=23411 **Participant characteristics:** • Health: 56% OW/Ob (BMI 25+); 46% HTN; 51% current or former smokers • Race and/or Ethnicity: NR (German) • SEP: Education: 38% University degree Selection data: All free of T2D, MI, stroke, or cancer at baseline; Excluded if missing/implausible data	**Age at Dietary Pattern:** 49.8 y, mean (35 to 65y, at entry Nordic diet score [Galbete, 2018]; literature Mediterranean Diet Score (LitMDS) [Sofi 2014]; Pyramid Mediterranean Diet Score (PyrMDS) [Tong 2016] Nordic diet score: Positive: Cabbage and cruciferous vegetables; Root Vegetables; Berries; Apples and Pears; Whole grain and Rye Bread; Fish; Low-fat Dairy products; Potatoes; Vegetable fats (not olive oil) "tMDS"= LitMDS: Positive: Vegetables; Legumes; Fruit and Nuts; Cereals; Fish; Olive Oil. Negative: Meat; Dairy Products. Neutral: Alcohol PyrMDS: Positive: Vegetables; Legumes; Fruit; Nuts; Cereals; Fish; White Meat; Eggs; Dairy; Olive Oil. Negative: Potato; Red Meat; Processed Meat; Sweets; Alcohol **Methods:** Index/Score	**Follow-up: 10.6y** Risk of T2D: Nordic, Moderate v. low, HR: 1.02, 95% CI: 0.89, 1.17; High v. low, HR: 1.01, 95% CI: 0.87, 1.18, p-trend=0.827; per-SD, HR: 1.0, 95% CI: 0.94, 1.07; per-unit, HR: 1.0, 95% CI: 0.98, 1.02 tMDS, Moderate v. low, HR: 0.92, 95% CI: 0.81, 1.04; High v. low, HR: 0.84, 95% CI: 0.73, 0.97, p-trend=0.019; per-SD, HR: 0.93, 95% CI: 0.88, 0.98; per-unit, HR: 0.97, 95% CI: 0.95, 0.99 PyrMDS, Moderate v. low, HR: 0.9, 95% CI: 0.79, 1.02; High v. low, HR: 0.8, 95% CI: 0.70, 0.92, p-trend=0.001; per-SD, HR: 0.92, 95% CI: 0.87, 0.97; per-unit, HR: 0.93, 95% CI: 0.89, 0.97 **Summary: Inverse: PyrMDS or tMDS (LitMDS) & T2D; NS/Null: Nordic & T2D**	• Did not account for: Race and/or ethnicity; Family history of diabetes • Diet assessment: FFQ once (baseline); referenced with sub-set of 24-h recalls • Outcomes: Self-report (of condition/meds) and linkage to registries then all cases verified by physicians/registries • Funding: German Federal Ministry of Education and Research (NutriAct – Competence Cluster Nutrition Research Berlin-Potsdam)
Gao, 2022 [64] United Kingdom; BIOBANK	**Age at Dietary Pattern:** 37 to 73y 'DP1': high intakes of chocolate and confectionery, butter, low-fiber bread,	**Follow-up: 8.4y (after last assessment; 11.2y median)** Risk of T2D: DP1 & T2D	• Did not account for: N/A (all) • Diet assessment: 24h recalls over 4 cycles (DP from average of 2 surveys)

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Analytic N=120343 **Participant characteristics:** • Health: 18% Ob, 41% OW; 40% BMI 18.5 to 25 (mean BMI 26.5); • Other: 16% family history of diabetes; 23% HTN; 5% CVD; 13.5% High cholesterol; • Race and/or Ethnicity: 96.8% White • SEP: Townsend Deprivation Index, Quntiles: 20% Q1, 20% Q3, 20% Q5, 0.1% missing; Education 52% ≥ college degree Selection data: Excluded those with <2 diet assessments, diabetes before baseline or previous diet assessment, pregnancy, implausible energy intake, missing BMI data.	and sugars and preserves; low intakes of fruit and vegetables 'DP2': high intakes of sugar-sweetened beverages, fruit juice, table sugars and preserves; low intakes of high-fat cheese and butter **Methods:** RRR: response vars energy density, SFA, free sugars, fiber density	total, HR: 1.09, 95% CI: 1.06, 1.12 Q1, HR: 1.00, ref Q2, HR: 1.13, 95% CI: 1.04, 1.23 Q3, HR: 1.19, 95% CI: 1.10, 1.30 Q4, HR: 1.25, 95% CI: 1.16, 1.35 Q5, HR: 1.38, 95% CI: 1.27, 1.49 p-trend<0.001 DP2 & T2D total, HR: 1.03, 95% CI: 0.99, 1.06 Q1, HR: 1.00, ref Q2, HR: 0.97, 95% CI: 0.89, 1.05 Q3, HR: 1.01, 95% CI: 0.93, 1.10 Q4, HR: 0.90, 95% CI: 0.82, 0.98 Q5, HR: 1.04, 95% CI: 0.96, 1.12 p-trend=0.818 **Summary: Positive: DP 1 & T2D; NS/Mixed: DP2 & T2D**	• Outcomes: T2D based on registry (hospital/death) • Identified 2878 cases • Funding: National Institute of Health Research (NIHR) Applied Research Centre
Glenn, 2023[65] USA; Women Health Initiative (WHI) Analytic N=145299 **Participant characteristics:** • Health: mean BMI ~26-28.6 across DP quantiles (OW/Ob); 100% postmenopause • Race and/or Ethnicity: White: ~74-92%; African-American: ~5-16%; Asian: ~2-4% ; Hispanic: 2-6% • SEP: Education 55-81% college+; Married/partnered: ~60-65% Selection data: Included ♀ who were postmenopause and free of diabetes at baseline ; excluded those with missing diet or lifestyle data, or with implausible energy intake	**Age at Dietary Pattern:** ~62 to 64y, mean across quantiles (50 to 79y) Alternate Med Diet Score (aMED) [Fung 2005]: Positive: Vegetables (not potatoes); Legumes; Fruit; Nuts; Whole Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. DASH diet [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 **Methods:** Index/Score	**Follow-up: 16y, median** Risk of T2D: DASH & T2D Q1, HR: 1, ref Q2, HR: 0.93, 95% CI: 0.88, 0.98 Q3, HR: 0.88, 95% CI: 0.84, 0.93 Q4, HR: 0.81, 95% CI: 0.77, 0.86 Q5, HR: 0.78, 95% CI: 0.72, 0.83 perSD, HR: 0.92, 95% CI: 0.90, 0.93 p-trend<0.001 aMED & T2D Q1, HR: 1, ref Q2, HR: 0.99, 95% CI: 0.94, 1.05 Q3, HR: 0.97, 95% CI: 0.92, 1.02 Q4, HR: 0.93, 95% CI: 0.88, 0.99 Q5, HR: 0.88, 95% CI: 0.83, 0.94 perSD, HR: 0.94, 95% CI: 0.93, 0.96 p-trend<0.001 **Summary: Inverse: DASH & T2D; Inverse: aMED & T2D**	• Did not account for: N/A (all) • Diet assessment: FFQ once; validated with 7-d diet records • Outcomes: Self-report of physician Tx T2D with insulin/oral meds (validated) • Identified 13943 cases; Notably narrow CIs; Excluded data on Portfolio diet based on nutrients and not foods • Funding: NHLBI, NIH

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Glenn, 2021[66] Spain; PREDIMED-Plus Analytic N=6874 **Participant characteristics:** • Health: 100% with OW or Ob and 3+ MetSyn criteria: 93-94% HTN; 75-77% HC; 29-32% diabetes; 50-53% Statin-Tx; 76-79% Anti-HTN meds; 25-28% anti-diabetes meds • Race and/or Ethnicity: ~97-98% European descent • SEP: Education: 20-23% college; 26-32% HS/2nd; 46-51% primary or less Selection data: Included those with OW/Ob and high-CMR (3+ MetSyn criteria); Excluded those with implausible/missing dietary intake	**Age at Dietary Pattern:** 65y, mean DASH diet [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 **Methods:** Index/Score	**Follow-up: 1y** HbA1C: DASH & HbA1C % Q1, β: 0, ref Q2, β: -0.02, 95% CI: -0.04, 0.01 Q3, β: -0.03, 95% CI: -0.05, -0.01 Q4, β: -0.07, 95% CI: -0.09, -0.04 p-trend<0.001 perSD, β: -0.03, 95% CI: -0.04, -0.02; p<0.001 Glucose: DASH & FPB, mg/DL Q1, β: 0, ref Q2, β: -0.86, 95% CI: -1.65, -0.05 Q3, β: -1.61, 95% CI: -2.46, -0.76 Q4, β: -2.14, 95% CI: -3.04, -1.24 p-trend<0.001 perSD, β: -0.84, 95% CI: -1.18, -0.51; p<0.001 **Summary: Inverse: DASH & HbA1C and FPG**	• Did not account for: N/A (all) • Diet assessment: FFQ at baseline, 6mo, 1y • Outcomes: Fasted (ON) blood samples for HbA1C & FPG • Funding: Fondo de Investigacion para la Salud (FIS) and co-funded by European Union ERDF/ESF
Hirahatake, 2019 [67] USA; CARDIA Analytic N=4719 **Participant characteristics:** • Health: BMI, kg/m2: 23.5-25.1 • Family history of diabetes: 12-20% • FBG, mmol/L: ~4.6 • Smoking status, current: 20-38% • Smoking status, former: 6-21% • Alcohol use: 10 to 14 mL/d • PA: 376-475 units/wk • Race and/or Ethnicity: White % across quantiles ranged from 25% to 80% (study recruited only Black	**Age at Dietary Pattern:** 18 to 30 y **Dietary pattern**: 2015 Dietary Guidelines for Americans, DGA-2015: Positive: Vegetables; Legumes and Nuts; Fruits; Whole Grains; Seafood; Low-or Non-Fat Dairy products. Negative: Red and Processed Meat; Sugar-sweetened food and drinks; Refined grains. Moderate: Alcohol [excluded oil, poultry, coffee and tea] A Priori Diet Quality Score, APDQS [Sjitmsa, 2012]: Positive: Vegetables; Legumes; Fruit; Nuts, Seeds; Whole	**Follow-up: 25.3 [8.3] y mean [SD], T2D** Risk of T2D: DGA-2015 Q2: HR 0.96, 95% CI: 0.78, 1.17 Q3: HR 0.90, 95% CI: 0.71, 1.13 Q4: HR 0.88, 95% CI: 0.66, 1.17 per SD: HR 0.94, 95% CI: 0.84, 1.05 P trend=0.28 Paleolithic score Q1: HR 1.0, ref Q2: HR 0.92, 95% CI: 0.74, 1.15 Q3: HR 1.00, 95% CI: 0.80, 1.26 Q4: HR 1.07, 95% CI: 0.83, 1.37 per SD: HR 1.02, 95% CI: 0.93, 1.12 P trend=0.72	• Did not account for: N/A (all) • Diet assessment: Diet history at 0y, 7y, and 20y (validated; cumulative average (0 and 7y; 0, 7, and 20y)) • Outcomes: Clincally assessed at F/U years 0, 7, 10, 15, 20, 25, and 30; T2D defined as self-reported use of anti-diabetic agents, FBG ≥ 7 mmol/L (126 mg/dl), 2h-OGTT ≥ 11.1 mmol/L (200 mg/dL) and/or HbA1C ≥ 48 mmol/L and may have included T1D. • N=680 (14.4%) cases identified; Stratified analysis: In Non-

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
and White participants) • e.g., DGA 2015 score Q1: 25.1%, Q2: 40.1%, Q3: 55.8%, Q4: 79.8% • SEP: Education, y: across DPs ~13-15y mean • DGA 2015 score Q1: 13.0 ± 4.7, Q2: 13.6 ± 4.1, Q3: 14.2 ± 3.2, Q4: 15.1 ± 3.3 Selection data: Recruited black and white men and ♀ aged 18-30 years from communities in four U.S. cities. Excluded participants with diagnosed diabetes at baseline, missing baseline or F/U diabetes status, missing baseline dietary data, without F/U data, or who reported extreme TEI	Grains; Fish; Low-Fat Dairy; Vegetable Oil; Beer, Wine, Liquor; Tea, Coffee. Negative: Fried potatoes; High-fat meat; High-Fat Dairy; Desserts; Sugar-sweetened soft drinks; Butter; Fried Foods; Salty Snacks; Neutral: Potatoes; Fruit Juices; Refined grains; Eggs; Shellfish; Lean meat; Margarine; Chocolate & Diet Soft Drinks Paleolithic Score [Whalen 2014], Positive: Vegetables; Fruit and Vegetable Diversity; Fruit; Nuts; Fish; Lean Meat; Calcium (from non-dairy foods). Negative: Grains and Starches; Baked Goods; Red and Processed Meat; Dairy Foods; Alcohol; Sodium Empty Calories [Hirahatake, 2019] (EC): Positive: Alcohol; Butter; Margarine; Chocolate; Dairy dessert; Fried foods; Fried potatoes; Fruit juice; Grain dessert; Refined grains; Salty snacks; Sugar-sweetened beverages; "sweet extra" **Methods:** Index/Score	APDQS Q1: HR 1.0, ref Q2: HR 0.77, 95% CI: 0.63, 0.94 Q3: HR 0.74, 95% CI: 0.59, 0.92 Q4: HR 0.55, 95% CI: 0.41, 0.74 per SD: HR 0.78, 95% CI: 0.70, 0.86 P trend<0.0001 EC Q1: HR 1.0, ref Q2: HR 1.08, 95% CI: 0.87, 1.34 Q3: HR 0.93, 95% CI: 0.74, 1.17 Q4: HR 0.86, 95% CI: 0.68, 1.11 per SD: HR 0.95, 95% CI: 0.87, 1.04 P trend=0.28 **Summary:** **Inverse: APDQS & T2D;** **NS (Inverse) 2015 DGAI & T2D;** **NS/Null: Palaeo & T2D; EC scores & T2D**	smokers, Inverse DGA-2015 per-SD & T2D: HR 0.86, 95% CI: 0.74, 0.99; In participants with a college degree+, Inverse DGA-2015 per-SD & T2D, HR 0.75, 95% CI: 0.61, 0.92; inverse association for EC in white ♀ & T2D, HR 0.76, 95% CI: 0.60, 0.96; Paleo 20-y high-score maintainers & T2D, per SD: HR 0.59, 95% CI: 0.39, 0.88. No interactions: race, sex, BMI and family history of T2D. • Funding: NHLBI
Hlaing-Hlaing, 2021 [69] Australia; Australian Longitudinal Study on Women's Health (AL-SWH), 1946-51 cohort Analytic N=5350 **Participant characteristics:** • Health: BMI ~25, mean across all tertiles of different DP scores; Free of non-communicable diseases at S3 (2001). • Race and/or Ethnicity: NR (Australian; "nationally-	**Age at Dietary Pattern:** 40 to 50 y at baseline Mediterranean Diet Score (MDS) [Trichopolou 2003]; Alternative HEI (AHEI)-2010 [Chiuve 2012]; Healthy Eating Index for Australian Adults-2013 (HEIFA-2013)[Roy 2016] MDS: Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol	**Follow-up: ~15y (S3, 2001 to S8, 2013)** Risk of T2D: MDS (Q1, HR: 1, ref) & T2D at S8 Q5, HR: 0.76, 95% CI: 0.48, 1.21 AHEI-2010 (Q1, HR: 1, ref) & T2D at S8 Q5, HR: 0.44, 95% CI: 0.29, 0.66 HEIFA-2013 (Q1, HR: 1, ref) & T2D at S8 Q5, HR: 0.76, 95% CI: 0.52, 1.10	• Did not account for: Race/Ethnicity; Family history of diabetes; Anthropometry (treated as mediator) • Diet assessment: FFQ once (baseline), tested against 7d food record • Outcomes: Self-report • All female participants • Funding: None

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
representative") • SEP: 60-71% have easy ability to manage income; 15-30% graduated college, 81 to 85% married across all DQ quantiles; more participants with higher DQ scores had university/higher degrees Selection data: Women without history of diabetes, CHD, HT, asthma, cancer (except skin cancer) at S3 in 2001.	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 HEIFA-2013: 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) **Methods:** Index/Score	**Summary: Inverse: AHEI-2010 & T2D** **NS/Null: MDS & T2D** **NS/Null: HEIFA-2013 & T2D**	
Hlaing-Hlaing, 2022 [68] Australia; Australian Longitudinal Study on Women's Health (AL-SWH), 1973-78 cohort Analytic N=5214, S8 (6560, S4; 5905, S5; 5814, S6; 5268, S7) **Participant characteristics:** • Health: Majority not taking prescribed meds (~72-75%) • Race and/or Ethnicity: NR (Australian; "nationally-representative") • SEP: Majority employed (~76-88%); Education varied ~18-36% high school, 35-59% university degree Selection data: Excluded those with pregnancy, T2D, CHD, HTN, asthma, or cancer or missing FFQ at S3 (baseline)	**Age at Dietary Pattern:** 27.6y, mean (25 to 30y @ S3) <u>Alternative HEI (AHEI)-2010</u> [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 **Methods:** Index/Score	**Follow-up: ~15y (S3, 2001 to S8, 2013)** <u>Risk of T2D</u>: AHEI-2010 & T2D at S4, OR: 0.9, 95% CI: 0.2, 4.0 S5, OR: 1.5, 95% CI: 0.5, 4.5 S6, OR: 0.8, 95% CI: 0.4, 1.6 S7, OR: 0.7, 95% CI: 0.3, 1.4 S8, OR: 0.6, 95% CI: 0.3, 1.3 **Summary: NS/Null: AHEI-2010 & T2D at S4, S5, S6, S7, or S8**	• Did not account for: Race/Ethnicity, Smoking, Family history of diabetes, Anthropometry • Diet assessment: FFQ once (baseline), tested against 7d food record • Outcomes: Self-report at each F/U survey • All female participants; • Funding: None

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Hodge, 2021[70] Australia; Melbourne Collaborative Cohort Study Analytic N=25,888 **Participant characteristics:** • Health: 43% OW (BMI 25-29.9), 20% Ob (BMI 30+); 35% high-WHR; 42% smoker (ever/any); 55% comorbidity • Race and/or Ethnicity: NR; 69.8% born in Australia, 23.8% of southern European origin, 6.5% of northern European origin. • SEP: SEIFA, Q1: 18%, Q5: 27%; Lower AHEI-2010 & MDS aherence associated with greater disadvantage (SEIFA, Socio-Economic Indexes for Areas) Selection data: Excluded those with diabetes at baseline or wave 1 f/u; those with missing demographic, anthropometric, or dietary data; those who died between baseline and wave 2 f/u	**Age at Dietary Pattern:** 55.2 y, mean Alternative HEI (AHEI)-2010 [Chiuve 2012]; Mediterranean Diet Score (MDS) [Trichopolou 2003] 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 MDS: Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol **Methods:** Index/Score	**Follow-up: ~4 y** Risk of T2D: AHEI-2010 & Incident T2D, Q1, IRR: 1, ref Q2, IRR: 0.98, 95% CI: 0.87, 1.11 Q3, IRR: 0.94, 95% CI: 0.83, 1.07 Q4, IRR: 0.91, 95% CI: 0.80, 1.04 Q5, IRR: 0.73, 95% CI: 0.63, 0.85 p-trend<0.001 MDS & Incident T2D, T1, IRR: 1, ref T2, IRR: 0.94, 95% CI: 0.86, 1.03 T3, IRR: 0.98, 95% CI: 0.85, 1.13 p-trend=0.37 **Summary: Inverse: AHEI-2010 & T2D; NS/Null (Inverse): MDS & T2D**	• Did not account for: Race/Ethnicity (NR; adj. birth country); TEI • Diet assessment: FFQ once (baseline) • Outcomes: Self-report at 2 surveys • In analyses stratified by region of birth, inverse relationship between AHEI-2010 & T2D significant only for those from Australia & NZ; null for Northern Europe & Southern Europe. Inverse relationship between MDS & T2D for Austrialia & NZ (p=0.011), remained null for Northern Europe & Southern Europe. Mediation: 43% of effect between AHEI-2010 & T2D was explained by a substantial indirect effect through WHR, 35% of effect was explained by a substantial indirect effect through BMI. • Funding: VicHealth, Cancer Council Victoria, Australian National Health and Medical Research Council
Jacobs, 2015[71] USA; Multiethnic Cohort, MEC Analytic N=89,185 total: Men: 41,918; Women: 47,267 **Participant characteristics:** • Health: In men, by HEI C1; C3; C5 • BMI, kg/m2: 25.3 ± 5.0; 25.2 ± 4.5; 24.5 ± 4.2	**Age at Dietary Pattern:** 45 to 75 y Healthy Eating Index (HEI-2010) [Guenther 2013] Alternative HEI (AHEI)-2010 [Chiuve 2012] Alternate Mediterranean Diet Score (aMED) [Fung 2005] Dietary Approaches to Stop Hypertension (DASH) [Fung 2008]:	**Follow-up: NR, inferred: 3-14y, T2D** Risk of T2D: Men, C1, HR: 1, ref HEI-2010 C2, HR: 1.00, 95% CI: 0.93, 1.08 C3, HR: 0.99, 95% CI: 0.92, 1.08 C4, HR: 0.94, 95% CI: 0.87, 1.03 C5, HR: 0.93, 95% CI: 0.85, 1.01 Per SD, HR: 0.97, 95% CI: 0.94, 1.00 AHEI-2010	• Did not account for: Family history of diabetes • Diet assessment: FFQ once (baseline; ethnic specific) • Outcomes: Self-report, verified by registry • Some missing data on T2D diagnosis; Subtraction of empty calories [alcohol+SoFAS] from

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• PA, h/wk: 1.6 ± 0.4; 1.7 ± 0.3; 1.7 ± 0.3 • Smoking, never smoker: 23.2%; 31.8%; 47.1% • No regular soda consumption: 22.6%; 31.9%; 51.5% • Alcohol intake<1 drink/mo: 38.3%; 37.1%; 38.5% • In ♀ by HEI C1; C3; C5 • BMI, kg/m2: 24.1 ± 6.3; 23.5 ± 5.5; 22.7 ± 4.8 • PA, h/wk: 1.6 ± 0.4; 1.6 ± 0.3; 1.6 ± 0.3 • Smoking, never smoker: 47.9%; 58.3%; 62.7% • No regular soda consumption: 32.3%; 48.1%; 64.0% • Alcohol intake<1 drink/month: 66.1%; 64%; 63.5% • Race and/or Ethnicity: 12.9% (11-25%) Hawaiian-American; 42.3% (12-25%) Japanese-American; 35.7% (11-32%) White; 9.1% Other ancestry; respective mixed ethnic backgrounds: 3%, 5%, and 84% for Japanese-American, white and Native • Hawaiian participants; of Native Hawaiian: 29% Haw • SEP: Education (college graduates) • men: 29- 44% • ♀: 25-36% Selection data: Excluded those w/ diabetes at entry, questionable diabetes status, invalid/missing covariate data	HEI-2010: 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 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); 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 **Methods:** Index/Score	C2, HR: 1.00, 95% CI: 0.92, 1.08 C3, HR: 0.93, 95% CI: 0.86, 1.01 C4, HR: 0.90, 95% CI: 0.83, 0.98 C5, HR: 0.88, 95% CI: 0.81, 0.96 Per SD, HR: 0.95, 95% CI: 0.92, 0.97 aMED C2, HR: 0.99, 95% CI: 0.91, 1.08 C3, HR: 0.92, 95% CI: 0.84, 1.00 C4, HR: 0.87, 95% CI: 0.80, 0.95 C5, HR: 0.89, 95% CI: 0.80, 0.99 Per SD, HR: 0.95, 95% CI: 0.92, 0.98 DASH C2, HR: 0.91, 95% CI: 0.84, 0.98 C3, HR: 0.91, 95% CI: 0.85, 0.99 C4, HR: 0.86, 95% CI: 0.78, 0.94 C5, HR: 0.79, 95% CI: 0.73, 0.87 Per SD, HR: 0.93, 95% CI: 0.90, 0.96 Women, C1, HR: 1, ref HEI-2010 C2, HR: 1.01, 95% CI: 0.93, 1.09 C3, HR: 0.91, 95% CI: 0.84, 0.99 C4, HR: 0.93, 95% CI: 0.85, 1.01 C5, HR: 0.92, 95% CI: 0.84, 1.01 Per SD, HR: 0.97, 95% CI: 0.95, 1.00 AHEI-2010 C2, HR: 1.01, 95% CI: 0.93, 1.09 C3, HR: 0.99, 95% CI: 0.91, 1.08 C4, HR: 0.96, 95% CI: 0.88, 1.05 C5, HR: 0.88, 95% CI: 0.80, 0.97 Per SD, HR: 0.95, 95% CI: 0.92, 0.98 aMED C2, HR: 0.95, 95% CI: 0.87, 1.04 C3, HR: 1.02, 95% CI: 0.93, 1.11 C4, HR: 0.96, 95% CI: 0.88, 1.06 C5, HR: 0.92, 95% CI: 0.84, 1.02 Per SD, HR: 0.97, 95% CI: 0.94, 1.00 DASH C2, HR: 0.91, 95% CI: 0.84, 0.98 C3, HR: 0.85, 95% CI: 0.79, 0.93 C4, HR: 0.82, 95% CI: 0.75, 0.90	HEI B=-0.11, PEE -83%; alcohol from aMED B=-0.01 PEE: -40% all men; alcohol from aHEI, B=-0.05, PEE 0% • Funding: NCI; NIH

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
		C5, HR: 0.77, 95% CI: 0.70, 0.84 Per SD, HR: 0.91, 95% CI: 0.88, 0.94 **Summary: NS/Null: HEI-2010 & T2D (♀ or ♂); aMED & T2D ♀** **Inverse: AHEI-2010 & T2D (♀ or ♂); aMED & T2D ♂; DASH & T2D (♀ or ♂)**	
Jacobs, 2017 (a priori)72 USA; Multiethnic Cohort, MEC Analytic N=166,550 (total): Men, 74,693; Women, 91,857 10,060 (biomarker subcohort) Men, 4661; Women, 5399 **Participant characteristics:** • Health: mean BMI, kg/m2: ~ 26.4-26.6 • Race and/or Ethnicity: African American: 16.3% • Japanese American: 26.4% • Latino: 22.0% • Native Hawaiian: 6.5% • White: 22.9% • Other ancestry: 5.8% • SEP: Education ≤12 y: 41-45%; 13-15 y: 29-30%; ≥16 y: 14-18% Selection data: Excluded participants who reported T2D at cohort entry, members of other ethnicity and individuals with missing values for essential covariates (for biomarkers: additionally prevalent T2D at blood draw and missing biomarker information)	**Age at Dietary Pattern:** 45 to 75 y 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 Mediterranean Diet Score (aMED) [Fung 2005]: Positive: Vegetables (not potatoes); Legumes; Fruit; Nuts; Whole Grains; Fish; MUFA/SFA. Negative: Red and Processed Meat. Neutral: Alcohol Dietary Approaches to Stop Hypertension (DASH) score [Fung 2008], Positive: Vegetables (not potatoes and legumes); Nuts and Legumes; Fruit and Fruit Juice; Whole	**Follow-up: 14.8 y median, T2D** Risk of T2D: In men, T3 v. T1 (ref) HEI-2010 All, HR: 0.93, 95% CI: 0.86, 1.00 White, HR: 0.92, 95% CI: 0.78, 1.09 African American (Am.), HR: 0.99, 95% CI: 0.79, 1.24 Native Am., HR: 0.93, 95% CI:0.72, 1.20 Japanese Am., HR: 0.97, 95% CI: 0.84, 1.11 Latino, HR: 0.91, 95% CI: 0.77, 1.06 AHEI-2010 All, HR: 0.85, 95% CI: 0.79, 0.92 White, HR: 0.90, 95% CI: 0.76, 1.05 African Am., HR: 0.75, 95% CI: 0.59, 0.96 Native Am., HR: 0.82, 95% CI: 0.64, 1.06 Japanese Am., HR: 0.90, 95% CI: 0.79, 1.03 Latino, HR: 0.85, 95% CI: 0.72, 1.00 aMED All, HR: 0.85, 95% CI: 0.77, 0.92 White, HR: 0.88, 95% CI: 0.73, 1.05 African Am., HR: 0.85, 95% CI: 0.64, 1.11 Native Am.: HR 0.81, 95% CI:0.60, 1.08 Japanese Am., HR: 0.83, 95% CI: 0.71, 0.96 Latino, HR: 0.91, 95% CI: 0.76, 1.09 DASH	• Did not account for: Alcohol (not for HEI-2010, DASH); Family history of diabetes • Diet assessment: FFQ once (baseline; ethnic specific) • Outcomes: Self-report 3x, confirmed with data [false-positive self-reports without confirmation were excluded] • Biomarker subcohort was relatively small sample size from full MEC • Funding: NCI;NIH; German Research Foundation

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	Grains; Low-Fat Dairy. Negative: Red and Processed Meat; Sweetened Beverages; Sodium **Methods:** Index/Score	All, HR: 0.81, 95% CI: 0.75, 0.88 White, HR: 0.74, 95% CI: 0.62, 0.88 African Am., HR: 0.79, 95% CI: 0.63, 1.00 Native Am., HR: 0.87, 95% CI: 0.67, 1.12 Japanese Am., HR: 0.89, 95% CI: 0.78, 1.02 Latino, HR: 0.82, 95% CI: 0.70, 0.97 In ♀, T3 v. T1 (ref) HEI-2010 All, HR: 0.93, 95% CI: 0.86, 1.00 White, HR: 0.82, 95% CI: 0.69, 0.98 African Am., HR: 0.90, 95% CI: 0.76, 1.06 Native Am., HR: 1.03, 95% CI: 0.83, 1.29 Japanese Am., HR: 1.03, 95% CI: 0.90, 1.18 Latino, HR: 0.90, 95% CI: 0.76, 1.07 AHEI-2010 All, HR: 0.90, 95% CI: 0.83, 0.97 White, HR: 0.80, 95% CI: 0.67, 0.95 African Am., HR: 0.89, 95% CI: 0.75, 1.06 Native Am., HR: 0.88, 95% CI: 0.71, 1.10 Japanese Am., HR: 0.96, 95% CI: 0.83, 1.11 Latino, HR: 0.98, 95% CI: 0.83, 1.15 aMED All, HR: 0.93, 95% CI: 0.86, 1.00 White, HR: 0.89, 95% CI: 0.74, 1.06 African Am., HR: 0.86, 95% CI: 0.72, 1.02 Native Am., HR: 1.01, 95% CI: 0.80, 1.28 Japanese Am. HR: 1.04, 95% CI: 0.90, 1.20 Latino, HR: 0.90, 95% C,I: 0.77, 1.06	

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		DASH All, HR: 0.80, 95% CI: 0.73, 0.86 White, HR: 0.68, 95% CI: 0.56, 0.83 African Am., HR: 0.85, 95% CI: 0.70, 1.02 Native Am., HR: 0.88, 95% CI: 0.68, 1.13 Japanese Am., HR: 0.85, 95% CI: 0.73, 0.99 Latino, HR: 0.84, 95% CI: 0.70, 1.00 <u>HOMA-IR:</u> in Men HEI-2010 (geometric mean, GM) T1: GM=1.55, 95% CI: 1.49, 1.60 T2: GM=1.46, 95% CI: 1.41, 1.51 T3: GM=1.43, 95% CI: 1.38, 1.48 P for trend=0.004 AHEI-2010 T1: GM=1.55, 95% CI: 1.50, 1.60 T2: GM=1.47, 95% CI: 1.43, 1.52 T3: GM=1.43, 95% CI: 1.39, 1.48 P for trend=0.002 aMED T1: GM=1.50, 95% CI: 1.45, 1.56 T2: GM=1.50, 95% CI: 1.45, 1.54 T3: GM=1.44, 95% CI: 1.38, 1.50 P for trend=0.15 DASH T1: GM=1.54, 95% CI: 1.49, 1.59 T2: GM=1.46, 95% CI: 1.41, 1.51 T3: GM=1.45, 95% CI: 1.40, 1.50 P for trend=0.02 **Summary: Inverse, NS: Higher HEI-2010 & Lower T2D in all ♂, and ♀, White, African-American, Native Hawaiian, Japanese American, Latino ♂, African American and Latino ♀;** **Inverse, NS: Higher AHEI-2010 & Lower T2D in white ♂ and African American ♀, Native Hawaiian,**	

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		Japanese American, Latino ♂ and ♀; Inverse, NS: Higher aMED & Lower T2D in all ♀, White, African American, Latino ♂ and ♀, and Native Hawaiian ♂; **Inverse, NS: Higher DASH & African American, Native Hawaiian ♂ and ♀, Japanese American ♂, and Latino ♀; Inverse, NS: Higher AHEI-2010 & Lower HOMA-IR in ♂; HEI-2010, aMED & HOMA-IR in ♀; Inverse: Higher AHEI-2010, DASH & Lower T2D in all ♂ and ♀;** **Inverse: Higher aMED & Lower T2D in all ♂;** **Inverse: Higher HEI-2010 & Lower T2D in White ♀;** **Inverse: Higher AHEI-2010 & Lower T2D in African American ♂, White ♀;** **Inverse: Higher aMED & Lower T2D in Japanese American;** **Inverse: Higher DASH & Lower T2D in White ♂ and ♀, Latino ♂ and Japanese American ♀; Inverse: Higher HEI-2010, aMED, DASH & Lower HOMA-IR in ♂; Inverse: Higher HEI-2010, AHEI-2010, DASH & HOMA-IR in ♀; Positive, NS: Higher HEI-2010, aMED & Higher T2D in Native Hawaiian, Japanese American**	
Jacobs, 2017(Dietary) 73 USA; Multiethnic Cohort, MEC Analytic N=10,008 (boimarker); 155,316 (T2D) **Participant characteristics (males; females):** Health:	**Age at Dietary Pattern:** 45 to 75 y <u>For all ethnicities combined</u>, Positive: whole grains, fruit, yellow-orange vegetables, green vegetables, low-fat dairy; Negative: processed and red meat, sugar-sweetenend beverages, diet soft drinks, and white rice	**Follow-up: 14.8y (mean); 9.5 [2.2] y mean, biomarker** <u>Risk of T2D</u>: RRRDS com, in all participants, T1, HR: 1, ref T2, HR: 0.87, 95% CI: 0.83, 0.92 T3, HR: 0.79, 95% CI: 0.75, 0.84 Per unit z-standardized, HR: 0.91, 95% CI: 0.89, 0.93	• Did not account for: Alcohol; Family history of diabetes • Diet assessment: FFQ once (baseline; ethnic specific) • Outcomes: Self-report, confirmed with registry etc. False-positive were excluded • Sensitivity analyses by excluding

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• BMI, kg/m2: 26.6 ± 4.2; 26.5 ± 5.8 • PA <30 min/d: 36%; 44% • Smoking status, Never: 30%; 57%, Past: 52%; 29% Race and/or Ethnicity • White: 23.7%; 22.4% • African American: 13.2%; 18.7% • Native Hawaiian: 6.5%; 6.9% • Japanese American: 27.8%; 25.3% • Latinos: 11.5%; 10% SEP: • Males: Education ≤12 y: 42.3%; 13-15 y: 28.8%; ≥16 y: 28.9% • Females: Education ≤12 y: 46.8%; 13-15 y: 28.8%; ≥16 y: 24.4% • Selection data: Excluded T2D cases with diagnosis before or at blood draw, ethnicities/races other than the 5 major groups, incomplete main confounder information, and incomplete or implausible biomarker information for RRR. Excluded biomarker subcohort, prevalent diabetes cases at entry, minority ethnic groups, and those with missing information on essential covariate were excluded for these analyses.	African Americans, Positive: yellow-orange vegetables, cruciferous vegetables, green vegetables, tomatoes, low-fat dairy, whole grains; Negative: processed meat, red meat, poultry, shellfish, other potatoes and tubers Japanese Americans, Positive: green vegetables, yellow-orange vegetables, legumes, fruit, low-fat dairy, whole grains; Negative: processed meat, red meat, eggs, white rice Latino, Positive: fish, green vegetables, yellow-orange vegetables, fruit, nuts, low-fat dairy, whole grains; Negative: processed meat, red meat, sugar-sweetened beverages Native Hawaiians, Positive: coffee, alcohol, nuts, cottage cheese; Negative: red meat, poultry, diet soft drinks, other potatoes and tubers, French-fried potatoes, white rice White, Positive: legumes, cruciferous vegetables, green vegetables, other vegetables, fruit; Negative: red meat, white rice, sugar-sweetened beverages **Methods:** RRR	In African American T2, HR: 0.92, 95% CI: 0.81, 1.05 T3, HR: 0.81, 95% CI: 0.70, 0.94 Per unit z-standardized, HR: 0.93, 95% CI: 0.87, 0.99 In Japanese American T2, HR: 0.88, 95% CI: 0.80, 0.96 T3, HR: 0.84, 95% CI: 0.76, 0.93 Per unit z-standardized, HR: 0.93, 95% CI: 0.89, 0.97 In Latino T2, HR: 0.94, 95% CI: 0.84, 1.05 T3, HR: 0.81, 95% CI: 0.72, 0.92 Per unit z-standardized, HR: 0.89, 95% CI: 0.85, 0.93 In Native Hawaiian T2, HR: 0.84, 95% CI: 0.71, 1.00 T3, HR: 0.83, 95% CI: 0.71, 0.99 Per unit z-standardized, HR: 0.95, 95% CI: 0.89, 1.00 In White T2, HR: 0.83, 95% CI: 0.74, 0.93 T3, HR: 0.72, 95% CI: 0.63, 0.81 Per unit z-standardized, HR: 0.87, 95% CI: 0.83, 0.92 With RRRDSethni (derived within each ethnicity) In African American T2: HR 0.99, 95% CI: 0.87, 1.13 T3: HR 0.84, 95% CI: 0.73, 0.96 Per unit Z-standardized: HR 0.93, 95% CI: 0.88, 0.99 In Japanese American T2: HR 0.88, 95% CI: 0.80, 0.96 T3: HR 0.82, 95% CI: 0.74, 0.91 Per unit Z-standardized: HR 0.92, 95% CI: 0.88, 0.96 In Latino T2: HR 0.89, 95% CI: 0.80, 1.00 T3: HR 0.83, 95% CI: 0.74, 0.94	participants with lipid-lowering and anti-inflammatory medication use, non-fasting participants, participants with acute inflammation, or with extreme energy intakes yielded similar results in RRR analysis; participants who provided blood yielded similar results in the Cox regression. • Funding: German Research Foundation; NIH

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		Per unit Z-standardized: HR 0.92, 95% CI: 0.88, 0.97 In Native Hawaiian T2: HR 0.90, 95% CI: 0.77, 1.05 T3: HR 0.69, 95% CI: 0.57, 0.82 Per unit Z-standardized: HR 0.89, 95% CI: 0.84, 0.95 In White T2: HR 0.81, 95% CI: 0.72, 0.91 T3: HR 0.76, 95% CI: 0.67, 0.86 Per unit Z-standardized: HR 0.89, 95% CI: 0.85, 0.93 **Summary: Inverse: Higher RRRDScomb & Lower T2D in all participants, African American, Japanese American, Latino, Native Hawaiian and White subgroups; Higher RRRDSethni & Lower T2D in each ethnicity subgroup**	
Jannasch, 2019 [74] Europe: Denmark, France, Germany, Italy, the Netherlands, Spain, Sweden; UK; EPIC-InterAct Analytic N=25,158 total: Subcohort: 14,694; T2D cases: 11,183 **Participant characteristics:** • Health: BMI, kg/m2: 26.1 ± 4.2 (mean in total cohort) • WC, cm, ♂: 95.2 ± 10.0; ♀: 81.2 ± 11.2 • Physically active: 20.2% • Never smoking: 45.9% • Family history of diabetes: 19.2% • HbA1c ≥ 6.5%: 1.6% • Race and/or Ethnicity: NR; % in subcohort v. whole case-cohort from France: 3.8% v. 3.3%; Italy: 13.1% v. 12.7%; Spain: 23.9% v.	**Age at Dietary Pattern:** 52.9 y, mean (enrolled 35 to 70 y) France DP1: Positive: leafy vegetables, fruiting vegetables, root vegetables, cabbage, red meat, poultry. Negative: other vegetables France DP2: Positive: nuts, other fruits, processed meat, fish, eggs, cake and cookies, coffee, and other alcoholic beverages Italy DP1: Positive: leafy vegetables, fruiting vegetables, cabbage, other vegetables, legumes, fish, vegetable oils Italy DP2: Positive: pasta & rice, red meat, processed meat, other fats, sugar Spain DP1: Positive: potatoes, legumes, bread, red meat, processed	**Follow-up: 6.9 y mean, T2D** <u>Risk of T2D</u>: DP1 in France, HR: 1.06, 95% CI: 0.90, 1.26, p-trend=0.49 DP2 in France, HR: 0.64, 95% CI: 0.49, 0.85, p-trend=0.002 "Replicative France", all, per SD: HR 1.00, 95% CI: 0.90, 1.10 DP1 in Italy, HR: 1.10, 95% CI: 0.98, 1.23, p-trend=0.10 DP2 in Italy, HR: 1.01, 95% CI: 0.89, 1.14, p-trend=0.93 DP1 in Spain, HR: 1.14, 95% CI: 1.03, 1.27, p-trend=0.02 DP2 in Spain, HR: 1.02, 95% CI: 0.95, 1.09, p-trend=0.67 "Simple Spain" score, all, per SD: HR 1.09, 95% CI: 0.97, 1.22 DP1 in UK-Norfolk, HR: 0.89, 95% CI: 0.77, 1.03, p-trend=0.11 DP2 in UK-Norfolk, HR: 1.24, 95% CI: 1.02,1.51, P=0.03	• Did not account for: Race and/or ethnicity, • Alcohol (only Norfolk DP) • Diet assessment: Questionnaires once (country/centre-specific) • Outcomes: Combination of self-report, linkage to registries, hospital/mortality data • Excluding participants in the top and bottom 1% of TEI, w/ CVD at baseline, incident T2D in first 2 y F/U, or HbA1c values ≥6.5%, or adjusting for Family history of T2D did not alter the results. • Funding: European Union Sixth Framework Programme; German Federal Ministry of Education and Research; Determinants of Diet and Physical Activity (DEDIPAC);

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22.9%; UK-Norfolk: 6.1% v. 6.4%; UK-Oxford: 2.15% v. 2.1%; Netherlands: 9.5% v. 8.4%; Germany: 13.9% v. 14.1%; Sweden: 13.1% v. 14.1%; Denmark: 14.4% • SEP: Post-secondary education, %: • France: 39.9% • Italy: 14.5% • Spain: 11.3% • UK-Norfolk: 12.3% • UK-Oxford: 42.4% • Netherlands: 21.7% • Germany: 34.9% • Sweden: 22.4% • Denmark: 20.4% • Selection data: For subcohort, randomly selected from participants who had stored blood samples and reported dieabetes status, excluded prevalent diabetes, postcensoring diabetes, and individuals with unkown status, participants from Swedish study center Umea, data missing on diet, anthropometry, and lifestyle factors; • Included data on ascertained T2D, excluded prevalent and postcensoring diabetes, unknown status, self-reported diabetes in Denmark, nondiabetic participants, data from UMEA, missing data on diet, anthropometry, and lifestyle factors.	meat, eggs, vegetable oils, wine and spirits Spain DP2: Positive: leafy vegetables, fruiting vegetables, root vegetables, other vegetables, other fruits UK-Norfolk DP1: Positive: leafy vegetables, fruiting vegetables, root vegetables, cabbage, other vegetables, fruits, pasta & rice UK-Norfolk DP2: Positive: potatoes, processed meat, vegetable oils, sugar, cakes and cookies, and tea UK-Oxford DP1: Positive: leafy vegetables, fruiting vegetables, root vegetables, cabbage, other vegetables, legumes, fruits UK-Oxford DP2: Positive: potatoes, red meat, poultry, processed meat, offals, fish, vegetable oils Netherlands DP1: Positive: potatoes, bread, red meat, processed meat, margarine, other fats, sugar Netherlands DP2: Positive: fruiting vegetables, other fruits, pasta & rice, other cereals, poultry, vegetable oils, other fats Germany DP1: Positive: leafy vegetables, fruiting vegetables, root vegetables, other vegetables, fruits, vegetable oils Germany DP2: Positive: potatoes, red meat, poultry, processed meat, offals, other fats, beer Sweden DP1: Positive: potatoes, bread, processed meat, margarine, sugar. Negative: other non-alcoholic beverages Sweden DP2: Positive: wine, other alcoholic beverages (no other groups met 0.4 factor loading cutoff)	"Replicative Norfolk", all, perSD: HR 1.12, 95% CI: 1.04, 1.20 DP1 in UK-Oxford, HR: 1.11, 95% CI: 0.88, 1.39, p-trend=0.38 DP2 in UK-Oxford, HR:1.22, 95% CI: 0.94, 1.60, p-trend=0.14 DP1 in Netherlands, HR: 1.10, 95% CI: 0.93, 1.29, p-trend=0.27 DP2 in Netherlands, HR: 0.92, 95% CI: 0.79, 1.06, p-trend=0.24 DP1 in Germany, HR: 0.97, 95% CI: 0.88, 1.07, p-trend=0.55 DP2 in Germany, HR: 1.08, 95% CI: 0.96, 1.21, p-trend=0.19 DP1 in Sweden, HR: 1.08, 95% CI: 0.95, 1.23, p-trend=0.25 DP2 in Sweden, HR: 1.00, 95% CI: 0.91, 1.09, p-trend=0.91 DP1 in Denmark, HR: 0.98, 95% CI: 0.90, 1.06, p-trend=0.60 DP2 in Denmark, HR: 1.08, 95% CI: 0.94, 1.24, p-trend=0.26 **Summary:** **Inverse: France DP2 & T2D; "Replicative France" & T2D in France;** **Positive: Spain DP1, UK-Norfolk DP2 & Higher T2D; "Replicative Norfolk" & T2D (in all participants); "Replicative France" & T2D in UK Norfolk; "Simple Spain" & T2D in Spain or UK Norfolk** **NS/Null: "Replicative France", "Simple Spain" & T2D in all participants; all other country-specific DPs & T2D within that country**	"Healthy Diet for a Healthy Life"; NutriAct-Competence Cluster Nutrition Research Berlin-Potsdam; Associazio

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	Denmark DP1: Positive: leafy vegetables, fruiting vegetables, root vegetables, cabbage, other vegetables, legumes, fruits, pasta & rice, poultry, fish, vegetable oils Denmark DP2: Positive: potatoes, bread, red meat, processed meat, offals, margarine **Methods:** Factor or cluster analysis		
Jin, 2021[75] USA; Women Health Initiative (WHI) Analytic N=73,495 **Participant characteristics:** • Health: Those without T2D, cancer, CVD at baseline • Race and/or Ethnicity: EDIH • Q1: 3.5% African American, 0.2% American Indian or Alaskan Native, 2.4% Hispanic American, 2.1% Asianor Pacific Islander, 90% European American, 1.5% Other • Q3, 5.3% African American, 0.4% American Indian or Alaskan Native, 3.3% Hispanic American, 3.3 • SEP: Majority had ≥4 y college; • EDIH, Education: 1-2% ≤ 8 y, 3-6% some high school/high school/GED, 20-34% some college/associate degree, 57-76% ≥4 y college • EDIP, Education: 1-4% ≤ 8 y, 3-6% some high school/high school/GED, 23-32% some college/associate degree, 58-73% ≥4 y college Selection data: Women only; Excluded those with T2D, CVD, or	**Age at Dietary Pattern:** 50 to 79 y at baseline <u>Empirical dietary inflammatory pattern (EDIP) [Tabung, 2016],</u> 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 <u>Empirical dietary index for hyperinsulinemia (EDIH) [Tabung, 2016],</u> Positive: Red meat; Processed meat; Poultry; Tomatoes; French fries, Fish (other than dark-meat fish); Low-	**Follow-up: 13.3 y (median)** <u>Risk of T2D</u>: Incident T2D - EDIH Q1, HR: 1, ref Q2, HR: 1.15, 95% CI: 0.96, 1.37 Q3, HR: 1.02, 95% CI: 0.86, 1.21 Q4, HR: 1.17, 95% CI: 0.99, 1.38 Q5, HR: 1.41, 95% CI: 1.20, 1.65 per 1-SD, HR: 1.12, 95% CI: 1.07, 1.17 p-trend<0.0001 Incident T2D - EDIP Q1, HR: 1, ref Q2, HR: 1.00, 95% CI: 0.85, 1.18 Q3, HR: 1.08, 95% CI: 0.92, 1.27 Q4, HR: 1.27, 95% CI: 1.09, 1.49 Q5, HR: 1.42, 95% CI: 1.22, 1.65 per 1-SD, HR: 1.14, 95% CI: 1.09, 1.19 p-trend<0.0001 **Summary: Positive: EDIH, EDIP & T2D**	• Did not account for: N/A (all) • Diet assessment: FFQ once (baseline) • Outcomes: Self-report of T2D incidence from use of T2D-meds, not including Tx via lifestyle • EDIP & T2D still significant when controlling for baseline blood glucose levels; EDIH & T2D no longer significant when controlling for baseline blood glucose levels • Funding: NIH

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prevalent cancer (except nonmelanoma skin cancer) at baseline; implausible energy intake (<600 kcal/day and >5,000 kcal/day); extreme BMI (<15 or >50 kg/m2); no T2D status; those in the Dietary Modification Trial	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 **Methods:** Index/Score		
Kanerva, 2014 [76] Finland; Helsinki Birth Cohort Study; Health 2000 Survey Analytic N=1822, HBCS 4923, Health 2000 **Participant characteristics:** • Health: HBCS cohort, range by BSDS quintiles: • Exercise <1 times/week: 7-20% • Current smoker: 10-41% • Abdominal obesity: 36-50% • Elevated fasting glucose: 35-43% • Hypertriglyceridemia: 18-32% • Decreased HDL-C: 7-11% • HTN: 83-85% • Health 2000 cohort, range by BSDS quintiles: • Exercise <1 times/week: 11-35% • Current smoker: 17-37% • Abdominal obesity: 34-38% • Elevated fasting glucose: 23-24% • Hypertriglyceridemia: 27-31% • Decreased HDL-C: 30-32% • HTN: 61- 63% • Race and/or Ethnicity: NR (Finnish) • SEP: Education: HBCS cohort 11 to 13y; Health 2000 cohort: 11 to 12y	**Age at Dietary Pattern:** 62 y, mean in HBCS; 47 to 55 y, mean in Health 2000 Baltic Sea Diet Score (BSD) [Kanerva, 2013], Positive: Vegetables (including legumes, not potatoes); Apples/pears/peaches plus berries; Cereals; Low- and non-fat Milk; Fatty fish; E% from fat PUFA/SFA & Trans FA; Negative: Red and Processed Meat; Total Fat; Total Energy; Neutral: Total alcohol **Methods:** Index/Score	**Follow-up: 9.4 y median, HBCS cohort; 11.3 y median, Health 2000** Risk of T2D: BSD, Q1, HR: 1, ref Q2, HR: 0.89, 95% CI: 0.63, 1.27 Q3, HR: 0.81, 95% CI: 0.62, 1.05 Q4, HR: 0.89, 95% CI: 0.69, 1.14 Q5, HR: 0.93, 95% CI: 0.72, 1.21 P for trend=0.53 **Summary: Null: BSDS & T2D**	• Did not account for: Race and/or ethnicity, Family history of diabetes • Diet assessment: FFQ once (baseline) • Outcomes: National registries • Interaction with MetHealth was not significant; risk increased non-significantly among Met disregulations>2, and decreased non-significantly among Met disregulations<2 • Sensitivity analyses by excluding the first 2y F/U, under-reporters of energy intake, participants with elevated fasting glucose, including only participants with T2D confirmed with OGTT in the HBCS did show different results; Potential pre-baseline diet change for baseline metabolic dysregulation; underestimates of T2D; under or overreporting diet; Logistic regression did not mention time scale • Funding: Stockman Foundation, Juho Vainio Foundation and the Yrjo Ja/hnsson Foundation; the Academy of Finland; the Finnish Diabetes Research Society, Folkha¨ lsan Research

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Selection data: Included participants who filled in FFQ and were free of T2D at baseline			Foundation, Novo Nordisk • Foundation, Finska La¨karesa¨ llskapet, Liv and Ha¨ lsa, Samfundet
Kesse-Guyot, 2021 [77] France; NutriNet-Santé Cohort Analytic N=79205 **Participant characteristics:** • Health: range from PNNS-GS2 quintiles • BMI, kg/m2: 22.83 ± 3.80 to 24.45 ± 5.04 • Alcohol use, g/d: 3.83 ± 5.49 to 14.08 ± 16.59 • Physical activity ≥ 60 min/d: 27-35% • Smoking, non-smokers: 44-55% • Family history of diabetes: 15-17% • Race and/or Ethnicity: NR (French) • SEP: Education, university: 62-66% • Occupation, self-employed: 2%, managerial: 22-25%, employees: 15-23%, professions: 17-18%, retired: 13-24% • Income, ≤1200 €/cu: 14-51%, 1200-1800 €/cu: 22-33%, 1800-2700 €/cu: 15-25%, > 2700 €/cu: 16-29% • Living status, cohabiting: 70-74% • Selection data: Included NutriNet-Sante participants with at least three completed 24-h records during the first 2 y, who were not detected as under or overreporters, and with available data about organic food consumption for	**Age at Dietary Pattern:** 41.5 [14.5] y Programme National Nutrition Sante Guideline Score, updated for 2017 Guidelines in France (PNNS-GS2) [modified Estaquio 2009 by Chaltiel 2019], mPNNS-GS2, Positive: Fruits & vegetables (preferably organic); nuts; legumes (preferably organic); whole grain foods (preferably organic); fatty fish; milk and dairy products. Negative: Red meat; processed meat (prefer white ham over other processed meat); added fat (preferably vegetable fat over animal fat); sugary foods; sweet-tasting beverages; alcohol beverages; salt. Neutral: breads, cereals, potatoes; meat, poultry, other fish and seafood, and eggs SmPNNS-GS2, Positive: nuts; milk and dairy products. Negative: sugary foods; sweet-tasting beverages; alcohol beverages; salt. Neutral: breads, cereals, potatoes; meat, poultry, seafood, and eggs **Methods:** Index/Score	**Follow-up: 6.8 [2.7] y mean, 7.4 y (4.2) median (IQR), T2D** Risk of T2D: PNNS-GS2, Q1, HR: 1, ref Q2, HR: 0.79, 95% CI: 0.63, 1.00 Q3, HR: 0.62, 95% CI: 0.47, 0.80 Q4, HR: 0.57, 95% CI: 0.43, 0.75 Q5, HR: 0.51, 95% CI: 0.37, 0.69 P-trend=0.0001 Per 1-point, HR: 0.92, 95% CI: 0.89, 0.94 sPNNS-GS2, Q1, HR: 1, ref Q2, HR: 0.65, 95% CI: 0.51, 0.82 Q3, HR: 0.57, 95% CI: 0.44, 0.73 Q4, HR: 0.53, 95% CI: 0.40, 0.69 Q5, HR: 0.46, 95% CI: 0.35, 0.62 P-trend=0.0001 Per 1-point, HR: 0.92, 95% CI: 0.89, 0.95 **Summary: Inverse: PNNS-GS2, sPNNS-GS2 & T2D**	• Did not account for: Race and/or ethnicity • Diet assessment: 24h recalls every 6mo (used average of 2.2 surveys) • Outcomes: Combination of self-report, medication use, reimbursement using Health insurance • Sensitivity analysis showed similar results; the association was observed both ♂ and ♀; • Limitations: observational study, limiting causal inference; participants are not representative of general French population; residual confounding; self-reported data; • Funding: Ministere de la Sante, Sante Publique France, Institut National de la Sante et de la Recherche Medicale, Institut national de recherche pour l'agriculture, l'alimentation et l'environnement, Conservatoire National des Arts et Metiers

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
computing the PNNS-GS2. Excluded participants with no follow-up and prevalent cases of T2D.			
Khalili-Moghadam, 2019[78] Iran; Tehran Lipid and Glucose Study (TLGS) Analytic N=2139 **Participant characteristics:** • Health: range from MDS tertiles: HTN, 14.6 to 20.8%, p-trend=0.98; SBP, 109 ± 15.3 112 ± 17.8; p-trend=0.01; DBP, 72.6 ± 10.2 73.5 ± 10.7; p-trend=0.27; TG, 1.5 to 1.6; p-trend=0.03; HDL, 1.09 ± 0.26 1.13 ± 0.25; p-trend=0.06 • Race and/or Ethnicity: NR (Iranian) • SEP: NR Selection data: Excluded those with incomplete dietary assessments; diabetes at baseline; unusual energy intake; no data on biochemical, anthropometry, physical activity; LFU	**Age at Dietary Pattern:** 20 to 70 y at baseline Mediterranean Diet Score (MDS) [Trichopolou 2003], Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. **Methods:** Index/Score	**Follow-up: 5.8 y (median)** Risk of T2D: MDS T2, HR: 0.64, 95% CI: 0.43, 0.49 MDS T3, HR: 0.48, 95% CI: 0.27, 0.83 **Summary:** **Inverse: MDS & T2D**	• Did not account for: Age, Sex, Race/Ethnicity, Physical activity, Smoking, SEP • Diet assessment: FFQ once (baseline) • Outcomes: Fasted and 2h glucose collected • Notably large effect size; Significant differences in age, sex, physical activity, smoking across tertiles were not controlled for in analyses • Funding: NR
Kim & Giovannucci, 2022[79] Korea; KOGES Analytic N=7393 **Participant characteristics:** • Health: BMI, mean: 24.3-24.8; HTN history: ~10-19% • Race and/or Ethnicity: NR (Korean) • SEP: Education: ~5-22% ≥ 12y Selection data: Excluded those with extreme dietary intake; w/ baseline CVD, diabetes, or cancer; refusal/missing info	**Age at Dietary Pattern:** 40 to 69y Plant-Based Diet Index (PDI) [Satija, 2016], did not separate fruit juices and veg. oils, Positive: Vegetables; Fruits; Nuts; Legumes; Whole grains; Tea/coffee; Fruit juices & Veg. Oils; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts; Negative: Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods	**Follow-up: ~15y (S3, 2001 to S8, 2013)** Risk of T2D: PDI per 10pt, HR: 0.99, 95% CI: 0.88, 1.12 hPDI per 10pt, HR: 0.86, 95% CI: 0.77, 0.95 (*stronger in those w/ family history T2D, 0.58 (0.44, 0.66) or HTN, 0.73 (0.60, 0.89)) uPDI per 10pt, HR: 1.06, 95% CI: 0.96, 1.18 **Summary: Inverse: hPDI & T2D; NS/Positive: uPDI & T2D; NS/Null:**	• Did not account for: Race/Ethnicity (Korean; adjusted for Ansung/Ansan region) • Diet assessment: FFQ at baseline and visit 3 (correlated with 12-d diet) • Outcomes: Fasted (8h+) blood samples collected; T2D based on FBG ≥ 126 mg/dL, Tx with anti-diabetes oral agents or insulin • Funding: National Research Foundation of Korea (NRF)

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
	Healthful PD (hPDI): Positive: Vegetables; Fruits; Nuts; Legumes; Whole grains; Tea/coffee; Negative: Fruit juices & Veg. Oils; 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; Tea/coffee; Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods; Positive: Fruit juices & Veg. Oils; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts **Methods:** Index/Score	**PDI & T2D**	
Koloverou, 2016 Adherence[80] Greece; ATTICA Analytic N=1485 **Participant characteristics:** • Health: By Med adherence: Low; Medium; High • BMI, kg/m2: 29 ± 4.2; 27 ± 2.8; 22 ± 2.5 • WC, cm: 100 ± 12; 92 ± 11;78 ± 10 • Family history of diabetes: 22%; 21%; 22% • HTN: 46%; 32%; 10% • Hypercholesterolemic: 44%; 50%; 23% • Current smoker: 54%; 58%; 51% • Physically active: 43%; 39%; 44%	**Age at Dietary Pattern:** ~45y [13], mean (enrolled 18 to 89y) Mediterranean-based Diet Score (MedDietScore) [Panagiotakos 2007]: Positive: Vegetables; Potatoes; Legumes; Fruit; Whole Grains; Fish; Olive Oil. Negative: Red and Processed Meat; Poultry; Full-Fat Dairy; Alcohol **Methods:** Index/Score	**Follow-up: 10 y, T2D** Risk of T2D: T1 (Low), OR: 1, ref T2 (Medium), OR: 0.51, 95% CI: 0.30, 0.88 T3, (High), OR: 0.38, 95% CI: 0.16, 0.88 Per 1 Unit, OR: 1.04, 95% CI: 0.99, 1.09 **Summary: Inverse: MedDietScore & T2D**	• Did not account for: Race and/or ethnicity • Diet assessment: FFQ once • Outcomes: Fasted (12h+) blood samples collected; T2D based on FBG ≥ 125 mg/dl or use of anti-diabetes meds (ADA criteria) • Stratified analyses, inverse association remained in participants with increased WC: Medium adherence: RR=0.44, 95% CI: 0.25, 0.77; high adherence: RR=0.26, 95% CI: 0.10, 0.70; association was non-significant in participants with normal WC: medium adherence: RR=0.97, 95% CI: 0.29, 3.25;

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
• Race and/or Ethnicity: NR (Greek) • SEP: Education, years of school • Low Med: 11 ± 3.8 • Medium Med: 12 ± 3.6 • High Med: 14 ± 2.8 Selection data: Included participants who were free of CVD or chronic viral infections, completed the follow-up; Excluded participants with T2D at baseline, with no data on T2D status during follow-up			high adherence: RR=0.89, 95% CI: 0.16, 4.90; • TAC, TNF-α, homocysteine mediated the relationship while oxidized LDL, IL-6, CRP, SAA and fibrinogen did not; • Other limitations: lack of T2D diagnosis time and thus potential over-estimated effect using OR for HR; possible misclassification of T2D; underreporting and misclassification of diet due to the nature of diet questionnaire assessment • Funding: NR; Coca-Cola SA for authors DBP & ENG
Koloverou, 2016(Dietary)81 Greece; ATTICA Analytic N=1485 **Participant characteristics:** • Health: Among those with T2D at F/U, higher FBG, greater HTN, HC MetSyn, abnormal WHR, and higher initial BMI, WC. • By those without T2D vs. with T2D at 10y: • BMI, kg/m2: 26 ± 4.0 vs. 29±5.0; WC, cm: 88 ± 14 vs.98±16; Abnormal WHR ratio: 34% vs. 59% • HTN: 27% vs.46% • HC: 37% vs.56% • Family history of diabetes: 20% vs. 36% • FBG, mg/dl: 88 ± 12 vs. 95 ± 14 • MetSyn: 12% vs. 30% • Physically active: 43% vs. 38% • Current smokers: 54% vs.52%	**Age at Dietary Pattern:** ~45y [13], mean (enrolled 18 to 89y) Factor 1: Positive: Red or white meat (beef, pork, and poultry) and potatoes (fried, boiled, or baked) Factor 2: Positive: Fruits, vegetables, legumes, bread, pasta, rusk Factor 3: Positive: Processed meat, feta cheese, hard cheese Factor 4: Positive: Fish Factor 5: Positive: Nuts and sweets Factor 6: Positive: Dairy (milk, yogurt) and cereals **Methods:** Factor or cluster analysis	**Follow-up: 10 y, T2D** Risk of T2D: Age group <45 y Factor 1, OR: 0.99, 95% CI: 0.49, 2.03 Factor 2, OR: 1.89, 95% CI: 0.85, 4.18 Factor 3, OR: 0.86, 95% CI: 0.39, 1.88 Factor 4, OR: 1.12, 95% CI: 0.44, 2.84 Factor 5, OR: 1.19, 95% CI: 0.58, 2.53 Factor 6, OR: 1.23, 95% CI: 0.60, 2.50 Age group: 45-55 years Factor 1, OR: 0.79, 95% CI: 0.39, 1.59 Factor 2, OR: 0.60, 95% CI: 0.34, 1.07 Factor 3, OR: 0.80, 95% CI: 0.38, 1.69 Factor 4, OR: 1.43, 95% CI: 0.75, 2.72 Factor 5, OR: 1.37, 95% CI: 0.84, 2.25 Factor 6, OR: 1.12, 95% CI: 0.62, 2.03 Age group: > 55 years Factor 1, OR: 0.93, 95% CI: 0.11, 7.47 Factor 2, OR: 0.19, 95% CI: 0.02, 2.03 Factor 3, OR: 0.18, 95% CI: 0.004, 7.6 Factor 4, OR: 10.6, 95% CI: 0.062, 18.34 Factor 5, OR: 1.40, 95% CI: 0.32, 6.18 Factor 6, OR: 22.3, 95% CI: 0.25, 20.2	• Did not account for: Age (analysed by age group), Race and/or ethnicity, Physical Activity, Alcohol, SEP, Other: TEI (only in sensitivity analysis) • Diet assessment: FFQ once • Outcomes: Evaluation of medical record • Adjusting for the percentage of calories from carbohydrates for Factor 2 in 45-55 y group: OR 0.62, 95% CI: 0.34, 1.13; adjusting for total energy intake: OR 0.72, 95% CI: 0.35, 1.49 • Other limitations: unknown time to onset of T2D, underestimation or misclassification of T2D; reduced power from stratification analyses; medium lost-to follow-up rate (15%); residual confounding • Funding: Hellenic Cardiology

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
• Race and/or Ethnicity: NR (Greek) • SEP: Education years of school • Participants w/o diabetes: 13 ± 3.4 • Participants with diabetes: 14 ± 3.4 Selection data: Included participants who were free of CVD and chronic viral infections at baseline, completed 2011-2012 F/U. Excluded participants who had diabetes at baseline, and those for whom information about diabetes status		**Summary: Inverse, NS: Higher Factor 2 & Lower T2D in age group 45-55 y** **Null: Factor 1~6 & T2D in all age group (except 2 in 45-55 y)**	Society; the Hellenic Atherosclerosis Society; Authors DBP & ENG received funding from Coca-Cola SA
Kroger et al and Interact Consortium, 2014[82] Europe: Denmark, France, Germany, Italy, the Netherlands, Spain, Sweden; UK; EPIC-InterAct Analytic N=21,616 total; Cases: 9,682; Subcohort: 12,595 **Participant characteristics:** • Health: In subcohort: • BMI, kg/m2: 25.7 • WC, cm, men: 95.0; ♀: 80.0 • Physically active: 21.1% • Never smoking: 46.2% • Alcohol, g/d: 7.1 • Race and/or Ethnicity: NR; France: 4%; Spain: 28%; UK-Norfolk: 7%; UK-Oxford: 2%; Netherlands: 11%; Germany: 16%; Sweden: 15%; Denmark: 17% • SEP: Post-secondary education: 22% Selection data: EPIC-InterAct included participants without stored blood or without information on reported diabetes. Excluded individuals with prevalent diabetes or	**Age at Dietary Pattern:** 25 to 79 y <u>Alternative Healthy Eating Index (AHEI) [McCullough 2002]</u>: 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 <u>Dietary Approaches to Stop Hypertension [Sacks 1995], DASH 1995</u>: Positive: Grains; Vegetables; Nuts/seeds/legumes; Fruits; Dairy products; Negative: Meat/Poultry/Fish; Fats and oils; Sweets <u>RRR1, inflammatory markers</u>: Positive: Cabbages; Vegetables, root; Coffee; Wine. Negative: Processed meat; Refined grains; Sugar-sweetened soft drinks; Diet soft drinks <u>RRR2, diabetes-related biomarkers</u>: Positive: Fruits; Negative: Red meat, beer, poultry, legumes, sugar-sweetened soft drinks, processed meat and white bread	**Follow-up: 16y total (median/mean NR)** <u>Risk of T2D</u>: Q1, HR: 1, ref aHEI Q2, HR: 0.92, 95% CI: 0.82, 1.02 Q3, HR: 0.95, 95% CI: 0.86, 1.06 Q4, HR: 0.95, 95% CI: 0.85, 1.05 Q5, HR: 0.96, 95% CI: 0.86, 1.07 P-trend=0.65 DASH Q2, HR: 0.96, 95% CI: 0.86, 1.07 Q3, HR: 0.94, 95% CI: 0.84, 1.05 Q4, HR: 0.93, 95% CI: 0.83, 1.04 Q5, HR: 0.95, 95% CI: 0.84, 1.07 P-trend=0.24 RRR1 Q2, HR: 0.92, 95% CI: 0.83, 1.02 Q3, HR: 0.91, 95% CI: 0.82, 1.02 Q4, HR: 0.81, 95% CI: 0.72, 0.91 Q5, HR: 0.76, 95% CI: 0.67, 0.86 P for trend<0.0001 RRR2 Q2, HR: 0.98, 95% CI: 0.89, 1.09 Q3, HR: 0.95, 95% CI: 0.85, 1.06 Q4, HR: 0.90, 95% CI: 0.79, 1.01 Q5, HR: 0.85, 95% CI: 0.75, 0.97 P for trend=0.02 RRR3	• Did not account for: Race and/or ethnicity; Alcohol (DASH, RRR3); Family history of diabetes • Diet assessment: FFQ once • Outcomes: Combination of self-report, linkage to primaryor secondary-care registers, medication use (drug registers), hospital admissions and mortality data • Excluding participants with baseline HbA1c ≥ 6.5%, incident diabetes in the first 2y of F/U, or with CVD, or with extreme TEI (top/bottom 1%); or adjusting for history of diabetes in a first-degree relative did not material change the effect estimates. • Funding: EU FP6 program; Dutch research council; NL Agency grant; the Board of the UMC Utrecht; Health Research Fund (FIS) of the Spanish Ministry of Health, Navarre Regional Government and CIBER Epidemiología y Salud

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
uncertain diabetes status; from study centers in Italy and Umea; data from UK centre for DASH only; and those with missing data on diet or covariates.	RRR3, HOMA-IR index: Positive: breakfast cereals, honey/jam/sugar, dressing sauces, non-white bread; Negative: diet soft drinks, sugar-sweetened soft drinks, processed meat, salty biscuits and white bread **Methods:** Index/Score and RRR	Q1, HR: 1, ref Q2, HR: 0.84, 95% CI: 0.76, 0.93 Q3, HR: 0.84, 95% CI: 0.76, 0.94 Q4, HR: 0.82, 95% CI: 0.73, 0.91 Q5, HR: 0.65, 95% CI: 0.58, 0.73 P for trend<0.0001 **Summary: Null: aHEI, DASH & T2D; Inverse: Higher RRR1, RRR2, RRR3 & Lower T2D**	Pública; Spanish Ministry of Health

Lacoppidan, 2015 [83]
Denmark; Danish Diet, Cancer and Health Cohort Study
Analytic N=55,060
 	
Participant characteristics:
• Health:
• BMI, kg/m2: ♀ 24.8, ♂26.1
• WC, cm: ♀ 80, ♂ 89
• Smoking,
  ○ Never: ♀44% ,♂ 26%;
  ○ Former: ♀23% ,♂ 35%;
  ○ Current: 33%, ♂ 40%
• Alcohol ≤12 g/d: ♀3%, ♂ 2%; >12g/d: ♀39%, ♂42%
• Participate in sports: ♀ 59%, ♂ 49%
• Race and/or Ethnicity: NR (Danish)
• SEP: Education,
• Women: ≤7 y: 31% 8-10 y: 50% ≥ 11 y: 19%
• ♂ ≤7 y: 35%; 8-10 y: 42%; ≥ 11 y 24%
Selection data: Excluded participants with cancer and/or T2D before baseline, missing information on the exposure or potential confounders, deceased
	Age at Dietary Pattern: 56y, mean (50 to 64 y)
	
	Healthy Nordic Food Index (HNFI) [Olsen 2011], Positive: Cabbage; Root Vegetables; Apples and Pears; Rye Bread; Oatmeal; Fish
	
	Methods: Index/Score
		Follow-up: 15.3 y median, T2D
		Risk of T2D: 0, HR: 1, ref
		♀ Per 1-pt, HR: 0.97, 95% CI: 0.94, 1.00
		♀ 1, HR: 1.01, 95% CI: 0.83, 1.23
		♀ 2, HR: 1.02, 95% CI: 0.85, 1.24
		♀ 3, HR: 0.97, 95% CI: 0.80, 1.18
		♀ 4, HR: 0.96, 95% CI: 0.79, 1.17
		♀ 5-6, HR: 0.89, 95% CI: 0.72, 1.10
		♀ p-trend=0.0436
		
		♂ Per 1-pt, HR: 0.95, 95% CI: 0.93, 0.98
		♂ 1, HR: 0.96, 95% CI: 0.85, 1.09
		♂ 2, HR: 0.98, 95% CI: 0.86, 1.11
		♂ 3, HR: 0.89, 95% CI: 0.78, 1.02
		♂ 4, HR: 0.83, 95% CI: 0.72, 0.95
		♂ 5-6, HR: 0.80, 95% CI: 0.69, 0.94
		♂ p-trend < 0.0001
		
		Summary: Inverse: HNFI & T2D
			• Did not account for: Race and/or ethnicity, Family history of diabetes
			• Diet assessment: FFQ once
			• Outcomes: T2D based on national registries, may include T1D
			• Sensitivity analysis by including only confirmed cases yielded slightly stronger inverse association; no interaction between index and BMI.
			• Other: measurement error; potential confounding from rapeseed oil, and residual confounding
			• Funding: NordForsk and the Danish Cancer Society

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Langmann, 2023 [84] Denmark; Danish Diet, Cancer and Health Cohort Study Analytic N=54232 **Participant characteristics:** • Health: mean BMI 26 [4]; mean WC 81.9 cm(♀); 95.9 (men) • Race and/or Ethnicity: NR (Danish) • SEP: Education: Long 22%, Medium 40%, Short 23%, Vocational 15% Selection data: Excluded those with previous diabetes or cancer	**Age at Dietary Pattern:** 56y, median (50 to 64y) EAT-Lancet Reference Diet [Vallejo, 2022; EAT-Lancet Commission, 2019] EAT-Lancet: Positive: Whole grains & all grains, ≤ 464 g/d and whole grain fiber; Vegetables, ≥ 200 - ≤ 600 g/d; Fruits, ≥ 100 - ≤ 300 g/d; All nuts, ≥ 25 g/d. Negative: 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; Palm oil, ≤ 6.8 g/d; Lard or tallow, ≤ 5 g/d; Butter, 0 g/d; All sweeteners, ≤ 31 g/d. Neutral: Tubers or starchy vegetables, ≤ 100 g/d; Unsaturated oils, ≥ 20 - ≤ 80 g/d Alternative HEI-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 **Methods:** Index/Score	**Follow-up: 15y median** Risk of T2D: EAT-Lancet & T2D perSD, HR: 0.94, 95% CI: 0.91, 0.96 0-7, HR: 1, ref 8, HR: 0.91, 95% CI: 0.84, 0.98 9, HR: 0.89, 95% CI: 0.83, 0.97 10, HR: 0.83, 95% CI: 0.76, 0.90 11-14, HR: 0.81, 95% CI: 0.73, 0.89 AHEI-2010 & T2D per SD, HR: 0.90, 95% CI: 0.87, 0.93 13-40, HR: 1, ref 13-40, HR: 0.96, 95% CI: 0.89, 1.03 41-46, HR: 0.87, 95% CI: 0.81, 0.94 47-52, HR: 0.86, 95% CI: 0.79, 0.93 59-110, HR: 0.75, 95% CI: 0.68, 0.82 **Summary: Inverse: EAT-Lancet & T2D; Inverse: AHEI-2010 & T2D**	• Did not account for: Family history of diabetes, Race/Ethnicity (all Danish) • Diet assessment: FFQ once • Outcomes: T2D based on registry linkage (e.g., 5 FPG total or 2FPG/5y; med purchases), may include T1D • 7130 cases • Funding: Aarhus University; Danish Cancer Society
Laouali, 2021[85] France; E3N study Analytic N=70,991 **Participant characteristics:** • Health: T2D subcohort: • BMI, kg/m2: 22.89 ± 3.2 • BMI, > 25 kg/m2: 19.5% • T2D: 4.6%; HC: 7.1%; HTN: 51.5%	**Age at Dietary Pattern:** 53 [7] y 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	**Follow-up: ~20 y f/u, T2D, HTN** Risk of T2D: PDI Q1, HR: 1, ref Q2, HR: 0.88, 95% CI: 0.80, 0.97 Q3, HR: 0.82, 95% CI: 0.74, 0.91 Q4, HR: 0.72, 95% CI: 0.64, 0.80 Q5, HR: 0.71, 95% CI: 0.63, 0.79 P-trend<0.0001 Per 1-SD, HR: 0.88, 95% CI: 0.85, 0.91	• Did not account for: Race and/or ethnicity, Alcohol • Diet assessment: FFQ once in 1993 • Outcomes: Self-report confirmed with reported F/U. Incident T2D cases defined before 2004 as: FPG ≥ 7 mmol/L or NFG ≥ 11.1 mmol/L at diagnosis; or recent HbA1C ≥ 7% (53 mmol/mol); or

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
• Smoking: Current: 13.5%, Former: 32.8%, Never: 53.7% • PA, MET-h/wk: 49.4±50.5 • Family history of diabetes: 11.1% • Race and/or Ethnicity: NR (French) • SEP: Education in T2D subsample • Undergraduate or less: 11.09% • Graduate: 53.12% • Postgraduate or more: 35.79% Selection data: Eligible were participants completed a baseline dietary questionnaire in 1993. Excluded prevalent cases of T2D or HTN for each analysis; ♀ with extreme TEI; ♀ who did not complete any follow-up questionnaire after the dietary questionnaire	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 **Methods:** Index/Score	hPDI Q1, HR: 1, ref Q2, HR: 0.99, 95% CI: 0.89, 1.10 Q3, HR: 0.85, 95% CI: 0.77, 0.94 Q4, HR: 0.82, 95% CI: 0.73, 0.92 Q5, HR: 0.74, 95% CI: 0.67, 0.83 P-trend<0.0001 Per 1-SD, HR: 0.88, 95% CI: 0.85, 0.92 uPDI Q1, HR: 1, ref Q2, HR: 1.05, 95% CI: 0.95, 1.16 Q3, HR: 0.94, 95% CI: 0.84, 1.05 Q4, HR: 0.91, 95% CI: 0.81, 1.02 Q5, HR: 0.99, 95% CI: 0.89, 1.11 P-trend=0.1904 Per 1-SD, HR: 0.98, 95% CI: 0.94, 1.01 **Summary: Inverse: PDI, hPDI & T2D Null: uPDI & T2D**	on anti-diabetes agents; After 2004: cases based on drug reimbursement database (reimbursed 2x/y) • Limited generalizability of population; potential misclassification of T2D and HTN due to change of assessment method would lead to underestimated indicidenc • Funding: IDEX Paris Saclay, the Nutriperso Project; the Mutuelle Générale de l'Education Nationale, the Institut GUSTAVE ROUSSY and the Ligue contre le Cancer; the National Research Agency. "Investissement d'avenir" program "Investissement d'avenir", "Ministère de 'enseignement supérieur, de la recherche et de l'innovation"
Lee, 2019(Diabetes-related) [86] Korea; KOGES Analytic N=7255 men: 3425 ♀: 3830 **Participant characteristics:** • Health: BMI, kg/m2: 24.4 ± 3.1 • Current Smoker: 25.1% • HTN: 14.2% • FPG, mg/dL: 82.0 (77.0-88.0) • HbA1c, %: 5.5 (5.3-5.8) • HOMA-IR: 1.4 (1.0-1.9) • Parental history of diabetes: 7.7% • Dyslipidemia: 2.6% • Alcohol intake, none: 52.5% ≥25	**Age at Dietary Pattern:** 51.5y, mean (40 to 69 y baseline) Men: Positive: Soybeans, nuts and seeds, kimchi, beef, other mean, fish, coffee; Negative: noodles, processed meat, carbonated drinks wo♂: Positive: Rice, Kimchi, Fruit Negative: Bread, sugar, mushrooms, pork, fish, shellfish **Methods:** RRR	**Follow-up: 11.5 y (7.8-11.8 y) median (IQR), T2D** Risk of T2D: Men Q1, HR: 1, ref Q2, HR: 0.92, 95% CI: 0.68, 1.23 Q3, HR: 0.88, 95% CI: 0.66, 1.19 Q4, HR: 1.27, 95% CI: 0.97, 1.67 Women Q1, HR: 1, ref Q2, HR: 0.87, 95% CI: 0.64, 1.18 Q3, HR: 1.02, 95% CI: 0.75, 1.38 Q4, HR: 1.15, 95% CI: 0.83, 1.57 **Summary: Null: Either dietary pattern in ♂ or ♀ & T2D**	• Did not account for: Race and/or ethnicity (Korean men and ♀) • Diet assessment: FFQ once • Outcomes: Fasted (12h+) blood samples (FPG; Insulin) collected; T2D via FBG ≥ 126 mg/dl, HbA1C ≥ 6.5%, or self-report physician diagnosis; HOMA-IR=PG x FI/22.5 • Risks before adjust BMI, ♂: Q1: HR 1; Q2: 0.90, 95% CI: 0.67, 1.22; Q3: 0.91, 95% CI: 0.67, 1.22; Q4: 1.38, 95% CI: 1.05, 1.82; in ♀: Q1: HR 1, Q2: HR 0.90, 95% CI: 0.66, 1.21; Q3: 1.04, 95% CI: 0.77, 1.41; Q4: 1.20, 95% CI:0.87, 1.65. No

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
g/d: 12.0% • PA, MET-h/wk: 135.6 (80.5 -245.9) • Race and/or Ethnicity: NR (Korean) • SEP: Education level, • Did not graduate HS: 54.5% • Graduated HS: 31.7% • Some college or higher: 13.8% • Rural region: 48.6% Selection data: Included participants who had participated in ≥1 F/U survey. Excluded individuals who had missing baseline dietary survey data, extreme TEI, history of MI, stroke, CVD, or diabetes at baseline, missing data for FBG, HbA1c, or HOMA-IR; or high FBG (≥126 mg/dL) and HbA1c (≥6.5%) at baseline.			interaction between BMI and DP. HRs ♂ with BMI<23.0, Q1: HR 1; Q2: 0.80, 95% CI: 0.44, 1.44; Q3: 0.76, 95% CI: 0.41, 1.41; Q4: 1.17, 95% CI: 0.66, 2.06; with BMI 23~25.0: Q1: HR 1; Q2: 0.77, 95% CI: 0.43, 1.38; Q3: 0.60, 95% CI: 0.33, 1.08; Q4: 0.88, 95% CI: 0.51, 1.50; with BMI ≥25.0: Q1: HR 1, Q2: 1.09, 95% CI: 0.70, 1.70; Q3: 1.21, 95% CI: 0.78, 1.87;l Q4: 1.72, 95% CI: 1.15, 2.56. In men with history of HTN: Q4 v. Q1: HR 0.99, 95% CI: 0.51, 1.92; without histroy of HTN: Q4 v. Q1: HR 1.32, 95% CI: 0.97, 1.79; with history of dyslipidemia:0.19, 95%CI: 0.06, 0.65; without history of dyslipidemia: 1.42, 95% CI: 1.07, 1.88; in ♀ with history of HTN: Q4 v. Q1: 0.68, 95% CI: 0.38, 1.23; without history of HTN: 1.37, 95% CI: 0.94, 2.00; in ♀ with history of dyslipidemia: 0.30, 95% CI: 0.03, 2.62; without history of HTN: 1.17, 95% CI: 0.85, 1.62 • Limited generalizability of population; Culturally-specific food groups • Funding: Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education
Lee, 2019(Identification)[87] Korea; KOGES	**Age at Dietary Pattern:** 40 to 69 y	**Follow-up: 4.9 y mean, T2D** Risk of T2D: Incident T2D/hyperglycemia	• Did not account for: Race and/or ethnicity (Korean men and ♀) • Diet assessment: FFQ once,

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Analytic N=55457 men: 18,292 ♀: 37165 **Participant characteristics:** • Health: Range from 'Prudent' quantiles ♂; ♀ • BMI, kg/m2: 24.2-24.5; 23.3-23.6 • Current smokers: 26-28%; 1.5-2% • Alcohol, g/d: 13.9 to 18.7; 1.6 to 1.8 • Regular PA 54-66%; 45-62% • Family history of diabetes: 13-15%; 18-19% • Race and/or Ethnicity: NR (Korean) • SEP: Education, college or higher, %, by "Prudent" pattern, quantiles: • In men: 43.9%; 45.2%; 47.6% • In ♀: 24.3%; 24.5%; 27.2% Selection data: Eligible were participants who completed the follow-up survey between 2012 and 2016. Excluded participants with T2D or Cancer at baseline, who had no dietary data, implausible dietary intake, and/or missing covariate data	"Prudent": Positive: vegetables (light-colored, green/yellow), lean fish, seaweeds, mushrooms, shellfish, kimchi, bone fish, pickled vegetables, fruits, tubers, legumes and soy products, milk, salt-fermented fish (men only), yogurt and fatty fish(♀ only) "Fatty fish, meat, and flour-based food": Positive: fatty fish, pizza/hamburger, processed meats, high-fat red meat, bread, poultry, red meat by-products, cake/snack/cookie, noodles/dumpling, dairy products (men only), other seafood, carbonated beverages, red meat "Coffee and Sweets": Positive: Sweets, Oils/fats, Coffee "White Rice": whole grain (positive for men, negative for ♀), white rice (positive for ♀, negative for men) **Methods:** Factor or cluster analysis	"Prudent" in Men Q1, HR: 1, ref Q3, HR: 1.07, 95% CI: 0.89, 1.29 Q5, HR: 0.93, 95% CI: 0.75, 1.15 P-trend=0.4457 "Prudent" in Women Q1, HR: 1, ref Q3, HR: 0.91, 95% CI: 0.77, 0.99 Q5, HR: 0.75, 95% CI: 0.63, 0.89 P-trend=0.0003 "Fatty fish, meat, and flour-based food" in Men Q1, HR: 1, ref Q3, HR: 1.10, 95% CI: 0.91, 1.32 Q5, HR: 1.04, 95% CI: 0.83, 1.30 P for trend=0.6834 in Women Q1, HR: 1, ref Q3, HR: 1.13, 95% CI: 0.92, 1.38 Q5, HR: 1.22, 95% CI: 1.03, 1.44 P for trend=0.0210 "Coffee and sweets" pattern ♂ Q1, HR: 1, ref Q3, HR: 1.20, 95% CI: 0.99, 1.45 Q5, HR: 1.06, 95% CI: 0.87, 1.30 P for trend=0.7622 in ♀ Q1, HR: 1, ref Q3, HR: 0.97, 95% CI: 0.82, 1.15 Q5, HR: 0.94, 95% CI: 0.80, 1.11 P for trend=0.7350 "Whole grain/white rice" ♂ Q1, HR: 1, ref Q3, HR: 0.99, 95% CI: 0.82, 1.19 Q5, HR: 0.98, 95% CI: 0.80, 1.21 P for trend=0.9672 in ♀ Q1, HR: 1, ref Q3, HR: 1.01, 95% CI: 0.84, 1.20 Q5, HR: 0.99, 95% CI: 0.82, 1.19	validated with 3d records • Outcomes: Self-report of physician diagnosis or FBG ≥ 126 mg/dl • Funding: None

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
		P for trend=0.4459 **Summary: Inverse: "Prudent" & T2D in ♀** **Positive: "fatty fish, meat, and flour-based food" & T2D in ♀** **Null: "Prudent" "fatty fish, meat and flour-based food" & T2D ♂; "coffee and sweets", "white rice" & T2D ♂ and ♀**	
Lee, 2020[88] USA; HPFS/NHS I, NHS II Analytic N=204,995 **Participant characteristics:** • Health: BMI ~ 23-26 by EDIP/H quntiles (Q5 higher v. Q1) • Race and/or Ethnicity: 95-99% White • SEP: NR, all health professionals Selection data: Excluded those with diabetes, CVD, or Cancer (except nonmelanoma skin cancer) at baseline; those with incomplete or implausible dietary data;	**Age at Dietary Pattern:** ~42y (NHS, II), ~56y (NHS/HPFS), means at dietary pattern (25 to 75 y at enrollment) 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	**Follow-up: 32y total (median/mean NR)** Risk of T2D: Incident T2D - EDIP (pooled) Q1, HR: 1, ref Q2, HR: 1.28, 95% CI: 1.20, 1.35 Q3, HR: 1.41, 95% CI: 1.33, 1.49 Q4, HR: 1.65, 95% CI: 1.57, 1.74 Q5, HR: 1.95, 95% CI: 1.85, 2.05 p-trend<0.001 Incident T2D - EDIH (pooled) Q1, HR: 1, ref Q2, HR: 1.19, 95% CI: 1.12, 1.26 Q3, HR: 1.37, 95% CI: 1.30, 1.45 Q4, HR: 1.54, 95% CI: 1.46, 1.63 Q5, HR: 1.87, 95% CI: 1.78, 1.98 p-trend<0.001 **Summary: Positive: EDIH & T2D, ♀ + ♂ (♀; ♂)** **Positive: EDIP & T2D, ♀ + ♂ (♀; ♂)**	• Did not account for: Sex (pooled analyses) • SEP (all health professionals) • Diet assessment: FFQ every 4y, validated • Outcomes: Self-report confirmed with reported f/u based on NDDG criteria: classic symptoms and FPG ≥ 7.8 mmol/L (140 mg/dL; post-2010, 7 mmol/L) or NF ≥ 11.1 mmol/L (200 mg/dL); or no symptoms but 2+ elevated FBG or non-fasted on different occasions or after OGTT; or on anti-diabetic agents; or HbA1C ≥ 6.5% post-2010; • Identified 19.7K cases; Results similar when cohorts/sex-stratified (NHS, NHS II, HPFS). Subgroup analyses revealed stronger positive association between EDIP & T2D among younger, leaner, or more active adults or those w/out family history of diabetes. Stronger positive association between EDIH & T2D among younger, leaner, or more active adults, never smokers, or moderate

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
	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 **Methods:** Index/Score		drinkers • Funding: NIH, Boston Nutrition Obesity Research Center
Ley, 2016 [89] USA; HPFS/NHS I, NHS II Analytic N=124,607 NHS: 48,612 NHS II: 49,711 HPFS: 26,284 **Participant characteristics:** • Health: By NHS-I; NHS II; HPFS • BMI, kg/m2: 24.9-25.1; 24.6-25.4; 25.2-25.3 • PA, MET-h/wk: 13.8-16.0; 19.2-24.0; 21-24 • Current smoker: ~16%; 11-12%; 7-9% • HTN: 22-24%; 10-13%; 15-16% • HC: 31-38%; 23-25%; 16-28% • Family history of diabetes: ~28%; ~37%; ~21% • Race and/or Ethnicity: 95-99% White • SEP: NR, all health professionals Selection data: Excluded participants with or with history of CVD or Cancer, who died during 1st 4y F/U; missing data (FFQ, >10 FFQ items, date of birth, BMI or physical activity	**Age at Dietary Pattern:** ~42y (NHS, II), ~56y (NHS/HPFS), mean at dietary pattern (25 to 75 y at enrollment) **Dietary pattern**: 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 **Methods:** Index/Score	**Follow-up: ~ 16 y for NHS II; ~ 20 y for NHS and HPFS** Risk of T2D: NHS Mod-Lg. ↓, HR: 1.27, 95% CI: 1.13, 1.43 Sm.-Mod.↓ HR: 1.04, 95% CI: 0.95, 1.13 Stable, HR: 1, ref Sm.-Mod ↑, HR: 0.95, 95% CI: 0.88, 1.03 Mod-Lg. ↑, HR: 0.89, 95% CI: 0.80, 0.99 P-trend<0.0001 per 10% ↑, HR: 0.89, 95% CI: 0.85, 0.93 NHS II Mod-Lg. ↓,, HR: 1.31, 95% CI: 1.13, 1.51 Sm.-Mod.↓ , HR: 1.03, 95% CI: 0.93, 1.15 Stable, HR: 1, ref Sm.-Mod ↑, HR: 0.88, 95% CI: 0.80, 0.98 Mod-Lg. ↑, HR: 0.77, 95% CI: 0.69, 0.87 P-trend<0.0001 Per 10%, HR: 0.85, 95% CI: 0.81, 0.89 HPFS	• Did not account for: Sex (pooled analysis), SEP (though all health professionals) • Diet assessment: FFQ every 4y, change assessed • Outcomes: Self-report confirmed based on classic symptoms and FPG ≥ 7.8 mmol/L (7 mmol/L post-1998) or NF ≥ 11.1 mmol/L; or no symptoms but 2+ elevated FBG or non-fasted on different occasions or after OGTT; or on anti-diabetic agents; or HbA1C ≥ 6.5% post-2010; • Identified 9300+ cases; Additional adjustment for changes in body weight resulted in HR 0.91, 95% CI: 0.88,0.93 for per 10% increment; association remained when stratified by baseline diet quality (P interaction=0.2; P for trend≤0.001), baseline BMI (P interaction=0.001, P for trend≤0.01), across physical activity change categories (P interaction=0.8, P for trend≤0.0005), or when AHEI socres were calculated without

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
at baseline), pregnant during FFQ cycle, or who reported implausible TEI.		Mod-Lg. ↓,, HR: 1.05, 95% CI: 0.86, 1.30 Sm.-Mod.↓ , HR: 0.98, 95% CI: 0.86, 1.13 Stable, HR: 1, ref Sm.-Mod ↑, HR: 0.94, 95% CI: 0.83, 1.07 Mod-Lg. ↑, HR: 1.01, 95% CI: 0.86, 1.18 p-trend=0.67 Per 10%, HR: 0.97, 95% CI: 0.91, 1.04 Pooled Mod-Lg. ↓, HR: 1.25, 95% CI: 1.15, 1.36 Sm.-Mod ↑, HR: 1.03, 95% CI: 0.97, 1.09 Stable, HR: 1, ref Sm.-Mod ↑, HR: 0.93, 95% CI: 0.88, 0.98 Mod-Lg. ↑ HR: 0.86, 95% CI: 0.81, 0.93 p-trend<0.0001 Per 10%, HR: 0.89, 95% CI: 0.86, 0.91 **Summary: Direct: Moderate to Large (>10%) decrease in AHEI & higher T2D in ♀ (NHS or NHS II) and ♀ + ♂; Small or Moderate to Large (>10%) increase in AHEI & lower T2D in ♀ (NHS or NHS II) and ♀ + ♂** **NS/Direct: AHEI & T2D in only HPFS**	the long-chain n-3 FA; inverse associations were more pronounced in younger than in older participants; limited generalizibility • Funding: NIH
Llavero-Valero, 2021 [90] Spain; Seguimiento Universidad de Navarra (SUN) cohort Analytic N=20,060 **Participant characteristics:** • Health: mean BMI, T1: 23.2, T2: 23.4, T3: 23.7 (p<0.001) • 14.3-14.5% family history T2D;	**Age at Dietary Pattern:** 37.4 y, mean **Dietary pattern**: Nova Classification, Group 4 "Ultra-processed" (Nova 4) [Monteiro, 2019]: Nova 4: e.g., carbonated soft drinks, sweet or savoury packaged snacks, pastries, cakes and cake mixes, margarine, 'instant' sauces, fruit	**Follow-up: 12 y (median)** Risk of T2D: UPF, Nova 4 diet at baseline T2, HR: 0.99, 95% CI: 0.69, 1.43 T3, HR: 1.53, 95% CI: 1.06, 2.22 p-trend=0.024 UPF, Nova4 diet at 10y F/U T2, HR: 1.07, 95% CI: 0.74, 1.54	• Did not account for: Race/Ethnicity (mostly Spanish) • Diet assessment: FFQ at baseline and 10y F/U (change from repeat measures and updated diet accounted for); Misclassification of UPF possible due to FFQ • Outcomes: Self-report of

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
~18-21% HTN; 3.2-3.6% cancer; 1.2-1.9% CVD; 10.3-12.9% Depression; Compared to T1 of UPF, those in T3 more likely to be current smokers, have more hypertension, depression, cancer and CVD at baseline • Race and/or Ethnicity: NR • SEP: All w/ University degree, > 50% health professionals • Compared to T1 of UPF, those in T3 more likely to have post-university education Selection data: Excluded those with: TEI < 1st % or > 99% tile; prevalent T2D at baseline; T1D, other diabetes, pancreatectomy; LFU	yogurts and fruit drinks, pre-prepared meat, pasta and pizza dishes, or meat and chicken extracts **Methods:** Index/Score	T3, HR: 1.65, 95% CI: 1.14, 2.38 p-trend=0.023 **Summary: Positive: UPF & T2D**	diagnosis or diabetes-med use; endorcrinologist assessed with F/U report a/o records via ADA criteria • mean UPF intake ~ 295.8g/d [217.4] • Funding: Spanish Government-Instituto de Salud Carlos III, European Regional Development Fund, CIBERobn
Lopez, 2022[91] Mexico; Mexican Teachers Cohort Analytic N=74671 **Participant characteristics:** • Health: 19-21% Ob; 37-39% OW; 32-34% Normal Wt; 13-15% HTN; 69-79% pre-menopause; 12-20% post-menopause • Race and/or Ethnicity: 100% Mexican, from culturally diverse areas • SEP: SES: HH assets T1, ~29-33%; T2, 31-34%, T3, 37-44% Selection data: Included ♀ without diabetes, Stroke, HD, Cancer at baseline; Excluded ♀ with implausible/missing/incomplete dietary intakes or LFU	**Age at Dietary Pattern:** 41 to 44y, mean (≥25y) **Dietary pattern**: EAT-Lancet Reference Diet [Vallejo, 2022; EAT-Lacnet Commission, 2019]: EAT-Lancet: Positive: Whole grains & all grains, ≤ 464 g/d and whole grain fiber; Vegetables, ≥ 200 - ≤ 600 g/d; Fruits, ≥ 100 - ≤ 300 g/d; All nuts, ≥ 25 g/d. Negative: 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; Palm oil, ≤ 6.8 g/d; Lard or tallow, ≤ 5 g/d; Butter, 0 g/d; All sweeteners, ≤ 31 g/d. Neutral: Tubers or starchy vegetables, ≤ 100 g/d; Unsaturated oils, ≥ 20 - ≤ 80 g/d **Methods:** Index/Score	**Follow-up: ~2y** Risk of T2D: EAT-Lancet & T2D 0-4, HR: 1.00, ref 5-6, HR: 0.98, 95% CI: 0.90, 1.08 7-8, HR: 1.00, 95% CI: 0.90, 1.10 9-13, HR: 0.90, 95% CI: 0.75, 1.10 **Summary: NS/Null: Eat-Lancet & T2D**	• Did not account for: Anthropometry; Race/ethncitiy (all Mexican but from culturally diverse areas) • Diet assessment: FFQ once • Outcomes: Combination of self-report and database linkage used to define T2D • Identified 3241 cases • Funding: NR

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Ma, 2022[92] Japan; Fukushima Health Management Survey (FHMS) Analytic N=22740 **Participant characteristics:** • Health: 29.8% OW/Ob; mean BMI, 23.4; 39.8% HTN; • Race and/or Ethnicity: NR (Japanese) • SEP: 26% > vocational; 44% living in temporary shelter Selection data: Included only evacuees of the Great East Japan Earthquake and Fukushima incident without diabetes at baseline who completed the health checkup and FFQ; Excluded those ≥3 missing FFQs	**Age at Dietary Pattern:** 55.9y, mean (20 to 89y) typical Japanese': highest in boiled and fermented beans; fish; fruit; green vegetables, miso soup, red/yellow vegetable, rice, tofu, white vegetable; lowest in bread, fruit juice, vegetable juice; neutral: milk, soy milk,yogurt, beef/pork, chicken, ham/sausage 'Juice': highest in boiled beans, fruit, fruit juice, vegetable juice; soy milk, yogurt (all) and bread and milk ♂ only; lowest in beef/pork; netural: chicken, ham/sausage 'Meat': highest in beef/pork, chicken, ham/sausage (all) and bread (♀ only) **Methods:** Factor or cluster analysis: PCA	**Follow-up: ~7y (2011-2018)** Risk of T2D: 'typical Japanese' & T2D Q2, HR: 0.82, 95% CI: 0.70, 0.96 Q3, HR: 0.83, 95% CI: 0.71, 0.97 Q4, HR: 0.80, 95% CI: 0.68, 0.94 p-trend=0.015 'Juice' DP & T2D Q2, HR: 1.01, 95% CI: 0.87, 1.17 Q3, HR: 0.90, 95% CI: 0.78, 1.05 Q4, HR: 0.99, 95% CI: 0.86, 1.15 p-trend=0.773 'Meat' DP & T2D Q2, HR: 1.13, 95% CI: 0.99, 1.29 Q3, HR: 0.91, 95% CI: 0.78, 1.05 Q4, HR: 1.05, 95% CI: 0.90, 1.22 p-trend=0.883 **Summary: Inverse: 'typical Japanese' & T2D** **NS/Null: 'Juice' & T2D** **NS/Null: 'Meat' & T2D**	• Did not account for: Family history of diabetes, Race/Ethnicity (Japanese), Other TEI • Diet assessment: FFQ once • Outcomes: Fasted (8h+) blood samples collected; T2D based on FBG ≥ 126 mg/dL or self-reported use of anti-diabetic oral agent • Identified 1.4K cases; Sex-stratified analyses produced similar results • Funding: National Health Fund for Children and Adults Affected by the Nuclear Incident, Ministry of the Environment, Japan (MOEJ)
Maldonado, 2022[93] USA; Hispanic Community Health Study/Study of Latinos (HCHS/SOL) Analytic N=7774 **Participant characteristics:** • Health: WC ~93-98cm; Majority never smokers (53-81%); • Race and/or Ethnicity: 100% Hispanic/Latino (majority foreign-born (46-95%): Cuban, Dominican, Mexican, Puerto Rican, Central American, and South American) • SEP: Most > HS education (46-57%) Selection data: Excluded those with diabetes at baseline, no visit 2 data,	**Age at Dietary Pattern:** 18 to 74y **Description:** • "Burgers, Fries, Soft Drinks": Positive: Burgers, french fries, fried foods, pizza, sandwiches, soft drinks • "White Rice, Beans ,& RedMeats": Positive: Pork, beef, processed meats, white rice • "Fish & Whole Grain": Positive: salads, fish, poultry, whole grains • "Cheese & Sweets": Positive: cheese, fried foods, desserts, sweets, noodle-based foods, coffee/tea. Negative: white rice	**Follow-up: ~6y** Risk of T2D: Q1, OR: 1 ref (95%CI) "Burgers, Fries, Soft drinks" Cuban Q2, OR: 0.80(0.43,1.49) Q3, OR: 0.71(0.37,1.38) Q4, OR: 1.00(0.55,1.82) Q5, OR: 0.67(0.33,1.36) Dominican Q2, OR: 1.36(0.57,3.28) Q3, OR: 1.48(0.61,3.58) Q4, OR: 1.33(0.55,3.24) Q5, OR: 1.53(0.59,3.96) Mexican Q2, OR: 0.82(0.53,1.28) Q3, OR: 1.20(0.74,1.97) Q4, OR: 1.35(0.86,2.11)	• Did not account for: Smoking, Family history of diabetes • Diet assessment: 24h recalls, twice • Outcomes: Fasted (8h+) blood samples collected; T2D based on FBG ≥ 126 mg/dL,OGTT ≥ 20- mg/dL, or HbA1C ≥ 6.5% and self-report of diagnosis or on diabetic-agents, • 7-17% incidence at 6y; Results have notably wide CIs; Estimates including adjustment for smoking did not change, so smoking was excldued from final models • Funding: NHLBI; UNC-CH

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
not fasted for BG, missing/extreme 24-h recall, missing data, reported more than one heritage	• "Stew & Corn": Positive: cheese, corn-based foods, meat & vegetable stew, soups. Negative: poultry **Methods:** Factor or cluster analysis: PCA	Q5, OR: 1.05(0.65,1.69) Puerto Rican Q2, OR: 1.50(0.83,2.70) Q3, OR: 1.19(0.64,2.22) Q4, OR: 2.30(1.13,4.72) Q5, OR: 2.63(1.29,5.36) CentralAm. Q2, OR: 1.17(0.53,2.59) Q3, OR: 0.75(0.30,1.90) Q4, OR: 1.03(0.36,2.90) Q5, OR: 1.98(0.66,5.95) S. Am. Q2, OR: 1.54(0.58,4.09) Q3, OR: 0.95(0.39,2.29) Q4, OR: 0.52(0.16,1.73) Q5, OR: 0.72(0.23,2.23) "White Rice, Beans,& Red Meats" & T2D Q2, OR: 1.09 (0.57,2.08) Q3, OR: 1.13 (0.50,2.52) Q4, OR: 1.43 (0.73,2.81) Q5, OR: 1.58 (0.80,3.12) Dominican Q2, OR: 1.76(0.70,4.46) Q3, OR: 1.78(0.59,5.36) Q4, OR: 1.50(0.52,4.31) Q5, OR: 2.16(0.83,5.67) Mexican Q2, OR: 1.14(0.70,1.86) Q3, OR: 1.31(0.77,2.24) Q4, OR: 1.17(0.74,1.83) Q5, OR: 1.10(0.65,1.88) PuertoRican Q2, OR: 0.37(0.18,0.78) Q3, OR: 1.20(0.62,2.30) Q4, OR: 0.75(0.37,1.52) Q5, OR: 0.65(0.30,1.39) CentralAm. Q2, OR: 2.05(0.81,5.19) Q3, OR: 1.72(0.69,4.28)	Carolina Population Center; NICHD; NIDDK; University of Miami; Albert Einstein College of Medicine; Northwestern University; San Diego State University

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
		Q4, OR: 2.58(0.96,6.91) Q5, OR: 2.12(0.89,5.02) S. Am. (NR) "Fish & Whole Grains" & T2D Cuban Q2, OR: 0.96(0.44, 2.10) Q3, OR: 2.63(1.25, 5.58) Q4, OR: 1.43(0.71, 2.87) Q5, OR: 1.37(0.55, 3.45) Mexican Q2, OR: 0.84(0.54, 1.32) Q3, OR: 0.89(0.57, 1.38) Q4, OR: 1.28(0.83, 1.99) Q5, OR: 0.89(0.56, 1.42) PuertoRican Q2, OR: 0.74(0.34, 1.61) Q3, OR: 0.54(0.29, 1.02) Q4, OR: 0.63(0.33, 1.21) Q5, OR: 0.62(0.30, 1.28) S. Am. Q2, OR: 0.54(0.19, 1.52) Q3, OR: 1.06(0.39, 2.90) Q4, OR: 0.83(0.28, 2.45) Q5, OR: 0.76(0.28, 2.06) "Cheese & Sweets" & T2D Cuban Q2, OR: 0.80(0.38, 1.69) Q3, OR: 0.89(0.32, 1.47) Q4, OR: 0.78(0.36, 1.70) Q5, OR: 0.43(0.20, 0.94) S. Am. Q2, OR: 1.32(0.40, 4.34) Q3, OR: 1.59(0.49, 5.17) Q4, OR: 2.01(0.72 ,5.65) Q5, OR: 1.19(0.36, 3.99) "Stew & Corn" DP & T2D Puerto Rican Q2, OR: 1.56(0.72, 3.40) Q3, OR: 0.71(0.34, 1.50) Q4, OR: 0.63(0.29, 1.33)	

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
		Q5, OR: 0.94(0.47, 1.86) Central Am. Q2, OR: 1.33(0.46, 3.78) Q3, OR: 1.42(0.63, 3.20) Q4, OR: 1.45(0.61, 3.42) Q5, OR: 1.07(0.38, 2.95) **Summary: Inverse (weak): "Cheese & Sweets" (only Q5 v. Q1 in those from Cuba) & T2D; NS/Null otherwise** **NS/Null: "Burgers, Fries, Soft Drinks "& T2D** **NS/Null:"White Rice, Beans ,& RedMeats" & T2D** **NS/Null:"Fish & Whole Grain" & T2D** **NS/Null:"Stew & Corn" & T2D**	

Mandalazi, 2016 [94]
Sweden; Malmo Diet and Cancer (MDC) cohort
Analytic N=26,868
 	
Participant characteristics:
• Health: ~ mean BMI, 25-26.2
• From DQIS categories ♂; ♀
• BMI, kg/m2: 25.8 to 26.3; 24.9 to 25.6
• FPG, mmol/L: 5.77 to 5.84; 5.48 to 5.53
• Alcohol use: nonconsumer v. high: 4% v. 21%; 6.1% v. 19.5%
• Smoking status, Current: 15-39%; 18-38%
• Leisure-time PA: 23-35%; 20-30%
• Race and/or Ethnicity: NR (Swedish)
• SEP:
  ○ Elementary: 35-53%
  ○ Primary, secondary: 19-31%
  ○ Upper secondary: 7-13%
	Age at Dietary Pattern: 44 to 74 y
	
	Dietary pattern: Diet Quality Index - Swedish Dietary Guidelines (DQI-SNR) [Drake 2011]:
	Positive: Vegetables and Fruit; Fish and Shellfish. Negative: Sucrose; SFA. Neutral: PUFA; Dietary Fiber
	
	Methods: Index/Score
		Follow-up: 17 y mean (0-24 y), T2D
		Risk of T2D: ♀ + ♂, Medium, HR: 1.03, 95% CI: 0.94, 1.13
		♀ + ♂, High, HR: 1.06, 95% CI: 0.94, 1.20
		♀ + ♂, P-trend=0.56
		♂, Medium, HR: 1.04, 95% CI: 0.91, 1.19
		♂, High, HR: 1.02, 95% CI: 0.84, 1.23
		♂, P-trend=0.96
		♀, Medium, HR: 1.02, 95% CI: 0.90, 1.16
		♀, High, HR: 1.10, 95% CI: 0.93, 1.29
		♀, P-trend=0.40
		
		Summary: NS/Null: DQI-SNR & T2D (♀ + ♂, ♀, or ♂)
			• Did not account for: Race and/or ethnicity (Swedish),
			• Family history of diabetes
			• Diet assessment: Diet history once (validated; interview + 7d menu + Q)
			• Outcomes: Combination of seven registries (90%) or exams (10%); Diagnosis from FBG ≥ 7 mmol/L and/or 2+ HbA1C ≥ 6%
			• 3.8K cases identified; Model without BMI: Medium: HR 1.10, 95% CI: 1.00, 1.20; High: HR 1.17, 95% CI: 1.03, 1.32 (P-trend=0.02); interaction with sex was not significant (P=0.50); Sensitivity analyses by excluding those who were classified as energy misreporters and those who reported substantial change in food habits in the past resulted an inverse association in basic model but not sig in multivariable model; or including

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
○ Further education, no degree: 8-11% ○ University: 11-17% Selection data: Excluded all with diabetes, T1D cases, Latent Autoimmune Diabetes in Adults, secondary diabetes, or other diabetes-conditions at baseline			only T2D cases identified by more than one source did not show significantly different results. • Funding: Swedish Research Council, the Swedish Society for Medical Research, the Crafoord Foundation, the Albert Pahlsson Foundation, Medical Training and Research Agreement
Markanti, 2021 [95] Denmark; Danish Diet, Cancer and Health Cohort Study Analytic N=54,305 **Participant characteristics:** • Health: Median (IQR) • HTN, men: 651 (14.0); 1725 (14.0);1125 (14.9);195 (16.4) • HC, men: 283 (6.1); 916 (7.4); 766 (10.1); 198 (16.6) • HTN, ♀: 349 (16.1); 1742 (16.9); 2093 (16.6); 620 (17.6) • HC, ♀: 104 (4.8); 524 (5.1); 806 (6.4); 318 (9.0) • Race and/or Ethnicity: NR • SEP: Education (No vocational training; Higher 1-2y; Higher 3-4y; Higher > 4y) • Men, 5-15%; 11-16%; 39-43%; 25-45%, • Women, 13-35%; 30-32%; 30-41%;6-15% Selection data: Excluded those with cancer diagnosis at baseline; diabetes at baseline; missing dietary or covariate data; lost to f/u	**Age at Dietary Pattern:** 50 to 64 y at baseline **Dietary pattern**: Danish Dietary Guidelines Index (D-DGI) [Hansen, 2018]: Positive: Fish, Fruits and vegetables, Whole grains; Negative: Red and processed meat; Saturated fat; Sugar **Methods:** Index/Score	**Follow-up: 15 y (median)** <u>Risk of T2D</u>: Incident T2D ♂, Low-medium, HR: 0.80, 95% CI: 0.74, 0.87 ♂, Medium-high, HR: 0.71, 95% CI: 0.65, 0.78 ♂, High, HR: 0.70, 95% CI: 0.58, 0.85 ♀, Low-medium, HR: 0.98. 95% CI: 0.86, 1.11 ♀, Medium-high, HR: 0.95, 95% CI: 0.83, 1.08 ♀, High, HR: 0.82, 95% CI: 0.69, 0.96 **Summary: Inverse: D-DGI & T2D**	• Did not account for: Family history of diabetes, Race and/or Ethnicity, Other: TEI • Diet assessment: FFQ once • Outcomes: T2D based on national registries, may include T1D • 7K cases; Notably large effect sizes with narrow Cis • Funding: NR

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Mattei, 2017 [96] USA; 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:** • Health: AHA-DS Q1; Q5 • Obesity: 51.5%; 57.3% • Diabetes: 39.9%; 40.3% • CVD: 16.3%; 23% • HTN: 64.4%; 67.6% • Current smoker: 28.1%; 18.4% • Physical activity score: 31.0 ± 4.5; 32.2 ± 4.6 • Psychological acculturation score: 17.5 ± 6.4; 20.1 ± 7.0 • Eat away from home ≥1 time/wk: 25.4%; 22.4% • Race and/or Ethnicity: NR (Puerto Rican) • SEP: AHA-DS Q1 • Ratio of income to poverty: 1.13 ± 0.85 • Education higher than eighth grade: 54.4% • Married/with partner: 30.0% • AHA-DS Q5 • Ratio of income to poverty: 1.64 ± 1.8 • Education higher than eighth grade: 64.0% • Married/with partner: 31.3% Selection data: Enrolled self-identified Puerto Ricans who	**Age at Dietary Pattern:** 45 to 75 yr **Dietary pattern**: AHA Diet Score (AHA-DS) [Bhupathiraju 2011] Alternative HEI (AHEI)-2010 [Chiuve 2012] Healthy Eating Index (HEI-2005) [Guenther 2008] Mediterranean Diet Score (MDS) [Trichopoulou 2003] DASH diet modfied [modified Fung, 2008] • AHA-DS: Positive: Vegetables and Fruit; Variety; Whole Grains; Fish; Negative: SFA; Total fats; Trans Fat; Cholesterol; Added Sugars; Sodium; Neutral: Alcohol • 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 • HEI-2005: 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 • MDS: Positive: Vegetables; Legumes (and beans); Fruit (and Orange juice), Nuts; Whole grains (oatmeal); Fish (traditional);	**Follow-up: 2 y, Biomarkers** <u>HbA1C:</u> % AHA-DS: -0.06 (0.04) DASH: -0.02 (0.04) HEI: -0.06 (0.04) MeDS:-0.05 (0.04) AHEI: -0.04 (0.04) <u>Glucose:</u> log-serum glucose, mg/dl AHA-DS: -0.01 (0.01) DASH: -0.01 (0.01) HEI: -0.01 (0.01) MeDS:-0.01 (0.01) AHEI: -0.002 (0.01) <u>Insulin:</u> log-serum insulin, ulU/ml AHA-DS: -0.02 (0.02) DASH: -0.002 (0.02) HEI: -0.02 (0.02) MeDS:-0.06 (0.02) AHEI: -0.05 (0.02) **Summary: Inverse: MeDS, AHEI & log-serum insulin** **Null: AHA-DS, DASH, HEI, MeDS, AHEI &HbA1c, serum glucose; AHA-DS, DASH, HEI & log-serum insulin**	• Did not account for: None (all) • Diet assessment: FFQ once (baseline) • Outcomes: Fasted (12h+) blood samples for FBG; FBI; HOMA-IR (v2.2.3) • Funding: NIH, NHLBI, NIA

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
responded to home-based interview without severe health conditions or cognitive impairment. Excluded missing/extreme FFQ data	MUFA/SFA (corn oil). Negative: Red and Processed Meat; Dairy Products (Whole Milk). Neutral: Alcohol (Beer) • DASH: 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 **Methods:** Index/Score		
Merino, 2022 [97] USA; HPFS/NHS I, NHS II Analytic N=35759 **Participant characteristics:** • Health: BMI, mean: 24.3-25.5 • In NHS, HPFS, NHS-II: HTN: 15%, 20%, 3%; Dyslipidemia: 8%, 2%, <1%; Family history of diabetes: 30%, 29%, 36% • Race and/or Ethnicity: ~99% White • SEP: NR, all health professionals Selection data: Excluded those without genetic data and with major chronic diseases	**Age at Dietary Pattern:** 53y [7] NHS, 54y [9] HPFS, 37y [4]NHS-II <u>DASH score</u> [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 <u>Alternative HEI (AHEI)-2010</u> [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 **Methods:** Index/Score	**Follow-up: ~30y** <u>Risk of T2D</u>: DASH & T2D NHS-II, HR: 1.05, 95% CI: 0.97, 1.14 NHS, HR: 1.10, 95% CI: 1.04, 1.17 HPFS, HR: 1.25, 95% CI: 1.16, 1.34 AHEI-2010 & T2D NHS-II, HR: 1.08, 95% CI: 1.00, 1.16 NHS, HR: 1.11, 95% CI: 1.06, 1.17 HPFS, HR: 1.20, 95% CI: 1.12, 1.28 **Summary: Inverse: (lower) DASH & (higher) T2D; Inverse: (lower) AHEI-2010 & (higher) T2D**	• Did not account for: SEP (health professionals) • Diet assessment: FFQ every 4y, validated • Outcomes: Self-report confirmed based on criteria: classic symptoms and FPG ≥ 7.8 mmol/L (140 mg/dL; post-2010, 7 mmol/L) or NF ≥ 11.1 mmol/L (200 mg/dL); or no symptoms but 2+ elevated FBG or NF on different occasions or after OGTT; or anti-diabetic agents; or HbA1C ≥ 6.5% post-2010; • Identified 4433K cases; Analyses examining all participants conducted via meta-analysis (rather than pooled analyses) but found similar results • Funding: NIH; ADA; National Natural Science Foundation of China
Neuhouser, 2023 [98] USA; Women Health Initiative (WHI)	**Age at Dietary Pattern:** 63.6y, mean (50 to 79 y)	**Follow-up: 22-26y ~**	• Did not account for: N/A (all) • Diet assessment: FFQ once (baseline)

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Analytic N=100374 **Participant characteristics:** • Health: mean BMI 27.6 • Race and/or Ethnicity: 84.5% White, non-Hispanic 7.7% Black, non-Hispanic; 3.3% Hispanic/Latina; 2.8% Asian/Pacific Islander • SEP: 42.4% ≥ college degree Selection data: Excluded those with history of CVD	HEI-2010, 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 **Methods:** Index/Score	Risk of T2D: HEI-2010 (Uncal per 20%) & T2D risk, HR: 0.91, 95% CI: 0.90, 0.93 HEI-2010 (Cal per 20%) & T2D risk, HR: 0.87, 95% CI: 0.75, 0.99 **Summary: Inverse: HEI-2010 (per 20%) & lower risk of T2D**	• Outcomes: Self-report • Calibration of FFQ HEI-2010 scores attempted to improve properties of self-reported diet and minimize error; Predominantly participants are NHW, so the findings may not be generalizable. • Funding: NIH/NHLBI
O'Connor, 2020 [99] USA; ARIC Analytic N=11,991 **Participant characteristics:** • Health: BMI, mean: ~26.7-27.6 across quintiles: • Ob: 21-26%; OW: 37-41% (NSD by Q) • HTN ~30% (NSD by Q) • LDL (mmol/L) ~3.5 (NSD by Q) • Race and/or Ethnicity: ~75% White (no difference across quintiles) • SEP: Higher aMED associated with higher education, by aMED quintile,% completing < HS; HS or =; > HS • Q1, 26%; 43%; 29% • Q2, 24%; 41%; 35% • Q3, 19%; 42%; 39% • Q4, 15%; 39%; 46% • Q5, 13%; 38%; 49% Selection data: Excluded those with history CVD, diabetes, or cancer; implausible energy intake; those	**Age at Dietary Pattern:** 45 to 65 y at baseline 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 **Methods:** Index/Score	**Follow-up: 22 y (median)** Risk of T2D: aMED Q1, HR: 1, ref Q2, HR: 1.02, 95% CI: 0.94, 1.11 Q3, HR: 0.89, 95% CI: 0.80, 0.99 Q4, HR: 0.91, 95% CI: 0.81, 1.02 Q5, HR: 0.94, 95% CI: 0.82, 1.07 p-trend=0.03 per 1-pt, HR: 0.98, 95% CI: 0.96, 0.99 **Summary: Null: aMED & T2D (categorical); Inverse: aMED & T2D (continuous)**	• Did not account for: None (all) • Diet assessment: FFQ at visits 1 and 3 • Outcomes: Combination of self-report of physician diagnosis, use of anti-diabetes meds in past 2 weeks, measured FPG ≥ 126 mg/dl or NFG ≥ 200 mg/dl. • Funding: NIH, HHS

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
identifiying as Asian n=28 or Indian n=14, or as Black from Maryland or Minnesota; missing baseline covariates; LFU; missing food items needed to calculate aMed score			
Otto, 2015 [100] USA; Multi-Ethnic Study of Atherosclerosis (MESA) Analytic N=2505 **Participant characteristics:** • Health: 40% OW; 29% Ob • Race and/or Ethnicity: White: 43%; Black: 25%; Chinese: 11.5%; Hispanic: 21% • SEP: Some college: ~60-70% of baseline cohort Selection data: Excluded those with T2D at baseline; unreliable/incomplete/missing data; censored those after age 65y, diagnosis with cancer or CVD	**Age at Dietary Pattern:** 62y, mean [45 to 84y] **Dietary pattern**: Alternative Healthy Eating Index (AHEI) [McCullough 2000] alternate DASH Score [Appel, 1997] a Priori [Sjitmsa, 2012]: 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 alternate 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; MUFA+PUFA; Sodium a Priori: 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; Soft drinks; Bakery Desserts; Salty Snacks. Neutral: Potatoes; Fruit Juices; Refined grains; Eggs; Shellfish; Margarine; Chocolate & Diet Soft	**Follow-up: 5y** Risk of T2D: DASH & T2D, HR: 1.02, 95% CI: 0.79, 1.30 AHEI & T2D, HR: 0.81, 95% CI: 0.65, 1.00 A Priori & T2D, HR: 0.91, 95% CI: 0.71, 1.17 Stronger associations observed in stratification by race/ethnicity in Whites and Chinese Americans, but results attenuated with full adjustment **Summary: NS/Null: DASH, AHEI, or A Priori & T2D**	• Did not account for: Family history of diabetes • Diet assessment: FFQ once (baseline); Imputted missing FFQ data • Outcomes: Fasted blood samples collected; T2D: FG ≥ 126 mg/dL or new report of diabetes-meds • Similar results with imputation vs. exclusion of missing values • Funding:

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
	Drinks; Meal replacements; Pickled foods; Soups, Sugar substitutes **Methods:** Index/Score		
Pant, 2024 [101] Australia; ALSWH Analytic N=10006 **Participant Characteristic:** Health: mean BMI 26.8 (UPF Q2 & Q3 higher BMI); OW: 21-25% Ob: 16-18%; Normal Wt: 41-46%. T2D 3-6%; HTN 25-30%; cancer ~3%; PCOS 1%; GDM 3-5%; HRT 32-34%; post-menopause ~25% (range from UPF quantiles) Race and/or ethnicity: NR SEP: • No education, 15-17%, • primary school, 29-33% • high school; 15-18% • trade, 3-4% • diploma, 16-18% • university degree, 9-10% • Master or PhD degree 5-7% • Income, $AU: 6-8% <16K; 50-52% 16K-51,999; 42-43% >51,999 Selection data: Women without CVD and with complete data & plausible FFQ	**Dietary pattern at age(s)**:52.5y, mean (50 to 55y, third survey year 2001) Nova Classification System [Monteiro, 2019], Group 4 (12 top sources) in rank order: Ready-made meals; Industrial packaged breads; Milk-based drinks; Breakfast cereals; Processed meats; Margarine and other spreads; Industrial potato chips; Processed cakes; Snacks; Ice cream; Biscuits; Confectionary **Dietary pattern Method**: Index/Score Analysis	**Results at F/U:15 y ~ until 2016** <u>Risk of T2D: (Q1, OR: 1 ref)</u> • Q2, OR: 1.25, 95% CI: 0.93, 1.68; p=0.14 • Q3, OR: 1.10, 95% CI: 0.81, 1.50; p=0.53 • Q4, OR: 1.08, 95% CI: 0.79, 1.48; p=0.64 • Q5, OR: 1.17, 95% CI: 0.84, 1.63; p=0.35 p-trend=0.74	• Did not account for: Race/Ethnicity • Diet assessed once via FFQ; Misclassification possible due to UPF intake based on FFQ as the dietay pattern • Outcome self-reported T2D; Primary outcome was CVD • **Funding**: CAUL and its Member Institutions
Papier, 2019 [102] United Kingdom; EPIC-Oxford Analytic N=45,314 **Participant characteristics:**	**Age at Dietary Pattern:** ≥ 20 y Mean age at baseline: ~50y (reg meat eaters); ~47y (low meat eaters); ~42y (fish eaters)	**Follow-up: 17.6 y mean, T2D** <u>Risk of T2D</u>: Regular meat eaters, HR: 1, ref Low meat eaters, HR: 0.78, 95% CI: 0.66, 0.92	• Did not account for: Family history of diabetes • Diet assessment: FFQ once (baseline) • Outcomes: Health record linkage

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Race and/or Ethnicity: 100% White, European descent (England, Scotland, or Wales) SEP of diet groups: • % in top SEP quartile: 30%; 25%; 22%; 15% • % with higher education: 28%; 42%; 46%; 43% Selection data: Excluded participants who resided outside England, Scotland, or Wales, who did not have an NHS number, hospital admissions or death data, or if they could not be traced by the NHS, or who only completed the short questionnaire, those < 20 y or ≥ 90 y at recruitment, those who did not have any F/U data, participants reporting prevalent cancer except non-melanoma skin cancer, self-reported prior diabetes, heart attack or stroke, participants with unreliable dietary data, with unknown BMI or smoking status.	*Regular meat eaters*: consuming ≥ 50 g of meat daily; Positive: total, red, and processed meat; animal milk, total energy, added sugar, total and animal protein, and total fat, monounsaturated fat, and saturated fat. Negative: cheese, pulses, nuts, fruit, vegetables, plant protein, total and intrinsic sugar, carbohydrate, fiber, and starch *Low meat eaters*: consuming < 50 g of meat daily; Positive: cheese, pulses, nuts, fruit, vegetables, plant protein, total and intrinsic sugar, carbohydrate, fiber, and starch. Negative: total, red, and processed meat; animal milk, total energy, added sugar, total and animal protein, and total fat, monounsaturated fat, and saturated fat. *Fish eaters*: consuming fish but not meat; Positive: cheese, pulses, nuts, fruit, vegetables, plant protein, total and intrinsic sugar, carbohydrate, fiber, and starch. Negative: total, red, and processed meat; animal milk, total energy, added sugar, total and animal protein, and total fat, monounsaturated fat, and saturated fat. *Vegetarians:* consuming dairy products or eggs but not meat or fish; Positive: cheese, pulses, nuts, fruit, vegetables, plant protein, total and intrinsic sugar, carbohydrate, fiber, and starch. Negative: total, red, and processed meat; animal milk, total energy, added sugar, total and animal protein, and total fat, monounsaturated fat, and saturated fat. Vegans: consuming no fish, meat, dairy products or eggs; Positive: cheese, pulses, nuts, fruit, vegetables,	Fish eaters, HR: 0.64, 95% CI: 0.51, 0.80 Vegetarians, HR: 0.89, 95% CI: 0.76, 1.05 Vegans, HR: 0.99, 95% CI: 0.66, 1.48 p-trend<0.001 Fish vs. Vegetarians, HR: 0.72, 95% CI: 0.56, 0.91 **Summary: Inverse: Low-meat eaters, Fish eaters, Vegetarians, Vegans (vs. regular meat) & Lower T2D; Fish (vs. vegetarians) & T2D**	• Including energy, carbohydrates, starch, fibre, protein and fat did not change the association between diet groups and diabetes risk; heterogeneity of risk by diet group for BMI but not for age, sex, smoking status, or education level; Underestimate of T2D cases or over-representation of severe diabetes or with co-morbidities; misidentification of hospitalization or death of T2D, diabetes diagnosis time; lack of diabetes medication data for analysis • Funding: the Wellcome Trust, Our Planet Our Health (Livestock, Environment and People, LEAP); UK Medical Research Council

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
	plant protein, total and intrinsic sugar, carbohydrate, fiber, and starch. Negative: total, red, and processed meat; animal milk, total energy, added sugar, total and animal protein, and total fat, monounsaturated fat, and saturated fat. **Methods:** Other: Vegetarian		

Pastorino, 2016 [103]
United Kingdom; MRC National Survey of Health and Development
Analytic N=1180 at all 3 visits; Age 36: 1804; Age 43: 2267; Age 53: 1478
 	
Participant characteristics:
• Health: BMI, kg/m2: 23.8-27.4
• T2D rate: 6-13%
• Physically inactive: 27-64%
• Current smoker: 6-45%
• Alcohol, g/d: 5.4-12.3
• Race and/or Ethnicity: 100% White British
• SEP (range 36y-53 y), Q1 v. Q5
   ○ 'Manual' : 21-24% v. 41-45%
   ○ No education: 17-42% v. 44-50%
• Selection data: Included data on diet at 36, 43 and 53 years of age and incident T2D diagnosed between 53 and 60-64 years of age. Analyses were restricted to individuals with complete data on diet, as well as all variables needed, and without prevalent diabetes at the age of 53 years.
	Age at Dietary Pattern: 36y, 43y and 53y
	
	Dietary pattern: Not named
	Negative: fruit, vegetables, low-fat dairy products, wholemeal bread, high-fibre cereals; Positive: white bread, fried potatoes, processed meat, butter and animal fat and added sugar
	
	Methods: RRR
		Follow-up: age 53, and 60-64 y
		Risk of T2D:
		♂at age 36 y, N=856, Q1, OR: 1, ref
		Q2, OR: 1.46, 95% CI: 0.67, 3.18
		Q3, OR: 1.23, 95% CI: 0.53, 2.83
		Q4, OR: 1.36, 95% CI: 0.59, 3.11
		Q5, OR: 1.48, 95% CI: 0.60, 3.66
		P for trend=0.51
		♂at age 43 y, N=1080, Q1, OR: 1, ref
		Q2, OR: 0.68, 95% CI: 0.33, 1.40
		Q3, OR: 1.23, 95% CI: 0.62, 2.42
		Q4, OR: 1.01, 95% CI: 0.49, 2.09
		Q5, OR: 1.08, 95% CI: 0.51, 2.28
		P for trend=0.55
		♂at age 53 y, N=669, Q1, OR: 1, ref
		Q2, OR: 0.94, 95% CI:0.37, 2.35
		Q3, OR: 0.92, 95% CI: 0.37, 2.33
		Q4, OR: 1.29, 95% CI: 0.54, 3.06
		Q5, OR: 1.58, 95% CI: 0.62, 3.98
		P for trend=0.22
		♂per 1 SD increase, N=524
		Change between 36-43 y, OR: 1.09, 95% CI: 0.75, 1.57, P=0.63
		Change between 43-53 y, OR: 1.14, 95% CI: 0.80, 1.63, P=0.44
		Change between 36-53 y, OR: 1.19, 95% CI: 0.84, 1.68, P=0.30
		
		♀ at age 36 y, n=948, Q1, OR: 1, ref
		Q2, OR: 2.27, 95% CI: 0.93, 5.54
		Q3, OR: 2.33, 95% CI: 0.94, 5.78
			• Did not account for: Alcohol, Family history of diabetes
			• Diet assessment: 5-d diet diary at age 36y, 43y, 53 y
			• Outcomes: Self-report at age 53; self-report and FBG at age 60-64
			• Interaction between the dietary pattern and sex on T2D was observed at age 43 y (P=0.02); interaction between DP and BMI was not significant (P>0.05). Notable wide variance around effects; Missing data not fully accounted for
			• Funding: Medical Research Council

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
		Q4, OR: 2.53, 95% CI: 1.05, 6.09 Q5, OR: 2.26, 95% CI: 0.83, 6.10 P for trend=0.11, ♀ at age 43 y, n=1187, Q1, OR: 1, ref Q2, OR: 1.77, 95% CI:0.61, 5.14 Q3, OR: 3.56, 95% CI: 1.36, 9.35 Q4, OR: 3.77, 95% CI: 1.41, 10.02 Q5, OR: 4.95, 95% CI: 1.77, 13.84 P for trend<0.01 ♀ at age 53 y, n=809, Q1, OR: 1, ref Q2, OR: 1.94, 95% CI:0.59, 6.49 Q3, OR: 1.64, 95% CI: 0.49, 5.49 Q4, OR: 2.82, 95% CI: 0.89, 8.97 Q5, OR: 2.83, 95% CI: 0.88, 9.09 P for trend=0.05 ♀ per 1 SD increase, N=655 Change between 36-43 y, OR: 1.63, 95% CI: 1.08, 2.46, P=0.01 Change between 43-53 y, OR: 1.45, 95% CI: 0.98, 2.15, P=0.05 Change between 36-53 y, OR: 1.65, 95% CI: 1.12, 2.42, P=0.01 **Summary: Positive: DP & T2D (♀ at age 43 and 53 years); Null: DP & T2D (♀ at age 36, and ♂ all ages)**	
Qiao, 2014 [104] USA; Women Health Initiative (WHI) Analytic N=154,493 **Participant characteristics:** • Health: BMI, kg/m2: 27.8 ± 5.8 • Body weight, kg: 73.0 ± 16.6 • WC, cm: 85.9 ± 13.5 • PA, MET-hours/week: 12.6 ± 13.8 • Current smoker: 7.0% • HRT use in last 3 mo: 44% • Family history of diabetes: 31.0% • Race and/or Ethnicity: Asian: 2.6% • Black: 8.3%	**Age at Dietary Pattern:** 63y, mean (50 to 79 y) <u>Alternative Healthy Eating Index (AHEI)</u> [McCullough 2000], Positive: Vegetables (not potatoes, French fries); Fruit; Nuts and Soy Protein; Total Dietary Fiber; White: Red Meat Ratio; PUFA:SFA; Multi-Vitamin Use. Negative: Trans-UFA. Neutral: Alcohol **Methods:** Index/Score	**Follow-up: 7.6 y mean, T2D** <u>Risk of T2D</u>: Q1, HR 1, ref Q2, HR 0.92, 95% CI: 0.87, 0.98 Q3, HR 0.88, 95% CI: 0.82, 0.93 Q4, HR 0.80, 95% CI: 0.74, 0.86 Q5, HR 0.76, 95% CI: 0.70, 0.82 Whites Q2, HR 0.90, 95% CI: 0.84, 0.97 Q3, HR 0.84, 95% CI: 0.78, 0.91 Q4, HR 0.75, 95% CI: 0.69, 0.82 Q5, HR 0.74, 95% CI: 0.68, 0.82 Blacks Q2, HR 1.03, 95% CI: 0.90, 1.20 Q3, HR 1.01, 95% CI: 0.86, 1.19 Q4, HR 1.01, 95% CI: 0.85, 1.21	• Did not account for: None (all) • Diet assessment: FFQ once (baseline) • Outcomes: Self-report of diabetes; accuracy assessed using medication and lab data • Funding: NHLBI; NIDDK; Umass Diabetes and Endocrinology Research Center; U.S. Department of Health and Human Services

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
• Hispanic: 3.9 • White: 83.7% • SEP: Education • < High school: 5.1% • High school/GED: 17.0% • > High school, < 4 y college: 37.8% • ≥4 y college: 40.1% Selection data: Included postmenopausal ♀ age 50 to 79y, able to complete study visits, and an expected survival and residency for at least 3 y. Excluded those with current alcoholism, drug dependency, dementia, or other conditions that would limit full participation, and missing data and prevalent cases of diabetes at baseline or a history of gestational diabetes.		Q5, HR 0.85, 95% CI: 0.69, 1.05 Hispanics Q2, HR 0.98, 95% CI: 0.79, 1.23 Q3, HR 0.97, 95% CI: 0.75, 1.24 Q4, HR 0.70, 95% CI: 0.52, 0.96 Q5, HR 0.68, 95% CI: 0.46, 0.99 Asians Q2, HR 1.02, 95% CI: 0.68, 1.53 Q3, HR 0.91, 95% CI: 0.60, 1.39 Q4, HR 1.24, 95% CI: 0.82, 1.87 Q5, HR 0.88, 95% CI: 0.57, 1.38 **Summary: Inverse: Higher AHEI & lower T2D overall, among whites & Hispanics; Null: AHEI & T2D among Blacks & Asians**	
Rajaobelina, 2019 [105] France; E3N Analytic N=72,655 **Participant characteristics:** • Health: BMI<25kg/m2: 80.4%; 25-30 kg/m2: 16.3%; ≥30 kg/m2: 3.4% ○ Tobacco smoker: 13.5% ○ PA: >20 MET-h/wk: 79.9%; ○ HTN: 51.7%; HC 7.1% ○ Family history of diabetes: 11.1% ○ Premenopausal: 41.1% ○ Menopausal and no hormone therapy: 29.6% • Race and/or Ethnicity: NR (French) • SEP: Deprivation index: ○ < 0.80: 24.1% ○ 0.80 and -- 0.12: 22.6% ○ 0.13 and 0.43: 24.1%	**Age at Dietary Pattern:** 53 [7] y <u>Mediterranean Diet Score (MDS)</u> modified [Hodge 2011], Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish and Seafood; Olive Oil. Negative: Red and Processed Meat; Dairy Products (milk, yogurt, cheese). Neutral: Alcohol **Methods:** Index/Score	**Follow-up: 0~18 y, T2D** <u>Risk of T2D</u>: MDS 4-5, HR: 1.08, 95% CI: 0.94, 1.24, P=0.27 MDS 0-3, HR: 1.26, 95% CI: 1.10, 1.44, P=0.001 **Summary: Inverse: MDS & T2D**	• Did not account for: Race and/or ethnicity, • Diet assessment: Questionnaire once (validated) • Outcomes: Combination of self-report before 2004 or insurance reimbursement (after 2004) • 'Western' diet derived from a posteriori methods not described • Funding: the Mutuelle Générale de l'Education Nationale, European Community, French League Against Cancer, Gustave Roussy, and the French Institute of Health and Medical Research; French Research Agency; Paris-Saclay University

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○ >0.43: 23.5% • Education level: <HS diploma: 11.3%; Up to 2 y of university: 53.0%; >2 y of university: 35.7%; # of children: 2.0 ± 1.2 Selection data: Included ♀ with dietary information available in 1993. Excluded those who did not complete F/U after the dietary questionnaire, and those with pre-existing diabetes at the time of the dietary questionnaire.			
Rayner, 2020 [106] Australia; Australian Longitudinal Study on Women's Health Analytic N=9689 **Participant characteristics:** • Health: Across LCD quantiles: • GDM history: 3.5% • PA: low 52-59%; moderate 18-23%; high: 23-26% • BMI, <25; 25-30≥30 kg/m2: 41-52%; ~31-34%; 16-25% • Race and/or Ethnicity: NR (Birth country: Australia: 67-77%; Europe/English-speaking country: 20-27%; Asia: 3-6%) • SEP: Highest education, no formal: 13-15%, high school certificate: 44-50%, trade/diploma: 20-22%, university degree: 16-20% • Employment status, unemployed: 20-23%, Part-time: 26-37%, Full-time: 42-45%; Area of residence, Urban: 67-73% • Selection data: Women from 1946-51 cohort, survey of Australian ♀.	**Age at Dietary Pattern:** 50 to 55 y Low-carbohydrate diet score, Positive: energy intake from fat and protein; total fat; saturated fat; MUFA; PUFA; vegetables; white bread. Negative: energy intake from carb; dietary fiber; total sugar; fruit; fruit juice; cereal; high-fibre bread; pasta and rice; discretionary foods; added sugar **Methods:** Index/Score	**Follow-up: 15 y, T2D** Risk of T2D: Q1 (least restricted/higher carb): RR 1, ref Q2: RR 0.95, 95% CI: 0.81, 1.10 Q3: RR 1.06, 95% CI: 0.89, 1.26 Q4: RR 1.10, 95% CI: 0.95, 1.27 P trend=0.03 (fully adjusted model) **Summary: Positive: carbohydrate restriction & T2D**	• Did not account for: Race and/or ethnicity (birth country adjusted) • Diet assessment: FFQ at 2001 and 2013 visits • Outcomes: Self-report with validation and strong agreement with hospital records, k=0.75. • Self-reported GDM that has not been validated. • Funding: Australian Government Department of Health

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Excluded ♀ who reported T1D or T2D prior to 2001, extreme energy intakes (top and bottom 2.5%), and missing dietary data			
Riboldi, 2022 [107] Brazil; ELSA-Brasil Analytic N=9909 **Participant characteristics:** • Health: 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 • Many additional markers reported (e.g., BP, HbA1c, lipids, etc.) • Race and/or Ethnicity: 14.42% Black, 27.7% Brown, 54.5% White • SEP: NR Selection data: Excluded those with chronic disease, using warfarin, undergone bariatric surgery, incomplete FFQ, implausible/extreme intake, missing covariates or data on diabetes	**Age at Dietary Pattern:** 50 y, median (35 to 74 y) <u>Inflammatory Food Index (IFI)</u> [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 **Methods:** Index/Score	**Follow-up: 3.7 y** <u>Risk of T2D</u>: T1, OR: 1, ref T2, OR: 1.11, 95% CI: 0.92, 1.34 T3, OR: 1.03, 95% CI: 0.85, 1.25 cont, OR: 1.04, 95% CI: 0.96, 1.12 **Summary: Null: IFI scores & T2D**	• Did not account for: N/A (all) • Diet assessment: FFQ once (baseline) • Outcomes: Fasted (8-15h) blood samples collected; T2D via self-report or measured FPG ≥ 126 mg/dl, or 2-h post 75-g glucose load ≥ 200 mg/dl, or HbA1C ≥ 6.5% • 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)
Ruiz-Estigarribia, 2020 [108] Spain; Seguimiento Universidad de Navarra (SUN) cohort Analytic N=11,005 **Participant characteristics:** • Health: By HLS 0-4; 5-6; 7-9: • HC: 20.4%; 20.7%; 17.6% • HTG: 9.3%; 8.8%; 7.5% • Race and/or Ethnicity: NR • SEP: Martial status by Healthy Lifestyle Score • 0-4, single: 34.8%; married: 59.6%;	**Age at Dietary Pattern:** 40.2 y at baseline <u>Mediterranean Diet Score (MDS)</u> [Trichopolou 2003], Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Alcohol excluded (considered separately) **Methods:** Index/Score	**Follow-up: 12 y (median)** <u>Risk of T2D</u>: MDS ≥4 vs. <4 & T2D, HR: 0.70, 95% CI: 0.50, 0.99 **Summary: Inverse: MDS & T2D**	• Did not account for: Race and/or ethnicity; Alcohol (NSD) • Diet assessment: FFQ once (baseline) • Outcomes: Self-report of T2D or from use of oral anti-diabetes meds at any F/U • Notably large effect size but relatively few cases (Identified 145 cases); Large portion excluded for BMI < 22 (7K+); MDS & T2D relationship examined indirectly as study aim

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other: 5.6% • 5-6, single: 36.9%; married: 57.4%; other: 5.7% • 7-9, single: 40.4%; married: 53.9%; other: 5.7% • University Education by Healthy lifestyle Score (mean) • HLS 0-4, 5.0y • HLS 5-6, 5.2y • HLS 7-9, 5.3y Selection data: Excluded those with baseline BMI <22; with T2D, GDM, CVD, cancer at baseline; extreme TEI			was Lifestyle Score (HLS) & T2D • Funding: Spanish Government-Institute of Health Carlos III, European Regional Development Fund, CIBERobn, Navarra Regional Government, University of Navarra
Sali, 2020 [109] Iran; Tehran Lipid and Glucose Study (TLGS) Analytic N=4356 **Participant characteristics:** • Health: LCS Q1-Q5: • HTN, 15.8%, 14.0%, 12.3%, 13.8%; p-trend=0.025 • FBG (mg/dL), 93.1 , 92.7 , 92.2, 92.1; p=0.015 • Race and/or Ethnicity: NR (Iranian) • SEP: High education level: 68.7-71.1% (no diff by quartile LCS) Selection data: Excluded those with a history of myocardial infarction, stroke, or cancer; who reported extreme TEI; those on specific diets; those pregnant or lactating; LFU	**Age at Dietary Pattern:** 40.5y mean (≥19y at baseline) <u>Low Carbohydrate Diet Score (LCD)</u> [Halton, 2008]: LCD: Positive: vegetables, legumes & nuts, dairy, red & processed meat. Negative: fruits, refined grains, whole grains LCD-animal: Positive: animal protein, animal fat LCD-vegetable: Positive: vegetable protein, vegetable fat **Methods:** Index/Score	**Follow-up: 3 y** <u>Risk of T2D</u>: Q1, OR: 1, ref LCD Q2, OR: 1.50, 95% CI: 0.89, 2.52 Q3, OR: 1.26, 95% CI: 0.67, 2.34 Q4, OR: 2.16, 95% CI: 1.16, 4.04 p-trend=0.015 LCD- animal Q2, OR: 1.59, 95% CI: 0.93, 2.72 Q3, OR: 1.25, 95% CI: 0.70, 2.24 Q4, OR: 1.81, 95% CI: 1.06, 3.11 p-trend=0.029 LCD - veg Q2, OR: 1.14, 95% CI: 0.66, 1.95 Q3, OR: 1.30, 95% CI: 0.75, 2.22 Q4, OR: 1.47, 95% CI: 0.85, 2.52 p-trend=0.160 **Summary: Positive: LCD or LCD-animal & T2D; NS/Positive: LCD-veg & T2D**	• Did not account for: Race/Ethnicity (Iranian), Alcohol (not consumed) • Diet assessment: FFQ once (baseline) • Outcomes: Fasted blood samples and 2h OGTT collected; T2D based on ADA: FPG ≥ 126 mg/dl or 2-h post 75-g glucose load ≥ 200 mg/dl or use of anti-diabetes meds • Larger effect sizes but wide CI; Indirectly examining dietary patterns with LCD scores focused on macronutrients; Foods described are based on dietary intakes by quartile of LCD score • Funding: Shahid Beheshti University of Medical Sciences
Satija, 2016 [110] USA; NHS, NHS II, HPFS Analytic N=69949, NHS I; 90239 NHS-II; 40539 HPFS	**Age at Dietary Pattern:** 50y, mean (NHS: 38 to 63 y) 36y, mean (NHS 2: 27 to 44 y) 53y, mean (HPFS: 40 to 75 y)	**Follow-up: NHS: 28 y; NHS 2: 20 y; HPFS: 24 y(inffered)** <u>Risk of T2D</u>: D1, HR: 1, ref PDI, Pooled D2, HR: 0.99, 95% CI: 0.93, 1.05	• Did not account for: Sex (pooled analysis) • Diet assessment: FFQ every 2-4y • Outcomes: Self-report confirmed

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Participant characteristics: • Health: NHS I; NHS-II; HPFS • Current smoker: 19-28%; 10-14%; 5-13% • PA, MET-h/wk: 11-20; 16-30; 18-29 • BMI, kg/m2: 24-25; 24-25; 25-26 • Family history of diabetes: ~28%; 33-35%; ~21% • HTN history: ~7%; 5-8%; 17-19% • HC history: 2-5%; 14-15%; 7-15% • Alcohol use, g/d: 6-7; ~3; 11-12 • Premenopausal ~32-61%; 48-98% • HRT use: ~3% • Race and/or Ethnicity: 95-99% White • SEP: NR, all health professionals Selection data: Excluded participants with diabetes, cancer (except nonmelanoma skin cancer), CVD, extreme TEI or incomplete dietary data at baseline	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 **Methods:** Index/Score	D3, HR: 0.92, 95% CI: 0.86, 0.98 D4, HR: 0.93, 95% CI: 0.87, 0.99 D5, HR: 0.92, 95% CI: 0.86, 0.99 D6, HR: 0.86, 95% CI: 0.80, 0.92 D7, HR: 0.91, 95% CI: 0.85, 0.98 D8, HR: 0.82, 95% CI: 0.76, 0.88 D9, HR: 0.88, 95% CI: 0.82, 0.94 D10, HR: 0.81, 95% CI: 0.75, 0.88 Per 10 units, HR: 0.89, 95% CI: 0.86, 0.92, P for trend<0.001 hPDI, Pooled D2, HR: 0.99, 95% CI: 0.93, 1.05 D3, HR: 0.90, 95% CI: 0.85, 0.96 D4, HR: 0.87, 95% CI: 0.81, 0.93 D5, HR: 0.82, 95% CI: 0.77, 0.88 D6, HR: 0.83, 95% CI: 0.77, 0.88 D7, HR: 0.82, 95% CI: 0.77, 0.88 D8, HR: 0.75, 95% CI: 0.70, 0.81 D9, HR: 0.73, 95% CI: 0.68, 0.79 D10, HR: 0.66, 95% CI: 0.61, 0.71 Per 10 units, HR: 0.82, 95% CI: 0.80, 0.85, P for trend<0.001 (Data NR for uPDI) **Summary: Inverse: Higher PDI, hPDI & lower T2D**	with reported f/u based on NDDG criteria: classic symptoms and FPG ≥ 7.8 mmol/L (140 mg/dL; post-2010, 7 mmol/L) or NF ≥ 11.1 mmol/L (200 mg/dL); or no symptoms but 2+ elevated FBG or NF on different occasions or after OGTT; or Tx with anti-diabetes agents; or HbA1C ≥ 6.5% post-2010 • Stratification by physical activity and family history yielded similar results for PDI and hPDI; inverse association was stronger in non-obese than in obese for PDI, and in older than younger for PDI and hPDI; no effect modification of ethnicity; • Resuts for PDI and hPDI did not change upon adjustment for ethnicity, marital status, recent physical exam, diet beverage intake, and other SEP indicators; when restricting to participants with FPG in previous 2y; when continuously updating PDI and hPDI throughout follow-up; or when adjusting Mediterranean diet in the model. Associations were modestly attenuated when using baseline intakes of PDI and hPDI; or when using the most recent diet scores prior to diagnosis of T2D; or when adjusting aHEI or DASH. • Funding: NIH
Seah, 2019[111]	**Age at Dietary Pattern:** 56y, 45 to 74 y	**Follow-up: 11 y mean T2D** Risk of T2D: ♂ & ♀, Q1, HR: 1, ref	• Did not account for: Race/Ethnicity (Chinese and adjusted dialect group); Family

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Singapore; Singapore Chinese Health Study Analytic N=45,411 **Participant characteristics:** • BMI, kg/m2: 22.9-23.2 • Current smokers: 11-38% • Physically active: 9-14% • History of HTN 18-25% or diabetes: 5-10% • Alcohol intake, g/d: 0.9-5.4 • Race and/or ethnicity: Cantonese-speaking: 42.8% to 51.8% • SEP: Higher education Q1: 23.6%; Q2: 24.3%; Q3: 26.7%; Q4: 30.5%; Q5: 38.2% Selection data: Recruited participants who lived in Singapore government-built housing estates. Used data from control participants without CVD or stroke who provided blood samples; Excluded participants without data/nonresponders; who had diabetes, cancer, or CVD at baseline or implausible TEI for analyses	Dietary pattern, Positive: soy, vegetables (dark green, light green, preserved, yellow), fruits, tea, tomato products, bread, fish, margarine and dairy. Negative: rice, fresh red meat, coffee, alcohol, organ red meat, sugar-sweetened beverages, and eggs. **Methods:** RRR	Q2, HR: 1.01, 95% CI: 0.93, 1.10 Q3, HR: 0.99, 95% CI: 0.91, 1.08 Q4, HR: 0.89, 95% CI: 0.81, 0.97 Q5, HR: 0.86, 95% CI: 0.79, 0.95 P-trend<0.001 ♂, Q1 ref Q2, HR: 1.01, 95% CI: 0.90, 1.15 Q3, HR: 0.95, 95% CI: 0.83, 1.08 Q4, HR: 0.93, 95% CI: 0.81, 1.06 Q5, HR: 0.93, 95% CI: 0.81, 1.06 P-trend=0.157 ♀, Q1 ref Q2, HR: 1.00, 95% CI: 0.88, 1.13 Q3, HR: 1.00, 95% CI: 0.88, 1.13 Q4, HR: 0.86, 95% CI: 0.76, 0.97 Q5, HR: 0.81, 95% CI: 0.72, 0.93 P-trend<0.001 **Summary: Inverse: Dietary pattern in ♀, ♂, or ♀+ ♂ &T2D**	history of diabetes • Diet assessment: FFQ once; validated and referenced with sub-set of 24h recalls • Outcomes: Self-report and validated • No effect modification by sex, age, overweight status, diabetes history was observed. • Limitations: potential underdiagnosis of diabetes; cooking methods infomation was not used • Funding: NIH; National University of Singapore Graduate School for Integrative Sciences and Engineering; NationalMedical Research Council, Singapore
Shah, 2021[112] France; E3N Analytic N=70,991 **Participant characteristics:** • Health: BMI <20 kg/m2: 14.45%; ≥ 20-24 kg/m2: 66.03% • Family history of diabetes: 11.10% • HC: 7.09% • Smoking status, current: 13.5%; Past: 32.8%	**Age at Dietary Pattern:** 40 to 65 y, mean: 53 [7] y <u>Paleolithic Score [Whalen 2014],</u> Positive: Vegetables; Fruit and Vegetable Diversity; Fruit; Nuts; Fish; Lean Meat; Calcium (from non-dairy foods). Negative: Grains and Starches; Baked Goods; Red and Processed Meat; Dairy Foods; Alcohol; Sodium	**Follow-up: 18.81 y mean [SD 4.3], T2D** <u>Risk of T2D</u>: Q1, HR: 1, ref Q2, HR: 0.91, 95% CI: 0.82, 1.02 Q3, HR: 0.87, 95% CI: 0.77, 0.98 Q4, HR: 0.94, 95% CI: 0.84, 1.05 Q5, HR: 0.88, 95% CI: 0.79, 0.98 P-trend<0.0001	• Did not account for: Race and/or ethnicity, • Diet assessment: FFQ once • Outcomes: Combination of self-report (questionnaire) or drug reimbursement databases (only from drug reimbursement after 2004) • Excluding T2D and HTN diagnosed in the first 5 years of

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
• PA, MET-h/week: 50.48% • Race and/or Ethnicity: NR (French) • SEP: Educational level, <BS/BA: 11%; BS/BA +2: 53%; > BS/BA and BS/BA+2: 36% Selection data: Eligible ♀ completed and returned the baseline dietary questionnaire sent in 1993. Excluded those with extreme TEI, ♀ who did not complete any F/U after the FFQ; who had T2D and HTN before current study baseline for respective analyses	**Methods:** Index/Score	Per 1-SD, HR: 0.96, 95% CI: 0.93, 1.00 **Summary: Inverse: Paleolithic Score & T2D**	follow-up or further adjustment of Western diet did not substantially change results. • Limitations included unaccounted confounding; caution with generalization limited to ♀ with relatively higher education level and health awareness • Funding: IDEX Paris Saclay, the Nutriperso Project; the Mutuelle Générale de l'Education Nationale, the Institut GUSTAVE ROUSSY and the Ligue contre le Cancer; the National Research Agency. "Investissement d'avenir"; "Ministère de l'enseignement supérieur, de la recherche et de l'innovation"

Shan, 2018[113]
USA; NHS, NHS 2
Analytic N=143410 (NHSI: 55324; NHSII: 88086)
 	
Participant characteristics:
• Health: BMI, kg/m2: 25.1-26.4
• Alcohol intake, g/d: 6.2 ± 10.7
• PA, Moderate/vigorous, h/wk: 1.9-2.6
• Current smoker: 11-23%
• Postmenopausal:
  ○ 70-74% NHSI; 3-4% NHSII
• Family history of diabetes:
  ○ 28-31% NHSI; 15-19% NHSII
• Alcohol intake, g/d: ~ 3-6.4
• Race and/or Ethnicity: 95-98% White 'ethnicity'
• SEP:
	Age at Dietary Pattern: 54y, mean NHS: 42 to 67 y
	36y, mean NHSII: 27 to 44 y
	
	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
	
	Methods: Index/Score
		Follow-up: 22-24 y T2D
		Risk of T2D: NHS, Q1, HR 1, ref
		Q2, HR 0.95, 95% CI: 0.88, 1.03
		Q3, HR 0.93, 95% CI: 0.86, 1.01
		Q4, HR 0.91, 95% CI: 0.84, 0.99
		Q5, HR 0.80, 95% CI: 0.73, 0.87
		Q1-3 vs. Q4-5, HR: 1.16, 95% CI: 1.10, 1.23
		NHS2, Q1, HR 1, ref
		Q2, HR 0.99, 95% CI: 0.92, 1.07
		Q3, HR 0.88, 95% CI: 0.81, 0.96
		Q4, HR 0.89, 95% CI: 0.82, 0.97
		Q5, HR 0.83, 95% CI: 0.76, 0.91
		Q1-3 vs. Q4-5, HR: 1.24, 95% CI: 1.17, 1.32
		Pooled NHS1 & NHS2, Q1, HR 1, ref
		Q2, HR 0.97, 95% CI: 0.92, 1.03
		Q3, HR 0.91, 95% CI: 0.86, 0.96
		Q4, HR 0.90, 95% CI: 0.85, 0.96
		Q5, HR 0.81, 95% CI: 0.76, 0.87
			• Did not account for: SEP (but all health professionals, marital and living status were adjusted)
			• Diet assessment: FFQ every 4y
			• Outcomes: Self-report of diagnosis with supplementary validation questionnaire and validation in subsample
			• Association with diet was not the primary interest of the study;
			• Other common limitations: limited generalizibility; misclassification bias due to measurement error; residual confounding
			• Funding: NIH; Young Scientists Fund of the National Natural Science Foundation of China;China Postdoctoral

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
○ Married: ~69-81% ○ Living alone: ~7-12% Selection data: Excluded participants with diabetes, CVD, or cancer at baseline, missing data on shift work or covariates (age, diet, physical activity, smoking status, or body weight).		Q1-3 vs. Q4-5, HR: 1.20, 95% CI: 1.13, 1.28 **Summary: Inverse: AHEI & T2D**	Science Foundation
Song, 2018[114] Korea; KOGES Analytic N=5097 (♂ 2410; ♀ 2687) **Participant characteristics:** • Health: Men; Women • BMI, kg/m2: ~24; 24-25 • PA, METs h/wk: 8.1-9.7-; 6.7-11.7 • Smoking status, Current: 40-52%; 2-3%, Past: 27-36%; ~1% • Alcohol use, Current: 71-73%; 24-29% • Family history of diabetes: ~10%; 10-13% • Race and/or Ethnicity: NR (Korean) • SEP: Residential area, Rural ○ Men, ~31% to 54% ○ Women, ~37% to 70% Selection data: Excluded at baseline, participants: with diabetes, cancer, CVD; missing data on relevant information; Tx for diabetes or stroke with meds; who did not have baseline FBG, OGTT, or HbA1C, or who met ADA criteria for diabetes; who did not have serum TG or HDL, or outlier values for TG or HDL-C (n=4). Excluded individuals who did not answer, had 12+ blanks or missing rice/alcohole intake on	**Age at Dietary Pattern:** 50y, mean (40 to 69 y at baseline) ♂ Positive: noodles, fruits, fermented salted seafood. Negative: candy and chocolate, nuts, and pork ♀ Positive: organ and other meats. Negative: dairy products and nuts. **Methods:** RRR	**Follow-up: 11.54 y mean T2D** Risk of T2D: Q1, OR: 1, ref ♂ Q2, OR: 1.16, 95% CI: 0.84, 1.59 Q3, OR: 1.08, 95% CI: 0.78, 1.49 Q4, OR: 1.12, 95% CI: 0.82, 1.53 Q5, OR: 1.48, 95% CI: 1.09, 2.03 P trend=0.019 ♀ Q2, OR: 0.80, 95% CI: 0.57, 1.13 Q3, OR: 1.37, 95% CI: 1.00, 1.89 Q4, OR: 1.14, 95% CI: 0.81, 1.59 Q5, OR: 1.21, 95% CI: 0.86, 1.70 P trend=0.053 **Summary: Positive: Dietary pattern & T2D**	• Did not account for: Race and/or ethnicity (100% Korean) • Diet assessment: FFQ once (baseline) • Outcomes: Fasted (8h+) blood samples collected; T2D via measured FPG ≥ 126 mg/dl, 1-h or 2-h post 75-g glucose load ≥ 200 mg/dl, or HbA1C ≥ 6.5%, or reported T2D diagnosis or on anti-diabetes meds • Risks before adjusting BMI, ♂ Q2: OR 1.17, 95% CI: 0.85, 1.61; Q3: OR 1.12, 95% CI: 0.81, 1.54; Q4: 1.19, 95% CI: 0.87, 1.63; Q5: 1.53, 95% CI: 1.12, 2.09, P trend=0.008; ♀: Q2: OR 0.83, 95% CI: 0.59, 1.16; Q3: OR 1.45, 95% CI: 1.06, 1.99; Q4: 1.23, 95% CI: 0.88, 1.71; Q5: 1.33, 95% CI: 0.95, 1.86, P=0.011; • Missing ~20% data on T2D incidence • Funding: Korea Ministry of Science and ICT, National Research Foundation of Korea, Support Program for Women in Science, Engineering and Technology

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
FFQs, extreme/implausible dietary intakes; who were not followed at the 5th or 6th visit or unknown diabetes at F/U.			
Song, 2021 [115] United Kingdom; BIOBANK Analytic N=54274 (Diet & T2D) 430971 (total) **Participant characteristics:** • Health: NR • Race and/or Ethnicity: 96.8% White • SEP: SES Quintiles: ~ 20-33% most deprived; ~14-20% least deprived, ~53-60% middle; Education ~24 to 35% higher than upper secondary Selection data: Excluded those with diabetes or cancer before/at baseline or had missing data.	**Age at Dietary Pattern:** 56y, mean (37 to 73y) high-quality' diet score [Song, 2021], Positive: Fruit, Vegetable, Fish/Shellfish; Negative: Processed meats; Neutral/Negative: Unprocessed meats; **Methods:** Index/Score	**Follow-up: 8.6y** Risk of T2D: Diet score & T2D, HR: 0.90, 95% CI: 0.82, 0.99 Risk diff. 9.66%; PAR%, 8.69, 95% CI: 0.71, 16.03 **Summary: Inverse: 'high-quality' (top 2/5th) diet score & T2D**	• Did not account for: Alcohol (co-Exposure for HLS), Race/Ethnicity, Anthropometry (BMI, co-Exposure for HLS) • Diet assessment: data NR (presume once via FFQ) • Outcomes: T2D from hospital records • Primary aim was to examine composite HLS, focuse on sleep in relation to T2D; data reported differently in abstract vs. results (~12K vs. 6.9K T2D cases; n=54K vs. 430K) • Funding: National Key R&D Program of China, the Peking University Start-up Grant, High-performance Computing Platform of Peking University, and the China-Canada Key Lab of Nutrition and Health at Beijing Technology and Business University
Srour, 2020 [116] France; NutriNet-Santé Cohort Analytic N=104707 **Participant characteristics:** • Health: Smoking, Current: 17%, Former: 33% • PA, IPAQ high: 28.1%, moderate: 37%	**Age at Dietary Pattern:** 42.7 [14.5] y, mean (baseline ≥ 18 y) Nova Classification System [Monteiro, 2016], Group 4 "Ultra-processed food" (UPF, Nova 4), Positive: Sugary drinks (e.g. regular sodas, sugary fruit-based beverages, industrial chocolate powder beverages, energy drinks, flavoured waters); artificially sweetened	**Follow-up: 6.0 y median, T2D** Risk of T2D: Per 10% increase Nova 4, HR: 1.15, 95% CI: 1.06, 1.25, P-value=0.001 Per 100 g/d increase Nova 4 (adjusting for non-Nova 4), HR: 1.05, 95% CI: 1.02, 1.08, P-value=0.003 Per 10% increase Nova 1+ 2, HR: 0.91, 95% CI: 0.84, 0.98; P=0.01	• Did not account for: Race and/or ethnicity (all French) • Diet assessment: 24-h records at baseline and every 6 months (≥3 nonconsecutive, validated, web-based) • Outcomes: Self-report, confirmed by health insurance; subsample via biomarker

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
• BMI <25 kg/m2: 69.1%; 25-29.9 kg/m2: 20% • Race and/or Ethnicity: NR (French) • SEP: Eudcational level, < High school degree: 17.14% • Educational level, < 2 y after high school: 17.08% • Education level ≥2 y after high school: 59.39% • Selection data: Included participants with>2 dietary records before Janurary, 2017 Excluded participants with underreported energy intake, who have prevalent or incident T1D or prevalent T2D	beverages (e.g. diet sodas, artificially sweetened ice teas); Flavoured or artificially sweetened yoghurts; products such as dairy desserts, cream cheese, milkshakes, dairy beverages, flavoured milk with one or more texturizer, emulsifier, colorant or other cosmetic additives; Sauces and dressings (salad dressing, mayonnaise, ketchup, béchamel, and other dressings) containing emulsifiers, texturizers, flavour enhancers or other additives; instant powder soups; reconstituted vegetarian/soy steaks with additives; flavoured and artificially sweetened fruit compotes; vegan nuggets; Processed meat with added nitrites; chicken nuggets; fish fingers; industrial 'cordon bleu' chicken with wheat dextrose, emulsifiers, preservatives; surimi-crab sticks; Flavoured breakfast cereals with added emulsifiers, texturizing agents and/or colorants; industrial pre-baked breads and buns with added dextrose, preservatives or emulsifiers; Industrially packed cookies, cakes, chocolate/wafer bars, and candies manufactured with glucose syrup, modified starch, hydrogenated oils, colours, flavours; Chips, crisps and crackers made with other ingredients than potatoes, oil and salt such as maltodextrin, flavors, dyes, emulsifiers, flavour enhancers **Methods:** Index/Score	**Summary:** **Positive: UPF (Nova 4) & T2D;** **Inverse: Non-UPF (non-Nova 4) & T2D**	• Additional model results for 10% increment of UPF, further adjusting baseline prevalent dyslipidemia and hypertension, and treatments for these conditions: HR 1.13, 95% CI: 1.03, 1.23, P=0.006; adjusting percentage of weight change: HR 1.13, 95% CI: 1.01, 1.27, P=0.04. Sensitivity analyses showed no substantial difference from the major results. • Limitations: potential underreport of T2D cases, residual confounding, misclassification of Nova , nonrepresentative sample of the general population. • Funding: Ministère de la Santé, Santé Publique France, Institut National de la Santé et de la Recherche Médicale. Institut National de la Recherche Agronomique, Conservatoire National des Arts etMétiers and Université Paris 13
Tait, 2020 [117] Canada; Canadian Community Health Survey	**Age at Dietary Pattern:** >18 y <u>Healthy Eating Index via Candadian</u>	**Follow-up: 12.1 y max** <u>Risk of T2D</u>: adjusted for BMI, Q1: HR 1, ref	• Did not account for: Family history of Diabetes; Other: Total E

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Analytic N=4755 **Participant characteristics:** • Health: OW: 31-32% • Smoker: Current: 10-44%, Former: 23-27% • Alcohol use: Non: 12-29%, Occasional: 32-39%, Regular: 33-38% • PA: inactive: 51-56%, moderate: 25-32%, active: 19-23% • • Race and/or Ethnicity: 68.7%-88.6% Caucasian • SEP: HEI-Canadian quantiles ranged in Income quantile from 12-24% Selection data: Included Ontario respondents in CCHS Cycle 2.2, among whom gave permission to share information on demographic characteristics, health behaviors, medical histories, and 24-h dietary recall and whose infomation linked successfully with administrative health database for diabetes registry. Excluded individuals < 18 y at baseline, pregnant ♀, prevalent case of diabetes before respondents' 2004 CCHS interview date and underweight individuals	Food Guide (HEI-C) [Tait, 2020], Positive: Total Vegetables and Fruit; Dark Green, Orange Vegetables; Whole Fruit; Total Grains; Whole Grains; Milk/Milk alt.; Meat/Meat alt.; USFA. Negative/Neutral: SFA; Sodium; 'Other" foods **Methods:** Index/Score	Pooled: Q2: HR 0.69, 95% CI: 0.44, 1.08, P=0.687 Q3: HR 0.85, 95% CI: 0.54, 1.34, P=0.850 Q4: HR 1.13, 95% CI: 0.73, 1.76, P=1.13 Men: Q2: HR 0.61, 95% CI: 0.33, 1.12, P=0.1136 Q3: HR 0.70, 95% CI: 0.36, 1.37, P=0.2968 Q4: HR 1.06, 95% CI: 0.56, 2.01, P=0.8526 Women Q2: HR 0.83, 95% CI: 0.33, 2.09, P=0.6895 Q3: HR 1.12, 95% CI: 0.51, 2.46, P=0.7837 Q4: HR 1.22, 95% CI: 0.54, 2.76, P=0.6399 **Summary: Null: HEI-C & T2D**	• Diet assessment: 24-h recall once at baseline • Outcomes: Ontario Diabetes Database • Sensitivity analysis by including underweight individuals or excluding individuals with missing data did not change results. Results for each group after excluding T2D diagnosed in first 2 years of follow up: Q1: HR 1, ref; Q2: HR 0.71, 95% CI: 0.52,0.96; Q3: HR 0.82, 95% CI: 0.62, 1.10; Q4: HR 1.16, 95% CI: 0.87, 1.53. • Limitations included 24-h assessed only once at baseline (distant; Effect of change cannot be investigated; current dietary score may not reflect contemporary guidelines; Food components are reported in relation to energy consumption. • Funding: Project Initiation Fund via Public Health Ontario
Tertsunen, 2021 [118] Finland; Kuopio Ischaemic Heart Disease Risk Factor Study (KIHD) Analytic N=2332 T2D; 2285 FPG, FBI	**Age at Dietary Pattern:** 53y, mean (42 to 60 y at baseline) Baltic Sea Diet Score modified (mBSD) [modified Kanerva, 2014], Positive:	**Follow-up: 19.3 y mean, T2D** Risk of T2D: Q4, HR: 1, ref Q1, HR: 1.35, 95% CI: 1.03, 1.76 Q2, HR: 1.21, 95% CI: 0.90, 1.63 Q3, HR: 1.15, 95% CI: 0.88, 1.51	• Did not account for: Race and/or ethnicity, • Diet assessment: Food record (4d), once at baseline • Outcomes: Combination of self-

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Participant characteristics: • Health: BMI, kg/m2: 26.5-26.7 • Leisure-PA, kcal/d: 108-170 • Alcohol intake: 49-95 • Meds for HTN: 17-26% • Meds for Lipids: 0-1.3% • Current smoker: 19-48% • Family history of diabetes: 24-30% • Family history CVD: 80-84% • Race and/or Ethnicity: NR (Finnish) • SEP: Income, euros: 11,441-14,586 • Education, years: 8-9y • Marital status, married: 80-91% • Selection data: Eligible were men who were 42, 48, 54 or 60 y Excluded participants with T2D at baseline, impaired fasting glucose or unknown diabetes at baseline, or with missing dietary intake data	Vegetables (including legumes, roots); Fruits (all plus berries; Cereals (whole grains); Fish (Salmon; Freshwater); Low-fat Milk; PUFA/SFA & Trans FA; Negative: Red/Processed Meat; Total Fat; Neutral: Total alcohol **Methods:** Index/Score	P-trend<0.028 Per 1-pt decrease, HR: 1.03, 95% CI: 1.005, 1.055 Glucose: Q1, β: 4.56, 95% CI: 4.53, 4.59 Q2, β: 4.51, 95% CI: 4.47, 4.55 Q3, β: 4.51, 95% CI: 4.48, 4.55 Q4, β: 4.49, 95% IC: 4.46, 4.52 P trend=0.003 Per 1-pt decrease, β: 0.007, 95% CI: 0.003, 0.011 Insulin: FBI, Q1, β: 11.14, 95% CI: 10.73, 11.56 Q2, β: 10.91, 95% CI: 10.41, 11.41 Q3, β: 10.79, 95% CI: 10.37, 11.22 Q4, β: 10.53, 95% IC: 10.10, 10.96 P trend=0.049 Per unit decrease, β: 0.053, 95% CI: 0.005, 0.112 **Summary: Inverse: Baltic Sea Diet Score & T2D risk, FBG, insulin**	report and exam or discharge registry or reimbursement of medicine expenses • Baltic Sea Diet Score adapted from the validated version due to "lack of information on vertain food items in our database," the version used in this study not validated • Funding: University of Eastern Finland (UEF) including Kuopio University Hospital; Juho Vainio Foundation to H-M Tertsunen
Teymoori, 2021 [119] Iran; Tehran Lipid and Glucose Study (TLGS) Analytic N=4624 **Participant characteristics:** • Health: In those w/ T2D vs. w/o: • HTN, 32.5% vs. 13.6%; p< 0.001 • FBG, mean mg/dl: 101.9 vs. 92.0; p< 0.001 • Race and/or Ethnicity: NR (Iranian) • SEP: Education graduated w/ vs. w/o T2D: 19.8% vs. 30.2%; p< 0.001 • Employed w/ vs. w/o T2D: 82.7% vs. 84.1%; p=0.411	**Age at Dietary Pattern:** 40.8y, mean (>20 y) Dietary Inflammation Score (DIS) [Byrd, 2019], Positive (Anti-inflammatory): Vegetables (leafy greens and cruciferous), Tomatoes; Fruits (apples and berries); Vegetable and Fruits (deep yellow or orange); Fruits (other) and real fruit juices; Vegetables (other); Legumes; Fish; Poultry; Dairy (high-fat). Pro-inflammatory: red and organ meats, processed meats, added sugars	**Follow-up: 5.71 y (mean)** Risk of T2D: EDIP Q2, HR: 1.40, 95% CI: 1.01, 1.93 Q3, HR: 1.32, 95% CI: 0.86, 1.72 Q4, HR: 1.52, 95% CI: 1.08, 2.14 p-trend=0.038 DIS Q2, HR: 0.85, 95% CI: 0.72, 1.31 Q3, HR: 0.89, 95% CI: 0.71, 1.34 Q4, HR: 0.36, 95% CI: 0.61, 1.20 p-trend=0.418 **Summary: Null: DIS & T2D; Positive: EDIP & T2D**	• Did not account for: Race/Ethnicity (Iranian), Alcohol (not consumed), Family history of diabetes • Diet assessment: FFQ once (baseline) • Outcomes: Fasted blood samples and 2h OGTT collected; T2D based on ADA: FPG ≥ 126 mg/dl or 2-h post 75-g glucose load ≥ 200 mg/dl or use of anti-diabetes meds • Alcohol not controlled for "due to religious and legal restrictions in the Iranian population" (not consumed or consumption not

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Selection data: Excluded those on diabetes-control diet, lactating, pregnant, or with extreme energy intakes, diabetes, history of MI, cerebral vascular accident, cancer, BMI < 18.5 or > 40; missing smoking data	Empirical dietary inflammatory pattern (EDIP) [Tabung, 2016], Positive (Anti-Inflammatory): Vegetables (dark yellow: carrots, or squash), Vegetables, leafy green (cabbage, spinach, or lettuce); Fruit juice (apple juice, cantaloupe juice, orange juice, or other fruit juice); Pizza; Snacks (cracker, or potato chips); Tea; Coffee. Negative (Pro-Inflammatory): Processed meat (sausage); Red meat (beef, or lamb); Organ meat (beef, calf, or chicken liver), Fish, canned tuna; Vegtables, other: mixed, green pepper, cooked mushroom, eggplant, zucchini, or cucumber); Refined grains (white bread, biscuit, white rice, pasta, or vermicelli); High- and low-energy beverages (cola with sugar, carbonated beverages with sugar, fruit punch drinks); Tomatoes **Methods:** Index/Score		reported" • Funding: Shahid Beheshti University of Medical Sciences
Teymoori, 2023 [120] Iran; Tehran Lipid and Glucose Study (TLGS) Analytic N=1884, T2D; 1057 IR **Participant characteristics:** • Health: mean BMI 26.8 [4.9] • T2D:3%; HTN 14%; MetS 17% • Race and/or Ethnicity: NR (Iranian) • SEP: Education: ~24% diploma+ • Employed : ~80% employed Selection data: Excluded those lactating, pregnant, or with extreme energy intakes, diabetes, history of MI, stroke, cancer, 18y or younger, missing data (age, sex, IR, diabetes)	**Age at Dietary Pattern:** 39.9y, mean (>20 y) Dietary Insulin Resistance diet Score (DIR) [Teymoori, 2023], Positive: pickles, refned grains, doogh, lemon juice, sweetened beverages, fsh; Negative: starchy vegetables, snacks, low-fat dairy, broth, red meat, and high-fat dairy **Methods:** Index/Score	**Follow-up: ~3y (total)** Risk of T2D: T1, HR: 1 ref T2, HR: 2.34, 95% CI: 1.22, 4.47 T3, HR: 1.95, 95% CI: 1.02, 3.74 p-trend=0.058 Insulin: T1, HR: 1 ref T2, HR: 1.34, 95% CI: 0.81, 2.21 T3, HR: 1.65, 95% CI: 1.01, 2.69 p-trend=0.047 HOMA-IR: T1, HR: 1 ref T2, HR: 1.34, 95% CI: 0.81, 2.21 T3, HR: 1.65, 95% CI: 1.01, 2.69 p-trend=0.047 **Summary: Positive: DIR & T2D and IR**	• Did not account for: Race and/or ethnicity (Iranian), Alcohol (not consumed), family history of diabetes • Diet assessment: FFQ once (3rd survey) • Outcomes: Fasted (12-14h) blood samples and 2-h OGTT collected; T2D by ADA: FPG ≥ 126 mg/dl or 2-h post 75-g glucose load ≥ 200 mg/dl or use of oral anti-diabetes meds • Notably large confidence intervals close to/including null • Funding: Shahid Beheshti University of Medical Sciences

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Tison, 2022 [121] USA; REGARDS Analytic N=8750 **Participant characteristics:** • Health: 41% elevated WC; 28% not PA; 49% never smoker; Those with T2D more likely to be Black, lower education, lower income, live in stroke buckle, current smoker, no/heavy alcohol use, elevated WC • Race and/or Ethnicity: 27% Black; 73% White ('biracial sample') • SEP: Income, $/y: 10% <$20K; 21% $20-30K; 35% $35-74K; 24% $75K+ • Education: 5% < HS, 23% HS, 26% Some college, 46% college grad + Selection data: Excluded those with baseline diabetes or missing data (diet; baseline diabetes)	**Age at Dietary Pattern:** 63.2y, mean Mediterranean Diet Score (MDS) [Trichopolou 2003], Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol DASH diet 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 Mediterranean-DASH Intervention for Neurocognitive Delay score [Morris 2015], Positive: Green leafy vegetables; Vegetables; Beans; Berries; Nuts; Whole Grains; Seafood; Poultry; Olive oil; Wine. Negative: Red Meat; Cheese; Pastries and sweets; Butter and stick margarine; Fried/fast food 'Plant-based' [Judd, 2013]: characterized by vegetables, fruits, beans, poultry, fish 'Southern' [Judd 2013]: characterized by fried foods, organ meats, processed meats, eggs and egg dishes, added fats, high-fat dairy foods, SSBs, and bread **Methods:** Index/Score and Factor or cluster analysis	**Follow-up: ~10y** Risk of T2D: MDS Q4, HR: 0.85, 95% CI: 0.68, 1.07 Q3, HR: 0.90, 95% CI: 0.72, 1.11 Q2, HR: 0.89, 95% CI: 0.71, 1.10 Q1, HR: 0.87, 95% CI: 0.71, 1.07 p-trend=0.35 DASH Q4, HR: 0.94, 95% CI: 0.74, 1.18 Q3, HR: 1.09, 95% CI: 0.89, 1.32 Q2, HR: 1.08, 95% CI: 0.88, 1.31 Q1, HR: 1.11, 95% CI: 0.91, 1.36 p-trend=0.23 MIND Q4, HR: 1.16, 95% CI: 0.92, 1.47 Q3, HR: 1.08, 95% CI: 0.86, 1.34 Q2, HR: 1.20, 95% CI: 0.98, 1.47 Q1, HR: 1.18, 95% CI: 0.95, 1.46 p-trend=0.26 "Plant-based" DP Q4, HR: 1.12, 95% CI: 0.93, 1.35 Q3, HR: 0.94, 95% CI: 0.77, 1.14 Q2, HR: 0.90, 95% CI: 0.74, 1.10 Q1, HR: 0.91, 95% CI: 0.75, 1.11 p-trend=0.06 "Southern" DP Q4, HR: 1.27, 95% CI: 1.02, 1.59 Q3, HR: 1.37, 95% CI: 1.11, 1.70 Q2, HR: 1.42, 95% CI: 1.15, 1.75 Q1, HR: 1.66, 95% CI: 1.35, 2.06 p-trend=0.003 **Summary: NS/Inverse: MDS & T2D; NS/Null: DASH & T2D; NS/Positive: MIND & T2D; NS/Inverse: 'Plant-based' DP & T2D; Positive: 'Southern' DP & T2D**	• Did not account for: family history of diabetes, anthropometry (WC) • Diet assessment: FFQ once • Outcomes: Fasted blood samples collected; T2D based on FPG ≥ 70 mmol/L, NFG ≥ 111 mmol/L, or reported use of anti-diabetes meds • Funding: National Institute of Neurological Disorders and Stroke (NINDS) and the National Institute on Aging (NIA), NIH
Ushula, 2022 [122] Australia; Mater-University of	**Age at Dietary Pattern:** ~21 y, mean	**Follow-up: ~9y (mean age ~ 30y)** Prediabetes: T1, RR: 1 ref	• Did not account for: Race and/or ethnicity (Australian birth cohort)

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Queensland Study of Pregnancy (MUSP) Analytic N=1103 **Participant characteristics:** • Health: 13% Ob (BMI 30+); 21% OW (BMI 25-30); 67% NW (BMI <25) • Race and/or Ethnicity: NR (Australian birth cohort) • SEP: Income: 33% "high", 44% "middle"; "low" 23%; Education: ~88% post-secondary or secondary; Selection data: Excluded those with missing data (>40% on FFQ; outcomes) or implausible energy intake	'Western': high loadings for meats, fried and processed foods, and high-fat dairy products, low in whole grains and low-fat dairy products. 'Prudent': high loadings for vegetables, fruit, cereals and grains, nuts low-fat dairy products, and non-fat spreads, low in refined grains **Methods:** Factor or cluster analysis	'Western' T2, RR: 1.14, 95% CI: 0.59, 2.22 T3, RR: 0.96, 95% CI: 0.43, 2.14 p-trend=0.8681 'Prudent' T2, RR: 0.63, 95% CI: 0.32, 1.26 T3, RR: 1.05, 95% CI: 0.51, 2.17 p-trend=0.8788 Glucose: 'Western' & FPG T2, 0.02, 95%CI: -0.08, 0.13 T3, -0.04, 95%CI: -0.16, 0.09 p-trend=0.5623 'Prudent' & FPG T2, -0.07, 95%CI: -0.16, 0.03 T3, 0.00, 95%CI: -0.11, 0.11 p-trend=0.9194 Insulin: Western' & IS T2, RR: 0.66, 95% CI: 0.50, 0.88 T3, RR:0.57, 95% CI: 0.39, 0.84 p-trend=0.0037 'Prudent' & IS T2, RR: 1.34, 95% CI: 0.98, 1.83 T3, RR: 1.84, 95% CI: 1.30, 2.60 p-trend=0.0005 HOMA-IR: 'Western' & IR T2, RR: 1.31, 95% CI: 0.91, 1.89 T3, RR:1.69, 95% CI: 1.07, 2.65 p-trend=0.0237 'Prudent' & IR T2, RR: 0.64, 95% CI: 0.91, 0.88 T3, RR: 0.57, 95% CI: 0.39, 0.82 p-trend=0.0031 **Summary: Inverse: 'Prudent' (T3 v. T1) & Insulin Resistance; 'Western'**	• Diet assessment: FFQ once (baseline) • Outcomes: Fasted (9h) blood samples collected; Insulin (Cation exchange-HPLC); HbA1C (Abbott Architect Immunochemistry with ICMA-calibrated to WHO 1st IRP method) • Funding: National Health and Medical Research Council, Australia

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
		(T3 v. T1) & Insulin Sensitivity Positive: 'Western' (T3 v. T1) & Insulin Resistance; 'Prudent' (T3 v. T1) & Insulin Sensitivity; NS/Null: Either 'Prudent' or 'Western' & Prediabetes	
Vinke, 2020[123] Netherlands; Lifelines cohort Analytic N=91025 **Participant characteristics:** • Health: BMI, kg/m2, male: 26.5 ± 3.4, female: 25.9 ± 4.5; Body weight, kg, Male: 88.3 ± 12.7, Female: 74.2 ± 13.4 • Glucose, mmol/l: 4.9 ± 0.5 • HbA1c, %: 5.5 ± 0.3 • T2D incidence, total: 3.73% (male: 4.41%; female: 3.25%) • Smoking status, Current: 18.8% • Non-occupational MVPA, min/wk: 180 [60-360] • Alcohol-users: 83% (intake in g/d: 6.4 [2.5-12.4]) • Race and/or Ethnicity: 98.8% White/East & West European ethnicity • SEP: Education: Low 30.91%; Middle: 38.38%; High (e.g. university): 30.71% Selection data: Excluded participants without F/U data, under the age of 30y, with CVD or diabetes at baseline; pregnancy at baseline or F/U; missing or unreliable data on diet quality or covariates	**DP Age(s)**:48y [10], mean (≥ 30 y) <u>Lifelines Diet score (LLDS) [Vinke, 2018],</u> 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 Margarines **Methods:** Index/Score	**Follow-up: T2= 13 [12-14] mos; T3= 24 [23-27] mos; T4= 44 [35-51] mos; up to 60 mos** <u>Risk of T2D</u>: Q5, HR: 1, ref Q1, HR: 1.87, 95% CI: 1.50, 2.31 Q2, HR: 1.40, 95% CI: 1.15, 1.71 Q3, HR: 1.19, 95% CI: 0.96, 1.46 Q4, HR: 1.15, 95% CI: 0.95, 1.40 P-trend <0.001 **Summary: Inverse: LLDS & T2D**	• Did not account for: Race and/or ethnicity, family history of diabetes • Diet assessment: FFQ once • Outcomes: T2D from combination of self-report of diagnosis since last visit or measured FPG ≥ 7 mmol/L, HbA1C ≥ 6.5% Fasted blood samples at T4 • Identified n=1045 cases; Stratified analysis by education: Low Education: Q1: HR 1.48, 95% CI: 1.09, 2.02; Q2: HR 1.25, 95% CI: 0.94, 1.67; Q3: HR 0.98, 95% CI: 0.72, 1.32; Q4: HR 1.01, 95% CI: 0.76, 1.33, P=0.028; Middle Edu: Q1: HR 2.55, 95% CI: 1.73, 3.77; Q2: HR 1.60, 95% CI: 1.09, 2.34; Q3: HR 1.42, 95% CI: 0.96, 2.09; Q4: HR 1.72, 95% CI: 1.20, 2.47, P<0.001; High Edu: Q1: HR 2.04, 95% CI: 1.26, 3.30; Q2: HR 1.56, 95% CI: 1.01, 2.41; Q3: HR 1.44, 95% CI: 0.93, 2.22; Q4: HR 0.88, 95% CI: 0.56, 1.36, P=0.003; • Funding: none

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Voortman, 2017 [124] Netherlands; Rotterdam Study Analytic N=6772 **Participant characteristics:** • Health: All free of T2D at baseline; Smoking status: 32.1% Never, 44.2% Ever, 23.8% Current • Race and/or Ethnicity: NR • SEP: Education Level: 16% Primary, 41% Lower, 28% Intermediate, 16% Higher • 28% Paid Employment Selection data: Excluded those with T2D at baseline; without reliable dietary data at baseline; missing incident T2D data	**Age at Dietary Pattern:** 64.1y, mean (≥45 y at baseline) Dutch Dietary Guidelines - 2015 [Voortman 2017], Positive: Vegetables; Legumes; Fruit; Nuts; Whole Grains; Fish; Dairy Products; Unsaturated Fats and Oils; Tea. Negative: Replace Refined with Whole-Grain Products; Red Meat; Processed Meat; Alcohol; Sodium **Methods:** Index/Score	**Follow-up: 7.3 y (median), up to 14.7y** Risk of T2D: HR: 1.03, 95% CI: 0.98, 1.07 **Summary: NS/Null: Dutch Dietary Guidelines & T2D**	• Did not account for: Family history of Diabetes, race and/or ethnicity • Diet assessment: FFQ once (baseline); slightly different approach between cohorts (cohort included as covariate); index scoring not previously validated • Outcomes: Combination of self-report (of diagnosis or meds) or pharmacy records • No fasting blood samples collected in the first two visits of RS-I, so third visit (1997–1999) of RS-I set as baseline --> smaller sample size for T2D incidence • Funding: Erasmus University Medical Center and Erasmus University Rotterdam; the Netherlands Organization for Health Research and Development; the Research Institute for Diseases in the Elderly; the Netherlands Genomics Initiative; the Ministry of Education, Cultu
Walsh, 2021 [125] Australia; PATH Through Life Project Analytic N=2818 **Participant characteristics:** • Health: NR • Race and/or Ethnicity: NR • SEP: 14.7y, mean education (Young: 15; Mid-life: 14.8; Late-life: 14.3)	**Age at Dietary Pattern:** 46.3y, mean (20 to 65 y at baseline; mean 20-25y: 23.2; 40-45y: 43.2; 60-65y: 63) 'Western', Positive: sausages, roast meat, chips and crisps, soft drinks, bread rolls, fried rice, pastaplus, cordial, popsicles, fried eggs, steak, pork, lamb, hamburgers, bacon, ham, schnitzel, moussaka, spicy mince, hamburger bun, pizza, meat pies, sauces & gravy, roast chicken fried	**Follow-up: 12 y (mean)** Risk of T2D: 'Western' & T2D, HR: 0.17, 95% CI: -0.10, 0.44; p-trend>0.05 'Prudent' & T2D, HR: -0.19, -0.41, 0.03; p-trend>0.05 **Summary: NS/Positive-Null: Western & T2D**	• Did not account for: Alcohol, family history of diabetes, race and/or ethnicity • Diet assessment: FFQ once (baseline) • Outcomes: Self-reported diagnosis or treated for T2D via diet or anti-diabetic agents • Identified n=147 cases; Sample selection skewed towards older and female participants

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Selection data: Excluded those with missing dietary or T2D status available; T2D at baseline; missing data on multiple confounders	chicken, coleslaw, potato salad, mayonaisse, mashed potato, roast potato, peas, frozen vegetables, chocolate bars, fat spreads (e.g., butter, margarine), bread ‘Prudent’, Positive: fresh fruit (orange, apple, banana, berries, pineapple, avocado, fruit salad, melon, peach, plum, nectarine, apricot, grapes, dried apple), vegetables (carrots, zucchini, cabbage, brussel sprouts, spinach, broccoli, cauliflower, pumpkin, corn, tomato, lettuce, cucumber, celery, sprouts, capsicum), grilled fish, salad, water, yogurt, vegetable stew, canned fish, salad dressing, beans, vegetable stir fry, mushrooms, homemade soup, fresh nuts **Methods:** Factor or cluster analysis: PCA	**NS/Inverse-Null: Prudent & T2D**	• Funding: National Health and Medical Research Council
Wang F, 2022[126] USA; HPFS/NHS I, NHS II Analytic N=8827 **Participant characteristics:** • Health: BMI, mean: 25.3 [4.7] • Never smokers 52%; Family history of diabetes 29%; HTN: 20%; HC 27%; Meds for HTN, 16% or Lipids, 3% • Race and/or Ethnicity: 96% White • SEP: NR (all health professionals) Selection data: Excluded those with major chronic diseases at baseline (CVD, cancer, diabetes), LFU, or enrolled into the GDM sub-study	**Age at Dietary Pattern:** 54y [9] Plant-Based Diet Index (PDI) [Satija, 2016], Positive: Vegetables; Fruits; Nuts; Legumes; Whole grains; Tea/coffee; Fruit juices; Veg. Oils; 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) [Satija, 2016], Positive: Vegetables; Fruits; Nuts; Legumes; Whole grains; Tea/coffee; Negative: Fruit juices; Veg. Oils; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts;	**Follow-up: NR (~30y)** Risk of T2D: PDI, HR: 0.93, 95% CI: 0.85, 1.02 hPDI, HR: 0.93, 95% CI: 0.85, 1.01 uPDI, HR: 1.07, 95% CI: 0.98, 1.17 **Summary: NS/Inverse: PDI & T2D; hPDI & T2D; NS/Positive: uPDI & T2D**	• Did not account for: SEP (all health professionals) • Diet assessment: FFQ every 4y, validated • Outcomes: Self-report confirmed with reported f/u based on NDDG criteria: classic symptoms and FPG ≥ 7.8 mmol/L (140 mg/dL; post-2010, 7 mmol/L) or NF ≥ 11.1 mmol/L (200 mg/dL); or no symptoms but 2+ elevated FBG or NF on different occasions or after OGTT; or Tx with anti-diabetes agents; or HbA1C ≥ 6.5% post-2010;; 729 cases identified • Funding: NIH

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
	Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods unhealthful PDI (uPDI) [Satija, 2016], Negative: Whole grains; Fruits; Vegetables; Nuts; Legumes; Tea/coffee; Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods; Positive: Fruit juices; Veg. Oils; Sugar-sweetened beverages; Refined grains; Potatoes; Sweets/desserts **Methods:** Index/Score		
Wang P, 2023[127] USA; NHS, NHSII, HPFS Analytic N=205,852 **Participant characteristics:** • Health: F/U mean BMI~25; current smoking ~13-28% • Race and/or Ethnicity: NR • SEP: NR (all health professionals) Selection data: Excluded those with missing dietary data; implausible energy intake; baseline history of CVD, diabetes, Cancer (except non-melanoma skin cancer, non-fatal prostate cancer); extreme BMI (<15 or >50). Participants censored at 80y old	**Age at Dietary Pattern:** ~55y at f/u (mean); NHS: 30-55y; NHSII: 25-42y; HPFS: 40-75y 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 Healthful PDI (hPDI) [Satija, 2016], Positive: Vegetables; Fruits; Nuts; Legumes; Whole grains; Vegetable oils; Tea/coffee; Negative: Fruit juices; Sugar-sweetened beverages; Refined	**Follow-up: 26y f/u (median)** Risk of T2D: AHEI-2010 +SES, HR: 0.66, 95% CI: 0.63, 0.69 +BMI, HR: 0.73, 95% CI: 0.70, 0.77 aMED +SES, HR: 0.74, 95% CI: 0.71, 0.77 +BMI, HR: 0.85, 95% CI: 0.82, 0.89 hPDI +SES, HR: 0.71, 95% CI: 0.68, 0.73 +BMI, HR: 0.78, 95% CI: 0.75, 0.81 DASH +SES, HR: 0.69, 95% CI: 0.66, 0.72 +BMI, HR: 0.77, 95% CI: 0.74, 0.81 DRRD +SES, HR: 0.58, 95% CI: 0.56, 0.60 +BMI, HR: 0.66, 95% CI: 0.63, 0.69 WCRF/AICR +SES, HR: 1.07, 95% CI: 1.02, 1.11 +BMI, HR: 0.95, 95% CI: 0.91, 0.99 EDIH (reverse coded, higher=healthier) +SES, HR: 0.36, 95% CI: 0.35, 0.37 +BMI, HR: 0.57, 95% CI: 0.54, 0.59 EDIP (reverse coded, higher=healthier) +SES, HR: 0.38, 95% CI: 0.37, 0.40	• Did not account for: Race/Ethnicity (sub-group analyses) • Diet assessment: FFQ every 4y • Outcomes: Self-report, confirmed via NDDG <1988 or ADA >1988 criteria; subsample of cases confirmed by medical records • No correction for multiple testing because authors "aimed to compare the patterns, some of which have been examined individually previously" • Funding: NIH

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
	grains; Potatoes; Sweets/desserts; Animal fats; Dairy; Eggs, Fish/seafood; Meat (poultry and red meat); Miscellaneous animal-based foods Diabetes Risk Reduction Diet (DRRD) [Wang 2021], Positive: Whole Fruits; Nuts; PUFA:SFA ratio; Cereal fiber; Coffee. Negative: Red meat; Trans-fat; SSBs & fruit juices; Glycemic index (GI) 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 WCRF/AICR Score - Diet Only [Shams-White 2019], Positive: Vegetables; Fruit; Beans; Whole Grains. Negative: Red and Processed Meat; Sugary Drinks; Fast foods; Energy-Dense Foods; Neutral: Alcohol 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	+BMI, HR: 0.57, 95% CI: 0.55, 0.59 **Summary: Inverse: AHEI-2010, aMED, hPDI, DASH, DRRD, EDIH-reversed, EDIP-reversed & T2D NS/Inverse: WCRF/AICR (+BMI) & T2D (NS/Null: +SES or crude)**	

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
	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 vegetable **Methods:** Index/Score		
Wang Y, 2022[128] China; Guizhou Population Health Cohort Study (GPHCS Analytic N=7203 **Participant characteristics:** • Health: BMI 18.5-23.9, 64%; BMI 24-27.9: 25%, BMI 28+, 6% • Current smoker 29%; Family history of diabetes, 1%; Alcohol use: 32% • Race and/or Ethnicity: 58% Han Chinese • SEP: Education: 42% 12y+; Married: 80%; Rural: 66% Selection data: Included those 18y or older, with complete data, and no plan to move; Excluded those with missing 1+ FFQ item or had diabetes at baseline	**Age at Dietary Pattern:** 18 to 24y, 55%; 35 to 49y, 30%; 50y+, 16% 'Junk food': high factor loadings for fried food, soft drinks, and desserts 'Vegetable-grain': high factor loadings for vegetables and grains **Methods:** Factor or cluster analysis: PCA	**Follow-up: 7.05y, mean** Risk of T2D: 'junk food', Medium, HR: 1, ref Low, HR: 0.72, 95% CI: 0.61, 0.87 High, HR: 0.93, 95% CI: 0.78, 1.11 'vegetable-grain', Medium, HR: 1, ref Low, HR: 0.86, 95% CI: 0.72, 1.02 High, HR: 0.80, 95% CI: 0.67, 0.95 **Summary: Positive: ''Junk food' & T2D (low vs. medium only)** **Inverse: 'Vegetable-grain' & T2D (medium vs. high only)**	• Did not account for: Family history of diabetes • Diet assessment: FFQ once (unnknown if valid) • Outcomes: Fasted (8h+) blood samples and OGTT collected; T2D from self-report of diagnosis or anti-diabetes meds (confirmed via medical record); or FPG ≥ 7 mmol/L; OGTT or NFG ≥ 11.1 mmol/L); or HbA1C ≥ 6.5%; Impaired fasting glucose (IFG) 6.01 up to 7 mmol/L • 749 cases • Funding: Guizhou Province Science and • Technology Support Program
Xu, 2020[129] USA; ARIC Analytic N=10808; 7427 diet quality change	**Age at Dietary Pattern:** 45 to 64 y Healthy Eating Index (HEI-2015) [Krebs-Smith 2018], Positive: Total	**Follow-up: 6y** Risk of T2D: Q1, HR: 1, ref HEI-2015 Q2: HR 1.00, 95% CI: 0.89, 1.11	• Did not account for: N/A (all) • Diet assessment: FFQ at visits 1 and 3 (validated; change assessed)

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
Participant characteristics: • Health: Ob 27%; OW 38%; CVD, 16% • Race and/or Ethnicity: NR • SEP: SEIF, Low: 31%, Medium 34%, High 35%; • Education, Low: 32%, Med. 42%, High 26% • Marital status: Married/Partner 78%;Single/Divorced/Separated 14%; Widowed 7% Selection data: Included participants aged 45 to 64 y who reported usual dietary intake via FFQ at visit 1. Excluded participants with CVD, diabetes, cancer at baseline, implausible/missing dietary intake, neither white nor African American; not from Minneapolis, Minnesota or Washington County, MD, missing covariates, and missing CVD or diabetes info prior to visit 3 or at visit 3 for diet quality change analysis	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 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 **Methods:** Index/Score	Q3: HR 0.89, 95% CI: 0.79, 1.00 Q4: HR 0.93, 95% CI: 0.83, 1.05 Q5: HR 0.98, 95% CI: 0.87, 1.11 P-trend=0.433 AHEI-2010 Q2: HR 0.99, 95% CI: 0.88, 1.11 Q3: HR 0.98, 95% CI: 0.87, 1.10 Q4: HR 0.95, 95% CI: 0.84, 1.06 Q5: HR 0.96, 95% CI: 0.85, 1.08 P trend=0.347 Δ HEI-2015 (↓ decrease; ↑ increase), Large ↓: HR 1.04, 95% CI: 0.88, 1.24 Small to Moderate ↓: HR 1.04, 95% CI: 0.89, 1.21 Small to Moderate ↑: HR 0.89, 95% CI: 0.77, 1.03 Large ↑: HR 0.99, 95% CI: 0.85, 1.14 Change in AHEI-2010 Large ↓: HR 1.12, 95% CI: 0.94, 1.35 Small to Moderate ↓: HR 1.11, 95% CI: 0.89, 1.37 Small to Moderate ↑: HR 1.01, 95% CI: 0.82, 1.25 Large ↑: HR 1.11, 95% CI: 0.93, 1.32 **Summary: NS/Null: HEI-2015, AHEI-2010 at baseline or 6-y Δ & T2D**	• Outcomes: Fasted blood samples collected; T2D based on FPG ≥ 126 mg/dL or NF/random ≥ 200 mg/dL, or self-reported diagnosis, or diabetes-meds • Identified 3452 cases; Small sub-group size noted by authors • Funding: NHLBI; NIH; NIDDK; China Scholarship Council
Xu, 2022[130] United Kingdom; BIOBANK Analytic N=59849 **Participant characteristics:** • Health: mean BMI: 26.97; WC ~89 cm; Never smoker 58% • Race and/or Ethnicity: 94% White; 2% Black or black background; 2% Chinese; <1% Asian or Asian British; <1% Mixed; 1% Other	**Age at Dietary Pattern:** 56y, mean (40 to 69y) EAT-Lancet Reference Diet [Vallejo, 2022; EAT-Lancet Commission, 2019], Positive: Whole grains & all grains, ≤ 464 g/d and whole grain fiber; Vegetables, ≥ 200 - ≤ 600 g/d; Fruits, ≥ 100 - ≤ 300 g/d; All nuts, ≥ 25 g/d. Negative: Dairy foods, ≤ 500 g/d; Beef and lamb, ≤ 14 g/d; Pork, ≤ 14 g/d; Chicken and other poultry, ≤ 58 g/d;	**Follow-up: 10y, median** Risk of T2D: T2, HR: 0.90, 95% CI: 0.81, 1.01 T3, HR: 0.95, 95% CI: 0.81, 1.06 p-trend=0.249 per 1-pt, HR: 0.99, 95% CI: 0.96, 1.02 **Summary: NS/Inverse: EAT-Lancet score & T2D**	• Did not account for: Family history of diabetes • Diet assessment: FFQ/24-h hybrid multiple times • Outcomes: T2D from hospital records/linkage • Identified 2461 cases • Funding: National Natural Science Foundation of China; Scientific Research Foundation for Scholars of HZNU

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
• SEP: SES Quintiles: ~ 20% in each quintile from most to least deprived • Education: 40% college/university Selection data: Excluded those with <7 foods consumed in EAT-Lancet; implausible dietary intake; <1y F/U; with CVD, cancer, or diabetes at baseline	Eggs, ≤ 25 g/d; Fish, ≤ 100 g/d; Dry beans, lentils & peas, ≤ 100 g/d; Soy foods, ≤ 50 g/d; Palm oil, ≤ 6.8 g/d; Lard or tallow, ≤ 5 g/d; Butter, 0 g/d; All sweeteners, ≤ 31 g/d. Neutral: Tubers or starchy vegetables, ≤ 100 g/d; Unsaturated oils, ≥ 20 - ≤ 80 g/d **Methods:** Index/Score		
Yu, 2022[131] Netherlands; Maastricht Study Analytic N=3441 **Participant characteristics:** • Health: mean BMI 27.06 [4.5]; 17% history w CVD; mean FPG 6.04 [1.62] mmol/L • Race and/or Ethnicity: 100% Caucasian (European ancestry) • SEP: Education: ~ 33% low, 27% mid, 38% high; • HH Income: ~29% low, 40% mid, 22% high Selection data: Exclued those without metabolic data, glucose metabolism data, incomplete or implausible dietary intake; non-Caucasian	**Age at Dietary Pattern:** 60y [8.21] <u>Mediterranean Diet Score (MDS) [Trichopolou 2003],</u> Positive: Vegetables; Legumes; Fruit, Nuts; Cereals; Fish; MUFA/SFA. Negative: Red and Processed Meat; Dairy Products. Neutral: Alcohol <u>DASH diet score [Fung, 2008],</u> 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 <u>Dutch Healthy Diet (DHD) based on Dutch Dietary Guidelines 2015 [Looman, 2017 version],</u> Positive: Vegetables; Legumes; Fruit; Nuts; Whole Grains; Fish; Dairy Products; Tea. Negative: Fats and Oils; Red Meat; Processed Meat; Sweetened Beverages; Fruit juices; Alcohol; Salt/Sodium **Methods:** Index/Score	**Follow-up: 5.8y, mean (7y total)** <u>Risk of T2D</u>: Risk of either T2D or Prediabetes ("GMS") MDS, T2, OR: 0.87, 95% CI: 0.73, 1.05 MDS, T3, OR: 0.59, 95% CI: 0.50, 0.70 MDS, p-trend=0.008 DASH, T2, OR: 0.77, 95% CI: 0.65, 0.92 DASH, T3, OR: 0.58, 95% CI: 0.48, 0.69 DASH, p-trend=0.001 DHD, T2, OR: 0.79, 95% CI: 0.63, 0.98 DHD, T3, OR: 0.69, 95% CI: 0.55, 0.87 DHD, p-trend<0.001 Risk of T2D in those w/ Prediabetes MDS, T2, OR: 0.81, 95% CI: 0.62, 1.06 MDS, T3, OR: 0.60, 95% CI: 0.46, 0.78 MDS, p-trend=0.005 DASH, T2, OR: 0.93, 95% CI: 0.72, 1.20 DASH, T3, OR: 0.73, 95% CI: 0.56, 0.96 DASH, p-trend=0.037 DHD, T2, OR: 0.88, 95% CI: 0.68, 1.13 DHD, T3, OR: 0.64, 95% CI: 0.49, 0.83 DHD, p-trend=0.001 Risk of T2D in those w/ NGM MDS, T2, OR: 0.98, 95% CI: 0.88, 1.18 MDS, T3, OR: 0.61, 95% CI: 0.49, 0.77 MDS, p-trend<0.001	• Did not account for: Family history of diabetes • Diet assessment: FFQ once • Outcomes: Fasted (8h+) blood samples and OGTT collected for baseline metabolism status; Risk of T2D from normal glucose (NG) progression from prediabetes based on self-report; Risk categories based on: NG, FPG <6.1 mmol/L; prediabetes, FPG 6.1–6.9 mmol/L and no anti-diabetes meds; T2D, FPG ≥7.0 mmol/L or hypoglycaemic meds • Funding: European Regional Development Fund via OP-Zuid, the Province of Limburg, the Dutch Ministry of Economic Afairs; Stichting De Weijerhorst; the Pearl String Initiative Diabetes, the Cardiovascular Center; School for Cardiovascular Diseases; Care and Public Health Research Institute, School for Nutrition and Translational Research in Metabolism; Stichting Annadal; Health Foundation Limburg; grants from Janssen-Cilag B.V. and Novo Nordisk Farma B.V.

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
		DASH, T2, OR: 0.79, 95% CI: 0.63, 0.98 DASH, T3, OR: 0.69, 95% CI: 0.55, 0.87 DASH, p-trend<0.001 DHD, T2, OR: 0.85, 95% CI: 0.68, 1.06 DHD, T3, OR: 0.62, 95% CI: 0.48, 0.78 DHD, p-trend<0.001 Prediabetes: Risk in those w/ normal glucose (NG) MED T2, OR: 1.01, 95% CI: 0.78, 1.28 T3, OR: 0.79, 95% CI: 0.61, 0.97 p-trend=0.459 DASH T2, OR: 0.79, 95% CI: 0.62, 1.00 T3, OR: 0.68, 95% CI: 0.53, 0.86 p-trend=0.036 DHD T2, OR: 0.74, 95% CI: 0.58, 0.95 T3, OR: 0.59, 95% CI: 0.45, 0.73 p-trend=0.003 HbA1C: % MDS, β: -0.716, 95% CI: -0.913, -0.519; p-trend<0.001 DASH, β: -0.191, 95% CI: -0.262, -0.121; p-trend<0.001 DHD, β: -0.098, 95% CI: -0.120, -0.076; p-trend<0.001 HOMA-IR: MDS, β: -0.086, 95% CI: -0.111, -0.061; p-trend<0.001 DASH, β: -0.034, 95% CI: -0.043, -0.024; p-trend<0.001 DHD, β: -0.013, 95% CI: -0.016, -0.010; p-trend<0.001	

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
		Summary: Inverse: MDS & T2D & T2D, T2D/Prediabetes [NS/Inverse: MDS & Prediabetes only] **Inverse: DASH & T2D & T2D or Prediabetes** **Inverse: DDG & T2D & T2D or Prediabetes**	
Zhang, 2023[132] Sweden; Malmo Diet and Cancer (MDC) cohort Analytic N=24494 **Participant characteristics:** • Health: mean BMI 25.6; 61% HTN; 3% CVD; 6% cancer; 38% Never smokers; 6% non-consumers of alcohol; 53% high-PA • Race and/or Ethnicity: NR (Swedish) • SEP: 15% university degree Selection data: Excluded those with diabetes at baseline, missing legume info, missing covariates, non-European	**Age at Dietary Pattern:** 58.1y, mean; 44 to 74 y <u>EAT-Lancet Reference Diet [Vallejo, 2022; Stubbendorff, 2022; EAT-Lancet Commission, 2019], EAT-Lancet:</u> Positive: Whole grains & all grains; Vegetables; Fruits; All nuts. Negative: Dairy foods; Beef and lamb; Pork; Chicken and other poultry; Eggs; Fish; Dry beans, lentils & peas; Soy foods; Palm oil; Lard or tallow; Butter; All sweeteners. Neutral: Tubers or starchy vegetables; Unsaturated oils **Methods:** Index/Score	**Follow-up: 24.3y, median (14.8; 2.3; max: 29.7y)** <u>Risk of T2D</u>: 14-16, HR: 1.04, 95% CI: 0.93, 1.16 17-19, HR: 0.90, 95% CI: 0.81, 1.01 20-22, HR: 0.94, 95% CI: 0.83, 1.06 23+, HR: 0.82, 95% CI: 0.70, 0.96 p-trend<0.01 **Summary: Inverse: Highest EAT-Lancet scores & lower T2D risk**	• Did not account for: Race/Ethnicity (Swedish) • Diet assessment: Diet history once (validated; interview + 7d menu) • Outcomes: Combination of seven registries (90%) or exams (10%); T2D based on FBG ≥ 7 mmol/L and/or 2+ HbA1C ≥ 6% Funding: Swedish Research Council, the Swedish Society for Medical Research, the Crafoord Foundation, the Albert Pahlsson Foundation, Medical Training and Research Agreement
Zhuang, 2021 [133] United Kingdom; BIOBANK Analytic N=357,419 **Participant characteristics:** • Health: 26-27.7, mean BMI • Race and/or Ethnicity: 100% White of British decent • SEP: Townsend Deprivation index -1.3+3.1; College: 26.1-39.7%; Income <18K euros 15.4-18.7%; 18K-30.9K 21.3-22.5; 31K-51.9K 23.6-24.2%; 52K-100K 18.7-20.8%; >100K 4.7-5.7 Selection data: Excluded if CVD,	**Age at Dietary Pattern:** 56 y, mean (40 to 69y) <u>Diet Quality Score</u>: Positive fruit, vegetables, whole grains, fish, dairy, vegetable oil. Negative: refined grains, processed meats, red meat, sugar-sweetened beverages **Methods:** Index/Score	**Follow-up: 8.1y, mean** <u>Risk of T2D</u>: β: -0.098 (0.015), p<0.001 HR: 0.91, 95% CI: 0.88, 0.93 <u>HbA1C:</u> β: -0.146 (0.007), p<0.001 **Summary: Inverse: Diet Quality Score & T2D, HbA1C**	• Did not account for: Family history of diabetes; TEI • Diet assessment: FFQ once (baseline) • Outcomes: Self-report and hospital record • Unclear if diet score was validated; Diet assessed once at baseline with a validated FFQ; 100% participants were of white british descent • Funding: National Natural Science Foundation of China; China National Program for Support of Top-notch Young

Article Information	Intervention/exposure and comparator	Results	Methodological considerations
cancer, T2D at baseline, Non-White, withdrawn consent, lack of genetic data, discordance between reported and geno-type inferred sex, incomplete data on diet.			Professionals and China Postdoctoral Science Foundation

[a] Abbreviations: BMI, Body mass index CVD, Cardiovascular disease; DQ, diet quality; EDF, Energy-dense food; FBG, fasting blood glucose; FBI, fasting blood insulin; FFQ, Food frequency questionnaire; FPG, fasting plasma glucose; F/U, Follow-up; HbA1C, Hemoglobin A1C; HC, hypercholesterolemia; HOMA-IR, Homeostatic Model Assessment for Insulin Resistance; HS, high school; HTN, hypertension; IFG, impaired fasting glucose; ITT, intent-to-treat; LFU, lost to follow-up; mo, months; MUFA, monounsaturated fatty acid; N/A, Not applicable; NFG, normal fasting glucose; NIDDK, National Institute of Diabetes and Digestive and Kidney Diseases; NR, not reported; NS, not statistically significant; Ob, Obesity; OGTT, oral glucose tolerance test; OR, Odds Ratio; OW, Overweight; PA, Physical activity; PP, per-protocol; PUFA, polyunsaturated fatty acid; Q, quantile; SFA, saturated fatty acid; SEP/SES, Socioeconomic position/status; SS, regression coefficient; T, tertile; T1D, Type 1 Diabetes Mellitus; T2D, Type 2 Diabetes Mellitus; TC, total cholesterol; TEI, total energy intake; TG, triglyceride; Tx, Treatment; WC, waist circumference; w/o, without; UPF, Ultra-processed food; ♂ male; ♀ female; ∆ change or delta

Table 13. Risk of bias for observational studies examining dietary patterns consumed by adults and older adults and risk of type 2 diabetes[a]

Article	Confounding	Exposure measurement	Selection of participants	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Ahmad, 2018[30]	High	Low	Low	Low	Low	Some concerns	Some concerns	High
Ahmad, 2020[31]	High	Low	Low	Low	Low	Low	Some concerns	High
Alae-Carew, 2020[32]	High	Low	Some concerns	Low	Some concerns	High	Some concerns	High
Alhazmi, 2014[33]	High	Low	Low	Low	Low	Low	Low	High
Allaire, 2020[34]	Low	Low	Low	Some concerns	Low	Low	Some concerns	Some concerns
Andre, 2020[35]	High	Some concerns	Low	Low	Low	Low	Low	Some concerns
Bantle, 2016[36]	High	Some concerns	Some concerns	Low	Some concerns	Low	Low	High
Bao, 2016[37]	High	Some concerns	Low	Low	Low	Some concerns	Some concerns	High
Beigrezaei, 2023[38]	High	Low	Low	Low	Some concerns	High	High	High
Boonpor, 2022[39]	High	Some concerns	Low	Low	Some concerns	Low	Some concerns	High
Brayner, 2021[40]	Low	Low	Some concerns	Low	Some concerns	High	Some concerns	High

Article	Confounding	Exposure measurement	Selection of participants	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Cea-Soriano, 2021[41]	High	Low	Low	Low	Low	Low	Low	High
Cespedes, 2016[42]	Low	Low	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns
Chen, 2018 Diet[43]	High	Some concerns	Some concerns	Low	Low	Low	Some concerns	High
Chen, 2018 Plant[44]	Some concerns	Some concerns	Some concerns	Low	Some concerns	Low	Some concerns	High
Chen, 2021[45]	High	Low	Low	Low	Some concerns	Some Concerns	Low	High
Choi, 2020[46]	High	Low	Low	Low	High	Low	Some concerns	High
Choi, 2023[47]	High	High	Some concerns	Low	Low	Some concerns	Some concerns	High
Conway, 2018[48]	High	Some concerns	Some concerns	Low	Some concerns	Some concerns	Low	High
den Braver, 2019[49]	High	Some concerns	Low	Low	Low	Low	Low	High
Dominguez, 2015[50]	High	Some concerns	Low	Low	Some concerns	Low	Some concerns	High
Dow, 2019[51]	High	Low	Some concerns	Low	Some concerns	Low	Low	High
Duan 2022 Lifestyle[52]	High	Low	Low	Low	High	Some concerns	Low	High

Article	Confounding	Exposure measurement	Selection of participants	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Duan, 2021[53]	High	Some concerns	Low	Low	Some concerns	Some concerns	Some concerns	High
Duan, 2022[54]	High	Some concerns	Low	Low	Some concerns	High	Some concerns	High
Eguaras, 2017[55]	High	Low	Some concerns	Some concerns	Some concerns	Low	Some concerns	High
Ericson, 2018[56]	High	Low	Low	Low	Low	High	Low	High
Ericson, 2019[57]	Some concerns	Low	Some concerns	Low	Some concerns	Low	Some concerns	High
Esfandiar, 2022[58]	High	Low	Low	Low	Low	Low	Some concerns	High
Farhadnejad, 2020[109]	Some concerns	Some concerns	Low	Low	Some concerns	Low	Some concerns	High
Filippatos, 2016[60]	Some concerns	Some concerns	Some concerns	Low	Some concerns	Low	Low	High
Freisling, 2020[61]	High	Some concerns	Some concerns	Low	Some concerns	Some concerns	Some concerns	High
Fung, 2021[62]	High	Low	Low	Low	Low	High	Low	High
Galbete, 2018[63]	High	Some concerns	Low	Low	Low	Low	Some concerns	High
Gao, 2022[64]	Low	Low	Low	Low	Some concerns	Some concerns	Some concerns	High

Article	Confounding	Exposure measurement	Selection of participants	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Glenn, 2023[65]	Low	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns	High
Glenn, 2021[66]	Low	Low	Low	Some concerns	Low	Low	Some concerns	Some concerns
Hirahatake, 2019[67]	Low	Low	Low	Low	Low	Low	Some concerns	Some concerns
Hlaing-Hlaing, 2022[68]	High	Some Concerns	Some concerns	Low	Some concerns	High	Low	High
Hlaing-Hlaing, 2021[69]	High	Some Concerns	Some concerns	Low	Some concerns	High	Low	High
Hodge, 2021[70]	Some concerns	Some concerns	Low	Low	Some concerns	High	Some concerns	High
Howard, 2018[23]	Some concerns	Some concerns	Some concerns	Low	Low	Some concerns	Some concerns	High
Jacobs, 2015[71]	High	Some concerns	Some concerns	Low	low	some concerns	High	High
Jacobs, 2017 A priori[72]	High	Some concerns	Some concerns	Low	Low	Some concerns	High	High
Jacobs, 2017 Dietary [73]	High	Some concerns	Low	Low	High	High	Some concerns	High
Jannasch, 2019[74]	Low	Some concerns	Some concerns	Low	Some concerns	High	Low	High
Jin, 2021[75]	Some concerns	Low	Some concerns	Low	Some concerns	Low	Low	High

Article	Confounding	Exposure measurement	Selection of participants	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Kanerva, 2014[76]	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns	Low	High
Kesse-Guyot, 2021[77]	Very high	some concerns	Some concerns	Low	High	low	Some concerns	Very high
Khalili-Moghadam, 2019[78]	Some concerns	Low	Some concerns	Low	Low	Low	Some concerns	Some concerns
Kim and Giovannucci, 2022[79]	Low	Some concerns	low	Low	High	Some concerns	Some concerns	High
Koloverou, 2016 Adherence[80]	Very high	Some concerns	low	Low	High	Some concerns	Some concerns	Very high
Koloverou, 2016 Dietary[81]	High	Some concerns	Low	Low	High	High	Some concerns	High
Kroger/InterAct Consortium 2014[82]	High	Some concerns	Some concerns	Low	Low	Some concerns	Low	High
Lacoppidan, 2015[83]	High	Some concerns	Low	Low	Low	Some concerns	Some concerns	High
Langmann, 2023[84]	High	Some concerns	Low	Low	Some concerns	High	Low	High
Laouali, 2021[85]	Low	Some concerns	Low	Low	High	Some concerns	Some concerns	High
Lee, 2019 Diabetes[86]	Low	Low	Low	Low	High	Some concerns	Low	High
Lee, 2019 Identification[87]	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns	Some concerns	High

Article	Confounding	Exposure measurement	Selection of participants	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Lee, 2020[88]	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns	Some concerns	High
Ley, 2016[89]	Some concerns	Some concerns	Some concerns	Low	Low	Some concerns	Some concerns	High
Llavero-Valero, 2021[90]	High	Some concerns	Some concerns	Low	low	Some concerns	low	High
Lopez, 2022[91]	High	Low	Some concerns	Low	Low	low	High	High
Ma, 2022[92]	High	low	Some concerns	Low	high	low	High	High
Maldonado, 2022[93]	High	Low	Some concerns	Low	Some concerns	Low	Some concerns	High
Mandalazi, 2016[94]	High	Some concerns	Some concerns	Low	Low	Some concerns	Some concerns	High
Markanti, 2021[95]	Low	Low	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns
Mattei, 2017[96]	Some concerns	Low	Some concerns	Low	low	Some concerns	Some concerns	High
Merino, 2022[97]	Low	Low	Low	Low	Some concerns	Low	Some concerns	Some concerns
Neuhouser, 2022[98]	Low	Low	Some concerns	Low	Low	High	Some concerns	High
O'Connor, 2020[99]	High	Low	Low	Low	Some concerns	Low	Low	High

Article	Confounding	Exposure measurement	Selection of participants	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Otto, 2015[100]	Some concerns	High	Low	Low	Some concerns	High	Some concerns	High
Pant, 2024 [101]	Some concerns	High	Some concerns	Low	Some concerns	High	Some concerns	High
Papier, 2019[102]	High	High	Some concerns	Low	Low	High	Low	High
Pastorino, 2016[103]	High	Some concerns	low	Low	high	Some concerns	low	High
Qiao, 2014[104]	Low	Some concerns	Low	Low	Low	Some concerns	Low	Some concerns
Rajaobelina, 2019[105]	High	Some concerns	low	Low	Some concerns	Some concerns	Some concerns	High
Rayner, 2020 [106]	Some concerns	Some concerns	Low	Low	Some concerns	Some concerns	Low	High
Riboldi, 2022[107]	Low	Low	High	Low	High	Low	Some concerns	High
Ruiz-Estigarribia, 2020[108]	High	Some concerns	Low	Low	Some concerns	High	Low	High
Sali, 2020[109]	Some concerns	Some concerns	Low	Low	Some concerns	Low	Some concerns	High
Satija, 2016[110]	Low	Low	Low	Low	Some concerns	Some concerns	Some concerns	Some concerns
Seah, 2019[111]	High	Some concerns	Low	Low	Some concerns	Some concerns	Low	High

Article	Confounding	Exposure measurement	Selection of participants	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Shah, 2021[112]	Some concerns	Some concerns	Low	Low	Low	Some concerns	Low	Some concerns
Shan, 2018[113]	Some concerns	Low	Some concerns	Low	Some concerns	Some concerns	Low	High
Song, 2018[114]	Some concerns	Some concerns	Some concerns	Low	Some concerns	Low	Low	High
Song, 2021[115]	High	High	Some concerns	Low	High	Some concerns	Some concerns	High
Srour, 2020[116]	Some concerns	Some concerns	Low	Low	Some concerns	Some concerns	Low	High
Tait, 2020[117]	High	Some concerns	Some concerns	Low	Some concerns	Low	Low	High
Tertsunen, 2021[118]	Some concerns	Some concerns	Low	Low	Low	Some concerns	Low	High
Teymoori, 2021[119]	Some concerns	High	Low	low	Low	Low	Some concerns	High
Teymoori, 2023[120]	High	Some concerns	Low	Low	Some concerns	Low	Some concerns	High
Tison, 2022[121]	High	Some concerns	Some concerns	Low	Low	Low	High	High
Ushula, 2022[122]	High	Low	Low	Low	High	Low	Low	High
Vinke, 2020[123]	Some concerns	Low	Some concerns	Low	Some concerns	High	Low	High

Article	Confounding	Exposure measurement	Selection of participants	Post-exposure interventions	Missing data	Outcome measurement	Selection of the reported result	Overall
Voortman, 2017[124]	High	Some concerns	Some concerns	Low	Some concerns	High	Some concerns	High
Walsh, 2021[125]	High	High	low	low	Some concerns	Some concerns	low	High
Wang, 2022[126]	Some concerns	Low	Some concerns	Low	low	Some concerns	Some concerns	High
Wang, 2023[127]	high	some concerns	low	low	Some concerns	low	Some concerns	High
Wang, 2022[128]	High	Some concerns	Low	Low	Low	low	low	High
Xu, 2020[129]	High	Some concerns	Low	Low	Some concerns	High	Some concerns	High
Xu, 2022[130]	High	Low	Some concerns	Low	low	Some concerns	Some concerns	High
Yu, 2022[131]	High	Low	Low	Low	Low	High	low	High
Zhang, 2023[132]	Some concerns	Some concerns	Low	Low	Low	Low	Some concerns	High
Zhuang, 2021[133]	high	Some concerns	Low	low	Some concerns	Some concerns	low	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.)

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 risk of type 2 diabetes?”, with the following updates to existing conclusion statements (Appendix 2: Conclusion statements from the existing systematic reviews). The grades reflect the strength of the evidence underlying the conclusion statements.*

Children and Adolescents

- A conclusion statement cannot be drawn about the relationship between dietary patterns consumed by children and adolescents and risk of type 2 diabetes because of substantial concerns with directness. (Grade Not Assignable)

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 red and processed meats, high-fat dairy products, refined grains, and sugar-sweetened foods and beverages are associated with lower risk of type 2 diabetes. This conclusion statement is based on evidence graded as strong.

Research recommendations

- Examine the risk for type 2 diabetes in children and adolescents using outcomes with clinically meaningful cut points indicative of prediabetes, which include fasting glucose values of 100-125 mg/dL, an HbA1c value of 5.7% to 6.4% or a 2-hour post-load glucose level of 140 to 199 mg/dL. Incident prediabetes is prevalent among U.S. children and adolescents and may be associated with a risk of progression to type 2 diabetes.
- Examine dietary patterns consumed earlier in childhood (from birth) and through adolescence in relation to changes in risk of and risk factors for type 2 diabetes, particularly HbA1C using longer term cohort or case-control studies across a range of ages and life stages.
    - Conduct trials, particularly with diverse populations in the United States, that are well-controlled for diet quality and examine to examine the effect of dietary patterns on risk factors for type 2 diabetes, particularly HbA1C.
    - Conduct systems-level approaches that examine dietary patterns, particularly among children and adolescents, and changes in outcomes to better understand other contextual and environmental factors impacting these relationships synergistically.
- Use repeat measures of dietary patterns with validated dietary assessment tools and methods at multiple times during follow-up and with more detailed descriptions of the food components consumed and preparation methods of foods as part of the dietary pattern while consistently incorporating diet quality.
- Control for confounding factors, such as family history of diabetes, that may impact the relationship between dietary patterns and risk of type 2 diabetes.
- Account for potential 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 race and/or ethnicity and/or socioeconomic background.
- Collect detailed lifestyle information, especially physical activity, particularly in observational studies.

* 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.

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The Committee members are involved in: establishing all aspects of the protocol, which presents the plan for how they are planning to examine the scientific evidence, including the inclusion and exclusion criteria; reviewing all studies that meet the criteria the Committee sets; deliberating on the body of evidence for each question; and writing and grading the conclusion statements. The NESR team, with assistance from Federal staff from HHS and USDA (Jean Altman, MS; Kara Beckman, PhD; Dana DeSilva, PhD, RD; Kevin Kuczynski, MS, RD; TusaRebecca Pannucci, PhD, MPH, RD; Julia Quam, MSPH, RND; Elizabeth Rahavi, RD) and Project Leadership (HHS: Janet de Jesus, MS, RD; USDA: Eve Stoody, PhD), supports the Committee by facilitating, executing, and documenting the work necessary to ensure the reviews are completed in accordance with NESR methodology. Contractor support was also provided by Panum Telecom, LLC, a wholly owned subsidiary of Aretum (Verena McClain, MSc).

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Appendices

Appendix 1: Abbreviations

Table A 1. List of abbreviations

Abbreviation	Full name
BMI	Body mass index
HDI	Human Development Index
HEI	Healthy Eating Index
HHS	United States Department of Health and Human Services
NESR	Nutrition Evidence Systematic Review
RCT	Randomized controlled trial
SEP	Socioeconomic position
USDA	United States Department of Agriculture

Appendix 2: Conclusion statements from the existing systematic reviews

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

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 limited evidence that adherence to a dietary pattern rich in fruits, vegetables, legumes, cereals/whole grains, nuts, fish, and unsaturated oils and low in meat and high-fat dairy, assessed using an index or score, is associated with decreased risk of type 2 diabetes.(Grade: III - Limited) (Index Analysis) Limited and inconsistent evidence from epidemiological studies indicates that in adults, dietary patterns derived using factor or cluster analysis, characterized by vegetables, fruits, and low-fat dairy products tend to have an association with decreased risk of type 2 diabetes and those patterns characterized by red meat and sugar-sweetened foods and drinks, French fries, refined grains, and high-fat dairy products tended to show an increased association for risk of type 2 diabetes. Among studies, there was substantial variation in food group components and not all studies with similar patterns showed significant association.(Grade: III - Limited) (Factor or Cluster Analysis) There is insufficient evidence on a relationship between adherence to a Mediterranean-style or vegetarian diet pattern and incidence of type 2 diabetes. There is limited, inconsistent evidence that adherence to a Mediterranean-style, DASH or modified DASH, or Nordic dietary pattern results in improved glucose tolerance and insulin resistance.(Grade: IV - Not Assignable - Incidence of type 2 diabetes; Grade: III – Limited - Glucose tolerance and insulin resistance) (Other Methods) There is insufficient evidence, due to a small number of studies, to examine the relationship between dietary patterns derived using reduced rank regression and risk of type 2 diabetes. The differences in the methods used and populations studied made it difficult to compare results, and therefore no conclusions were drawn.(Grade: IV - Not Assignable) (Reduced Rank Regression)
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 that healthy dietary patterns higher in vegetables, fruits, and whole grains and lower in red and processed meats, high-fat dairy products, refined grains, and sweets/sugar-sweetened beverages reduce the risk of developing type 2 diabetes. 2015 Dietary Guidelines Advisory Committee Grade: Moderate Insufficient evidence is available to determine the relationship between dietary patterns consumed by children or adolescents and risk of type 2 diabetes. 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 risk of type 2 diabetes?

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 strongest 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, adults, and older adults aged 2 years and older
	Excluded:
	• At intervention/exposure and outcome:
	• Infants and young children (birth up to 24 months)
		Included:
		• At intervention/exposure:
		  ○ Infants and young children (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
		Excluded:
		• At outcome:
		  ○ Infants and young children (birth up to 24 months)
		  ○ Individuals during pregnancy
		• Individuals during postpartum
			• No change other than formatting

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

Category	Existing Review	Updated Review	Change and Rationale
Population: Health Status	Included: • Subjects who were healthy or at elevated chronic disease risk Excluded: • 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	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; ○ 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,† 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	• No change other than to clarify intent

Category	Existing Review	Updated Review	Change and Rationale
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) • 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).	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 • 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)	• No change other than formatting to clarify intent of the criteria.

[*] 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	Existing Review	Updated Review	Change and Rationale
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 s differs between groups	• No change other than formatting
Outcome(s)	Included: • Glucose tolerance • Insulin resistance • Incidence of Type 2 Diabetes Excluded: • Urinary measures of glucose	Included: All included study designs in children (birth to 19 years) and interventions only in adults (19 years and older): • Fasting blood glucose • Fasting insulin • Glucose tolerance/insulin resistance • Hemoglobin A1C • Prediabetes All included study designs in all included age groups: • Type 2 diabetes Excluded: • Gestational diabetes mellitus • Urinary measures of glucose • Non-fasting blood glucose or insulin	• Outcome criteria were modified to enable focus on the strongest body of evidence
Confounders	Included • n/a Excluded • n/a	Included • Studies that control for at least one of the key confounders listed in the analytic framework Excluded • Studies that control for at least one of the key confounders listed in the analytic framework	• Criteria were added to enable focus on a stronger body of evidence

Category	Existing Review	Updated Review	Change and Rationale
Study duration	<u>Included</u> • n/a <u>Excluded</u> • n/a	<u>Included</u> • Intervention length ≥12 weeks <u>Excluded</u> • Intervention length <12 weeks	• Study duration criteria were modified to enable focus on the strongest body of evidence
Size of study groups	<u>Included</u> • 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 <u>Excluded</u> • Studies with less than 30 subjects per study arm or a follow-up rate of less than 80 percent	<u>Included</u> • 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) <u>Excluded</u> • 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: • An analytic sample size of <1,000 participants (only for adults and older adults)	• Size of study groups criteria were modified to enable focus on the strongest body of evidence
Publication status	<u>Included</u> • Peer-reviewed articles published in research journals <u>Excluded</u> • Non-peer reviewed articles, unpublished data or manuscripts, pre-prints, reports, and conference abstracts or proceedings	<u>Included</u> • Peer-reviewed articles published in research journals <u>Excluded</u> • Non-peer reviewed articles, unpublished data or manuscripts, pre-prints, reports, and conference abstracts or proceedings	• No change

Category	Existing Review	Updated Review	Change and Rationale
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 or 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

Search from the existing review

The search conducted for the existing review was used to conduct a manual search to identify additional articles. For the complete search documentation, refer to:

Suggested Citations for the existing reviews: 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

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 Risk of Type 2 Diabetes: 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.SR0103

Search for the current review

The search was first run on September 12, 2021, and then periodically run using NESR's continuous evidence monitoring methods until May 2023.

Database: PubMed
Provider: U.S. National Library of Medicine
Date(s) Searched: October, 2021
Dates of Continuous Evidence Monitoring (CEM): September 21, 2021 – May 31, 2023
Dates Covered: October 21, 2019 – May 31, 2023

Table A 4. Search for PubMed

Search #	Concept	String
#1	Type 2 Diabetes	("Diabetes Mellitus"[Mesh:NoExp] OR "Diabetes Mellitus, Type 2"[Mesh] OR "type 2 diabet*"[tiab] OR "T2D"[tiab] OR "adult onset diabetes"[tiab] OR "Prediabetic State"[Mesh] OR "prediabet*"[tiab] OR "pre diabet*"[tiab] OR "Insulin Resistance"[Mesh] OR "insulin resistance"[tiab] OR "insulin resistant"[tiab] OR "glucose intolerance"[tiab] OR “glucose intolerant”[tiab] OR "glucose tolerance"[tiab] OR “glucose tolerant”[tiab] OR "Glycated Hemoglobin A"[Mesh] OR "hemoglobin A1c"[tiab] OR hba1c[tiab] OR "hba 1c"[tiab] OR “haemoglobin A1c”[tiab] OR "Hyperglycemia"[Mesh] OR "hyperglycemia"[tiab] OR hyperglycaemia[tiab] OR "Hypoglycemia"[Mesh] OR "hypoglycemia"[tiab] OR hypoglycaemia[tiab] OR ((impaired[tiab] OR glucose[tiab]) AND fasting[tiab]) OR "blood glucose"[MeSH] OR "blood glucose"[tiab] OR “plasma glucose”[tiab] OR “serum glucose”[tiab] OR "glycemi*"[tiab] OR glycaemi*[tiab] OR "blood sugar"[tiab] OR dysglycemi*[tiab] OR dysglycaemi*[tiab] OR hyperinsulinism[MeSH] OR hyperinsulin*[tiab] OR "Diabetes, Gestational"[Mesh] OR (gestation*[tiab] AND diabet*[tiab]) OR ("Maternal Nutritional Physiological Phenomena"[Mesh] AND diabet*[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 (("Guideline Adherence"[Mesh] OR "guideline adherence*"[tiab])AND (diet[tiab] OR dietary[tiab] OR food[tiab] OR beverage*[tiab] OR nutrition*[tiab])) OR "diet score*"[tiab] OR "diet quality score*"[tiab] OR "diet quality index*"[tiab] OR kidmed[tiab] OR "diet index*"[tiab] OR "dietary index*"[tiab] OR "food score*"[tiab] OR MedDietScore[tiab] OR "healthy eating index"[tiab])
#3		#1 AND #2
#4	Limiters	#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: Oct 21, 2019- September 21, 2021

Database: Embase

Provider: U.S. National Library of Medicine
Date(s) Searched: October 5, 2021 (initial search); October 5, 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	Type 2 Diabetes	'Diabetes Mellitus'/de OR 'diabetic obesity'/exp OR 'impaired glucose tolerance'/exp 'non insulin dependent diabetes mellitus'/exp OR 'insulin resistance'/exp OR 'Hypoglycemia'/exp OR 'glucose blood level'/exp OR 'hyperinsulinism'/exp OR 'pregnancy diabetes mellitus'/exp OR 'type 2 diabet*':ab,ti OR 'T2D':ab,ti OR 'adult onset diabetes':ab,ti OR 'prediabet*':ab,ti OR 'pre diabet*':ab,ti OR 'insulin resistance':ab,ti OR 'insulin resistant':ab,ti OR 'glucose intolerance':ab,ti OR 'glucose intolerant':ab,ti OR 'glucose tolerance':ab,ti OR 'glucose tolerant':ab,ti OR 'hemoglobin A1c':ab,ti OR 'hba1c':ab,ti OR 'hba 1c':ab,ti OR 'haemoglobin A1c':ab,ti OR 'hyperglycemia':ab,ti OR 'hyperglycaemia':ab,ti OR 'hypoglycemia':ab,ti OR 'hypoglycaemia':ab,ti OR (('impaired':ab,ti OR 'glucose':ab,ti) AND 'fasting':ab,ti) OR 'blood glucose':ab,ti OR 'plasma glucose':ab,ti OR 'serum glucose':ab,ti OR 'glycemi*':ab,ti OR glycaemi*:ab,ti OR 'blood sugar':ab,ti OR dysglycemi*:ab,ti OR dysglycaemi*:ab,ti OR hyperinsulin*:ab,ti OR ('gestation*':ab,ti AND 'diabet*':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 [2019-2021]/py

Database: Cochrane Central Register of Controlled Trials (CENTRAL)

Provider: U.S. National Library of Medicine
Date(s) Searched: October 5, 2021 (initial search); October 5, 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	Type 2 Diabetes	[mh ^"Diabetes Mellitus"] OR [mh "Diabetes Mellitus, Type 2"] OR [mh "Prediabetic State"] OR [mh "Insulin Resistance"] OR [mh "Hyperglycemia"] OR [mh "Glycated Hemoglobin A"] OR [mh "Hypoglycemia"] OR [mh "blood glucose"] OR [mh hyperinsulinism] OR [mh "Diabetes, Gestational"] OR ("type 2 diabet*" OR "T2D" OR "adult onset diabetes" OR "prediabet*" OR "pre diabet*" OR "insulin resistance" OR "insulin resistant" OR "glucose intolerance" OR “glucose intolerant” OR "glucose tolerance" OR “glucose tolerant” OR "hemoglobin A1c" OR “hba1c” OR "hba 1c" OR “haemoglobin A1c” OR "hyperglycemia" OR hyperglycaemia OR "hypoglycemia" OR “hypoglycaemia” OR ((impaired OR glucose) AND fasting) OR "blood glucose" OR “plasma glucose” OR “serum glucose” OR "glycemi*" OR glycaemi* OR "blood sugar" OR dysglycemi* OR dysglycaemi* OR hyperinsulin* OR (gestation* AND diabet*)):ti,ab,kw OR [mh "Maternal Nutritional Physiological Phenomena"] AND (diabet*):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 2019-2021

<u>Database: CINAHL</u>

Provider: U.S. National Library of Medicine
Date(s) Searched: October 5, 2021 (initial search); October 5, 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	Type 2 Diabetes	(MH "Diabetes Mellitus") OR (MH "Diabetes Mellitus, Type 2") OR (MH "Diabetes Mellitus, Gestational") OR (MH "Prediabetic State") OR (MH "Insulin Resistance+") OR (MH "Hyperglycemia+") OR (MH "Hemoglobin A, Glycosylated") OR (MH "Hypoglycemia+") OR (MH "blood glucose") OR (MH “hyperinsulinism+”) OR (TI "type 2 diabet*" OR "T2D" OR "adult onset diabetes" OR "prediabet*" OR "pre diabet*" OR "insulin resistance" OR "insulin resistant" OR "glucose intolerance" OR “glucose intolerant” OR "glucose tolerance" OR “glucose tolerant” OR "hemoglobin A1c" OR “hba1c” OR "hba 1c" OR “haemoglobin A1c” OR "hyperglycemia" OR hyperglycaemia OR "hypoglycemia" OR “hypoglycaemia” OR ((impaired OR glucose) AND fasting) OR "blood glucose" OR “plasma glucose” OR “serum glucose” OR "glycemi*" OR glycaemi* OR "blood sugar" OR dysglycemi* OR dysglycaemi* OR hyperinsulin* OR (gestation* AND diabet*)) OR (AB "type 2 diabet*" OR "T2D" OR "adult onset diabetes" OR "prediabet*" OR "pre diabet*" OR "insulin resistance" OR "insulin resistant" OR "glucose intolerance" OR “glucose intolerant” OR "glucose tolerance" OR “glucose tolerant” OR "hemoglobin A1c" OR “hba1c” OR "hba 1c" OR “haemoglobin A1c” OR "hyperglycemia" OR hyperglycaemia OR "hypoglycemia" OR “hypoglycaemia” OR ((impaired OR glucose) AND fasting) OR "blood glucose" OR “plasma glucose” OR “serum glucose” OR "glycemi*" OR glycaemi* OR "blood sugar" OR dysglycemi* OR dysglycaemi* OR hyperinsulin* OR (gestation* AND diabet*))
#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		#1 AND #2
#4	Limiters	#3 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 subjectsPublished Date: October 2019 – September 2021

Appendix 5: Excluded articles

The table below lists the 653 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 identified 72 articles for inclusion. After inclusion and exclusion criteria were established to update the review, the following 26 articles from the existing systematic review were excluded (rationale):

- Brunner EJ, Mosdol A, Witte DR, et al. Dietary patterns and 15-y risks of major coronary events, diabetes, and mortality. Am J Clin Nutr. 2008;87(5):1414-1421. doi:10.1093/ajcn/87.5.1414.(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)
- de Koning L. Low-carbohydrate diet scores and risk of type 2 diabetes in men. Am J Clin Nutr. 2011;93(4):844-850. doi:10.3945/ajcn.110.004333.(Intervention/Exposure/Comparator)
- Ericson U, Sonestedt E, Gullberg B, et al. High intakes of protein and processed meat associate with increased incidence of type 2 diabetes. Br J Nutr. 2013;109(6):1143-1153. doi:10.1017/s0007114512003017.(Intervention/Exposure/Comparator)
- Guasch-Ferre M, Becerra-Tomas N, Ruiz-Canela M, et al. Total and subtypes of dietary fat intake and risk of type 2 diabetes mellitus in the Prevencion con Dieta Mediterranea (PREDIMED) study. Am J Clin Nutr. 2017;105(3):723-735. doi:10.3945/ajcn.116.142034.(Intervention/Exposure/Comparator)
- Ha K, Joung H, Song Y. Inadequate fat or carbohydrate intake was associated with an increased incidence of type 2 diabetes mellitus in Korean adults: a 12-year community-based prospective cohort study. Diabetes Res Clin Pract. 2019;148:254-261. doi:10.1016/j.diabres.2019.01.024.(Intervention/Exposure/Comparator)
- Halton TL, Liu S, Manson JE, Hu FB. Low-carbohydrate-diet score and risk of type 2 diabetes in women. Am J Clin Nutr. 2008;87(2):339-346. doi:10.1093/ajcn/87.2.339.(Intervention/Exposure/Comparator)
- Kahleova H, Dort S, Holubkov R, Barnard ND. A plant-based high-carbohydrate, low-fat diet in overweight individuals in a 16-week randomized clinical trial: the role of carbohydrates. Nutrients. 2018;10(9). doi:10.3390/nu10091302.(Intervention/Exposure)
- Malik VS, Li Y, Tobias DK, Pan A, Hu FB. Dietary protein intake and risk of type 2 diabetes in US men and women. Am J Epidemiol. 2016;183(8):715-728. doi:10.1093/aje/kwv268.(Intervention/Exposure/Comparator)
- Nanri A, Mizoue T, Kurotani K, et al. Low-carbohydrate diet and type 2 diabetes risk in Japanese men and women: the Japan Public Health Center-Based Prospective Study. PLoS One. 2015;10(2):e0118377. doi:10.1371/journal.pone.0118377.(Intervention/Exposure/Comparator)
- Sakurai M, Nakamura K, Miura K, et al. Dietary carbohydrate intake, presence of obesity and the incident risk of type 2 diabetes in Japanese men. J Diabetes Investig. 2016;7(3):343-351. doi:10.1111/jdi.12433.(Intervention/Exposure/Comparator)

- Schulze MB, Schulz M, Heidemann C, Schienkiewitz A, Hoffmann K, Boeing H. Carbohydrate intake and incidence of type 2 diabetes in the European Prospective Investigation into Cancer and Nutrition (EPIC)-Potsdam Study. Br J Nutr. 2008;99(5):1107-1116. doi:10.1017/s0007114507853360.(Intervention/Exposure/Comparator)
- Shan R, Duan W, Liu L, et al. Low-carbohydrate, high-protein, high-fat diets rich in livestock, poultry and their products predict impending risk of type 2 diabetes in Chinese individuals that exceed their calculated caloric requirement. Nutrients. 2018;10(1). doi:10.3390/nu10010077.(Comparator)
- Shang X, Scott D, Hodge AM, et al. Dietary protein intake and risk of type 2 diabetes: results from the Melbourne Collaborative Cohort Study and a meta-analysis of prospective studies. Am J Clin Nutr. 2016;104(5):1352-1365. doi:10.3945/ajcn.116.140954.(Intervention/Exposure/Comparator)
- Simila ME, Kontto JP, Valsta LM, Mannisto S, Albanes D, Virtamo J. Carbohydrate substitution for fat or protein and risk of type 2 diabetes in male smokers. Eur J Clin Nutr. 2012;66(6):716-721. doi:10.1038/ejcn.2012.24.(Comparator)
- Sluijs I, Beulens JW, van der AD, Spijkerman AM, Grobbee DE, van der Schouw YT. Dietary intake of total, animal, and vegetable protein and risk of type 2 diabetes in the European Prospective Investigation into Cancer and Nutrition (EPIC)-NL study. Diabetes Care. 2010;33(1):43-48. doi:10.2337/dc09-1321.(Intervention/Exposure/Comparator)
- van Nielen M, Feskens EJ, Mensink M, et al. Dietary protein intake and incidence of type 2 diabetes in Europe: the EPIC-InterAct Case-Cohort Study. Diabetes Care. 2014;37(7):1854-1862. doi:10.2337/dc13-2627.(Comparator)
- Virtanen HEK, Koskinen TT, Voutilainen S, et al. Intake of different dietary proteins and risk of type 2 diabetes in men: the Kuopio Ischaemic Heart Disease Risk Factor Study. Br J Nutr. 2017;117(6):882-893. doi:10.1017/s0007114517000745.(Comparator was macronutrient distribution not dietary pattern)
- Johns DJ, Lindroos AK, Jebb SA, Sjostrom L, Carlsson LM, Ambrosini GL. Dietary patterns, cardiometabolic risk factors, and the incidence of cardiovascular disease in severe obesity. Obesity (Silver Spring). 2015;23(5):1063-1070. doi:10.1002/oby.20920.(Outcome, only intermediates from observational design)
- Konieczna J, Yanez A, Monino M, et al. Longitudinal changes in Mediterranean diet and transition between different obesity phenotypes. Clin Nutr. 2020;39(3):966-975. doi:10.1016/j.clnu.2019.04.002.(Outcome)
- 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. J Nutr. 2019;149(11):1920-1929. doi:10.1093/jn/nxz147.(Comparator)
- Poulsen SK, Due A, Jordy AB, et al. Health effect of the New Nordic Diet in adults with increased waist circumference: a 6-mo randomized controlled trial. Am J Clin Nutr. 2014;99(1):35-45. doi:10.3945/ajcn.113.069393.(Outcome, only intermediates from observational design)
- Salas-Salvado J, Bullo M, Babio N, et al. Reduction in the incidence of type 2 diabetes with the Mediterranean diet: results of the PREDIMED-Reus nutrition intervention randomized trial. Diabetes Care. 2011;34(1):14-19. doi:10.2337/dc10-1288.(Data overlap)
- Steffen LM, Van Horn L, Daviglus ML, et al. A modified Mediterranean diet score is associated with a lower risk of incident metabolic syndrome over 25 years among young adults: the CARDIA (Coronary Artery Risk Development in Young Adults) study. Br J Nutr. 2014;112(10):1654-1661. doi:10.1017/s0007114514002633.(Outcomes only intermediates from observational design)

Table A 8. List of excluded articles with rationale.

No.	Citation	Rationale
1	Abdrabalnabi AA, 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. 2020;12(2). doi:10.3390/nu12020451	Intervention or Exposure
2	Adam TC, Drummen M, Macdonald I, et al. Association of Psychobehavioral Variables With HOMA-IR and BMI Differs for Men and Women With Prediabetes in the PREVIEW Lifestyle Intervention. Diabetes care. 2021. doi:10.2337/dc21-0059	Intervention or Exposure
3	Aghaei N, Rouhani MH, Tabatabaei F, Larijani B, Azadbakht L. Effect of diverse low energy-dense versus healthy diet on metabolic outcomes in overweight/obese adolescents: A randomized controlled trial. Progress in Nutrition. 2019. 21:122-129. doi:10.23751/pn.v21i1-S.5721	Study Duration
4	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. JAMA Netw Open. 2018 Dec 7;1(8):e185708. doi: 10.1001/jamanetworkopen.2018.5708.	Outcome
5	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, Outcome
6	Aittola K, Karhunen L, Männikkö 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. Nutrients. 2021 Nov 11;13(11):4030. doi: 10.3390/nu13114030.	Intervention or Exposure
7	Akpulat S, Gülsoy Kirnap N, Pfeiffer A. The effects of low-carbohydrate diet and protein-rich mixed diet on insulin sensitivity, basal metabolic rate and metabolic parameters in obese patients. Article. Turkish Journal of Endocrinology and Metabolism. 2020. 24:206-213. doi:10.25179/tjem.2019-72200	Intervention or Exposure, Comparator
8	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. Clinical Nutrition ESPEN. 2022 Jun;49:522-528. doi: 10.1016/j.clnesp.2022.02.110.	Intervention or Exposure
9	Al Wattar B, Dodds J, Placzek A, et al. Mediterranean-style diet in pregnant women with metabolic risk factors (ESTEEM): A pragmatic multicentre randomised trial. Article. PLoS Medicine. 2019. 16. doi:10.1371/journal.pmed.1002857.	Data Overlap
10	Alamolhoda SH, Simbar M, Mirmiran P, Mirabi P. The effectiveness of low trans-fatty acids dietary pattern in pregnancy and the risk of gestational diabetes mellitus. Article. Caspian Journal of Internal Medicine. 2019;10(2):197-204. doi:10.22088/cjim.10.2.197	Intervention or Exposure

No.	Citation	Rationale
11	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. Apr 20 2023;10doi:10.3389/fnut.2023.1155817	Intervention or Exposure
12	Al-Daghri NM, Amer OE, Hameidi A, et al. Effects of a 12-Month Hybrid (In-Person + Virtual) Education Program in the Glycemic Status of Arab Youth. Article. Nutrients. 2022;14(9)doi:10.3390/nu14091759	Intervention or Exposure
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19	Amer OE, Sabico S, Alfawaz HA, et al. Reversal of Prediabetes in Saudi Adults: results from an 18 Month Lifestyle Intervention. Journal Article; Randomized Controlled Trial. Nutrients. 2020;12(3). doi:10.3390/nu1203080	Intervention or Exposure
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No.	Citation	Rationale
23	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. 2017;5(3):E604-E611. doi:10.9778/cmajo.20170027	Study Design
24	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. International Journal of Behavioral Nutrition and Physical Activity. Dec 20 2021;18(1)doi:16610.1186/s12966-021-01237-1	Intervention or Exposure, Outcome
25	Antoni R, Johnston KL, Steele C, Carter D, Robertson MD, Capehorn MS. Efficacy of an intermittent energy restriction diet in a primary care setting. European Journal of Nutrition. 2020;59(6):2805-2812. doi:10.1007/s00394-019-02098-y	Intervention or Exposure
26	Aqeel MM, Guo J, Lin L, et al. Temporal Dietary Patterns Are Associated with Obesity in US Adults. J Nutr. Dec 10 2020;150(12):3259-3268. doi:10.1093/jn/nxaa287	Study Design
27	Aridi YS, Walker JL, Roura E, Wright ORL. Adherence to the Mediterranean Diet and Chronic Disease in Australia: National Nutrition and Physical Activity Survey Analysis. Nutrients. Apr 28 2020;12(5). doi:10.3390/nu12051251	Study Design
28	Aro A, Kauppinen A, Kivinen N, et al. Life style intervention improves retinopathy status—the finnish diabetes prevention study. Article. Nutrients. 2019;11(7). doi:10.3390/nu11071691	Intervention or Exposure, Outcome
29	Asemi Z, Tabassi Z, Samimi M, Fahiminejad T, Esmaillzadeh A. Favourable effects of the Dietary Approaches to Stop Hypertension diet on glucose tolerance and lipid profiles in gestational diabetes: A randomised clinical trial. Brit J Nutr. 2013;109(11):2024-2030. doi:10.1017/S0007114512004242	Health Status
30	Asemi Z, Tabassi Z, Samimi M, Fahiminejad T, Esmaillzadeh A. Favorable effects of the Dietary Approaches to Stop Hypertension diet on glucose tolerance and lipid profiles in gestational diabetes: a randomised clinical trial - Expression of Concern. Br J Nutr. Aug 6 2021:1. doi:10.1017/S0007114521002002	Study Design/Publication status
31	Asghari G, Mirmiran P, Rezaeemanesh A, Mahdavi M, Azizi F, Hadaegh F. Changes in ideal cardiovascular health among Iranian adolescents: 2007-2008 to 2015-2017. Bmc Pediatrics. Jul 26 2022;22(1)doi:10.1186/s12887-022-03504-x	Study Design, Intervention or Exposure
32	Assaf-Balut C, e la Torre NG, Durán A, et al. An early, universal mediterranean diet-based intervention in pregnancy reduces cardiovascular risk factors in the “fourth trimester”. Article. Journal of Clinical Medicine. 2019;8(9). doi:10.3390/jcm8091499	Size of Study Groups. Data Overlap

No.	Citation	Rationale
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34	Assaf-Balut C, García De La Torre N, Duran A, et al. A mediterranean diet with an enhanced consumption of extra virgin olive oil and pistachios improves pregnancy outcomes in women without gestational diabetes mellitus: A sub-analysis of the St. Carlos gestational diabetes mellitus prevention study. Article. Annals of Nutrition and Metabolism. 2019;74(1):69-79. doi:10.1159/000495793	Data Overlap
35	Author NR. An investigation into the effect of a 12-week RCT comparing a low carbohydrate, high fat diet vs mainstream nutrition guidelines on metabolic health outcomes in overweight New Zealand Defence Force personnel. Trial registry record; Clinical trial protocol. http://wwwwhoint/trialsearch/Trial2aspx?TrialID=ACTRN12616001579482. 2016.	Publication Status
36	Author N/A. Intervention with diet rich in two types of dietary fibre on glycemia, adipokines and lipid status in obese pre-diabetic subjects.Trial registry record; Clinical trial protocol. http://wwwwhoint/trialsearch/Trial2aspx?TrialID=ACTRN12613001118796. 2013.	Publication Status
37	Author NR. MED Diet May Lower Diabetes Risk. Environmental Nutrition. 2021. 44:1-1.	Publication Status
38	Azzini E, Peluso I, Intorre F, et al. Total and Plant Protein Consumption: The Role of Inflammation and Risk of Non-Communicable Disease. Article. International Journal of Molecular Sciences. 2022;23(14)doi:10.3390/ijms23148008	Study Design, Intervention or Exposure
39	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	Outcome, Comparator
40	Baleato CL, Ferguson JJA, Oldmeadow C, Mishra GD, Garg ML. Plant-Based Dietary Patterns versus Meat Consumption and Prevalence of Impaired Glucose Intolerance and Diabetes Mellitus: A Cross-Sectional Study in Australian Women. Nutrients. Oct 2022;14(19)doi:10.3390/nu14194152	Study Design,
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42	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

No.	Citation	Rationale
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44	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 Coll Nutr. Feb 5 2021:1-13. doi:10.1080/07315724.2020.1869625	Intervention or Exposure, Comparator
45	Barrea L, Muscogiuri G, Pugliese G, e Alteriis G, Colao A, Savastano S. Metabolically healthy obesity (Mho) vs. metabolically unhealthy obesity (muo) phenotypes in pcos: Association with endocrine-metabolic profile, adherence to the mediterranean diet, and body composition. Article. Nutrients. 2021;13(11)doi:10.3390/nu13113925	Outcome, Comparator
46	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. The Journal of nutrition. 2021;151(5):1128-1138. doi:10.1093/jn/nxaa435	Intervention or Exposure
47	Basu A, Alman AC, Snell-Bergeon JK. Associations of Dietary Patterns and Nutrients with Glycated Hemoglobin in Participants with and without Type 1 Diabetes. Nutrients. Mar 23 2021;13(3).doi:10.3390/nu13031035	Outcome
48	Beasley JM, Yi SS, Ahn J, Kwon SC, Wylie-Rosett J. Dietary Patterns in Chinese Americans are Associated with Cardiovascular Disease Risk Factors, the Chinese American Cardiovascular Health Assessment (CHA CHA). Journal of Immigrant & Minority Health. 2019;21(5):1061-1069. doi:10.1007/s10903-018-0800-z	Study Design
49	Becerra-Tomás N, Díaz-López A, Rosique-Esteban N, et al. Legume consumption is inversely associated with type 2 diabetes incidence in adults: A prospective assessment from the PREDIMED study. Article. Clinical Nutrition. 2018;37(3):906-913. doi:10.1016/j.clnu.2017.03.015	Intervention or Exposure
50	Beltaief K, Bouida W, Trabelsi I, et al. Metabolic effects of ramadan fasting in patients at high risk of cardiovascular diseases. Article. International Journal of General Medicine. 2019;12:247-254. doi:10.2147/IJGM.S172341	Study Design, Intervention or Exposure
51	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
52	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. 2022;14(3)doi:10.3390/nu14030706	Intervention or Exposure, Comparator

No.	Citation	Rationale
53	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. American Journal of Clinical Nutrition. Oct 6 2022;116(4):1078-1090. doi:10.1093/ajcn/nqac174	Size of Study Groups
54	Bianco A, Franco I, Curci R, et al. Diet and Exercise Exert a Differential Effect on Glucose Metabolism Markers According to the Degree of NAFLD Severity. Nutrients. May 10 2023;15(10)doi:10.3390/nu15102252	Health Status
55	Blancas-Sánchez IM, Del Rosal Jurado M, Aparicio-Martínez P, et al. A Mediterranean-Diet-Based Nutritional Intervention for Children with Prediabetes in a Rural Town: A Pilot Randomized Controlled Trial. Nutrients. 2022;14(17)doi:10.3390/nu14173614	Size of Study Groups
56	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
57	Bonaccio M, Di Castelnuovo A, Costanzo S, et al. Association of a traditional Mediterranean diet and non-Mediterranean dietary scores with all-cause and cause-specific mortality: prospective findings from the Moli-sani Study. Article. European Journal of Nutrition. 2021;60(2):729-746. doi:10.1007/s00394-020-02272-7	Outcome
58	Bonaccio M, Di Castelnuovo A, Costanzo S, et al. Impact of combined healthy lifestyle factors on survival in an adult general population and in high-risk groups: prospective results from the Moli-sani Study. Article. Journal of Internal Medicine. 2019;286(2):207-220. doi:10.1111/joim.12907	Outcome, Comparator
59	Borgen I, Smastuen MC, Jacobsen AF, et al. Effect of the Pregnant+ smartphone application in women with gestational diabetes mellitus: a randomised controlled trial in Norway. BMJ Open. Nov 11 2019;9(11):e030884. doi:10.1136/bmjopen-2019-030884	Study Design, Intervention or Exposure
60	Bozkuş Y, Mousa U, Demir CC, et al. Abdominal bioelectric impedance for follow-up of dieters: A prospective study. Article. Acta Endocrinologica. 2019;15(2):145-152. doi:10.4183/aeb.2019.145	Study Design, Intervention or Exposure
61	Brady EM, Gulsin GS, Mirkes EM, et al. Fibro-inflammatory recovery and type 2 diabetes remission following a low calorie diet but not exercise training: A secondary analysis of the DIASTOLIC randomised controlled trial. Diabetic Medicine. 2022;39(8):1-11. doi:10.1111/dme.14884	Study Design, Intervention or Exposure, Health Status
62	Brand C, Martins CML, Lemes VB, et al. Effects and prevalence of responders after a multicomponent intervention on cardiometabolic risk factors in children and adolescents with overweight/obesity: Action for health study. J Sports Sci. Mar 2020;38(6):682-691. doi:10.1080/02640414.2020.1725384	Intervention or Exposure

No.	Citation	Rationale
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64	Broś-Konopielko M, Białek A, Oleszczuk-Modzelewska L, Zaleśkiewicz B, Różańska-Walędziak A, Czajkowski K. Nutritional, anthropometric and sociodemographic factors affecting fatty acids profile of pregnant women's serum at labour—chemometric studies. Nutrients. 2021;13(9). doi:10.3390/nu13092948	Intervention or Exposure, Outcome
65	Buchman M, Jin Q, Sotos-Prieto M. The effectiveness of the Healthy Heart Score Intervention as a Primordial Prevention Tool in a Primary Care Setting: a Randomized Controlled Trial, Pilot Study. Journal: Conference Abstract. Revista espanola de nutricion humana y dietetica. 2019;23:204-205.	Publication Status
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67	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	Study Design
68	Caferoglu Z, Erdal B, Hatipoglu N, Kurtoglu S. The effects of diet quality and dietary acid load on insulin resistance in overweight children and adolescents. Article in Press. Los efectos de la calidad de la dieta y la carga ácida de la dieta sobre la resistencia a la insulina en niños y adolescentes con sobrepeso. 2022;doi:10.1016/j.endinu.2021.07.008	Study Design
69	Cai J, Zhang Y, Nuli R, et al. Interaction between dietary patterns and TCF7L2 polymorphisms on type 2 diabetes mellitus among uyghur adults in Xinjiang province, China. Article. Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy. 2019;12:239-255. doi:10.2147/DMSO.S191759	Study Design
70	Cai L, Yin J, Ma X, et al. Low-carbohydrate diets lead to greater weight loss and better glucose homeostasis than exercise: a randomized clinical trial. Article. Frontiers of medicine. 2021;15(3):460-471. doi:10.1007/s11684-021-0861-6	Intervention or Exposure, Study Duration
71	Cai Q, Dekker LH, Vinke PC, et al. Diet quality and incident chronic kidney disease in the general population: The Lifelines Cohort Study. Article. Clinical Nutrition. 2021;40(9):5099-5105. doi:10.1016/j.clnu.2021.07.033	Outcome
72	Calabrese FM, Disciglio V, Franco I, et al. A Low Glycemic Index Mediterranean Diet Combined with Aerobic Physical Activity Rearranges the Gut Microbiota Signature in NAFLD Patients. Nutrients. 2022;14(9)doi:10.3390/nu14091773	Intervention or Exposure, Health Status

No.	Citation	Rationale
73	Calvo-Malvar M, Benítez-Estévez AJ, Leis R, Sánchez-Castro J, Gude F. Changes in Dietary Patterns through a Nutritional Intervention with a Traditional Atlantic Diet: The Galiat Randomized Controlled Trial. Nutrients. 2021. 13:4233-4233. doi:10.3390/nu13124233	Outcome
74	Camargo A, Vals-Delgado C, Alcala-Diaz JF, et al. A Diet-Dependent Microbiota Profile Associated with Incident Type 2 Diabetes: From the CORDIOPREV Study. Mol Nutr Food Res. Oct 16 2020:e2000730. doi:10.1002/mnfr.202000730	Intervention or Exposure
75	Cani PD, Van Hul M. Do diet and microbes really 'PREDICT' cardiometabolic risks? Article. Nature Reviews Endocrinology. 2021;17(5):259-260. doi:10.1038/s41574-021-00480-7	Study Design
76	Cao Y, Chen C, Cui L, et al. A population-based survey for dietary patterns and prediabetes among 7555 Chinese adults in urban and rural areas in Jiangsu Province. Sci Rep. Jun 26 2020;10(1):10488. doi:10.1038/s41598-020-67028-z	Study Design
77	Capurso A, Capurso C. The Mediterranean way: why elderly people should eat wholewheat sourdough bread—a little known component of the Mediterranean diet and healthy food for elderly adults. Aging Clinical & Experimental Research. 2020;32(1):1-5. doi:10.1007/s40520-019-01392-3	Study Design, Publication Status
78	Carballo-Casla A, Ortola R, Garcia-Esquinas E, et al. The Southern European Atlantic Diet and all-cause mortality in older adults. BMC Med. Feb 9 2021;19(1):36. doi:10.1186/s12916-021-01911-y	Outcome
79	Carson AP, Long DL, Cherrington AL, et al. Sex Differences in Factors Contributing to the Racial Disparity in Diabetes Risk. Am J Prev Med. Apr 2021;60(4):e169-e177. doi:10.1016/j.amepre.2020.09.016	Intervention or Exposure, Comparator
80	Castro-Juarez AA, Serna-Gutiérrez A, Alemán-Mateo H, et al. Effectiveness of a Lifestyle Change Program on Insulin Resistance in Yaquis Indigenous Populations in Sonora, Mexico: PREVISY. Article. Nutrients. 2023;15(3)doi:10.3390/nu15030597	Intervention or Exposure
81	Ceraudo F, Caparello G, Galluccio A, et al. Impact of Mediterranean Diet Food Choices and Physical Activity on Serum Metabolic Profile in Healthy Adolescents: Findings from the DIMENU Project. Nutrients. Feb 19 2022;14(4)doi:10.3390/nu14040881	Study Design, Intervention or Exposure
82	Cha E, Pasquel FJ, Yan F, et al. Characteristics associated with early- vs. later-onset adult diabetes: The CARDIA study. Diabetes Res Clin Pract. Dec 2021;182:109144. doi:10.1016/j.diabres.2021.109144	Size of Study Groups
83	Chelu S, Bernad E, Craina M, et al. Prevalence of Gestational Diabetes in preCOVID-19 and COVID-19 Years and Its Impact on Pregnancy: A 5-Year Retrospective Study. Article. Diagnostics. 2022;12(5)doi:10.3390/diagnostics12051241	Intervention or Exposure
84	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. 9	Country

No.	Citation	Rationale
85	Chen GC, Chai JC, Xing J, et al. Healthful eating patterns, serum metabolite profile and risk of diabetes in a population-based prospective study of US Hispanics/Latinos. Diabetologia. Jul 2022;65(7):1133-1144. doi:10.1007/s00125-022-05690-w	Intervention or Exposure, Comparator
86	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	Intervention or Exposure
87	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	Life Stage
88	Chen Q, Chen Y, Wu W, et al. Low-carbohydrate diet and maternal glucose metabolism in Chinese pregnant women. Br J Nutr. Aug 14 2021;126(3):392-400.	Intervention or Exposure, Outcome
89	Chen Q, Feng Y, Yang H, et al. A vitamin pattern diet is associated with decreased risk of gestational diabetes mellitus in Chinese women: Results from a case control study in Taiyuan, China. Article. Journal of Diabetes Research. 2019;2019	Study Design
90	Chen Q, Wu W, Yang H, et al. A Vegetable Dietary Pattern Is Associated with Lowered Risk of Gestational Diabetes Mellitus in Chinese Women. Diabetes Metab J. Dec 2020;44(6):887-896.	Study Design
91	Chen X, Su H, Kunii D, et al. The Effects of Mobile-App-Based Low-Carbohydrate Dietary Guidance on Postprandial Hyperglycemia in Adults with Prediabetes. Article. Diabetes Therapy. 2020;11(10):2341-2355.	Intervention or Exposure
92	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. European Journal of Nutrition. 2021;60(1):249-258.	Intervention or Exposure
93	Chen Z, Franco OH, Lamballais S, et al. Associations of specific dietary protein with longitudinal insulin resistance, prediabetes and type 2 diabetes: The Rotterdam Study. Clinical Nutrition. 2020;39(1):242-249.	Intervention or Exposure
94	Chen Z, Qian F, Liu G, et al. 189-OR: Prepregnancy Plant-Based Diet and the Risk of Gestational Diabetes Mellitus: A Prospective Cohort Study of 15,999 Women. Diabetes. 2020;69:N.PAG-N.PAG.	Study Design, Publication Status
95	Chevli PA, Mehta A, Allison M, et al. Relationship of American Heart Association's Life Simple 7, Ectopic Fat, and Insulin Resistance in 5 Racial/Ethnic Groups. Article. Journal of Clinical Endocrinology and Metabolism. 2022;107(6):E2394-E2404. doi:10.1210/clinem/dgac102	Study Design, Intervention or Exposure

No.	Citation	Rationale
96	Choi BG, Dhawan T, Metzger K, et al. Image-Based Mobile System for Dietary Management in an American Cardiology Population: pilot Randomized Controlled Trial to Assess the Efficacy of Dietary Coaching Delivered via a Smartphone App Versus Traditional Counseling. Journal Article; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. JMIR mhealth and uhealth. 2019;7(4):e10755. doi:10.2196/10755	Intervention or Exposure, Comparator
97	Choudhary P, Ronkainen J, Nedelec R, et al. The relationship of life-course patterns of adiposity with type 2 diabetes, depression, and their comorbidity in the Northern Finland Birth Cohort 1966. Article in Press. International journal of obesity (2005). 2022;doi:10.1038/s41366-022-01134-y	Intervention or Exposure
98	Christensen L, Thorning TK, Fabre O, Legrand R, Astrup A, Hjorth MF. Metabolic improvements during weight loss: The RNPC® cohort. Article. Obesity Medicine. 2019;14. doi:10.1016/j.obmed.2019.100085	Study Design
99	Chung S, Kim MS, Kwock CK. Dietary patterns may be nonproportional hazards for the incidence of type 2 diabetes: Evidence from Korean adult females. Article. Nutrients. 2019;11(10). doi:10.3390/nu11102522	Comparator
100	Cipryan L, Litschmannova M, Maffetone PB, et al. Very Low-Carbohydrate High-Fat Diet Improves Risk Markers for Cardiometabolic Health More Than Exercise in Men and Women With Overfat Constitution: Secondary Analysis of a Randomized Controlled Clinical Trial. Front Nutr. May 23 2022;9doi:10.3389/fnut.2022.867690	Intervention or Exposure
101	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
102	Clemente G, Giorgini M, Della Pia N, et al. Effectiveness on major cardiovascular risk factors of an educational program to promote a Mediterranean type of diet among the employees of the company FCA Italia S.p.A. Diabetes Res Clin Pract. Sep 2021;179:109009. doi:10.1016/j.diabres.2021.109009	Intervention or Exposure, Comparator
103	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	Intervention or Exposure, Comparator
104	Cockerham WC, Bauldry S, Sims M. Obesity-Related Health Lifestyles of Late-Middle Age Black Americans: The Jackson Heart Study. Am J Prev Med. Jul 2022;63(1 Suppl 1):S47-S55. doi:10.1016/j.amepre.2022.02.014	Study Design, Intervention or Exposure
105	Cockroft MC, Bartlett TR, Wallace DC. Sleep, Nutrition, Disordered Eating, Problematic Tobacco and Alcohol Use, and Exercise in College Students With and Without Diabetes. Journal of Psychosocial Nursing & Mental Health Services. 2019;57(12):23-32. doi:10.3928/02793695-20190919-04	Study Design, Intervention or Exposure

No.	Citation	Rationale
106	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	Confounders
107	Corsi Decenti E, Zambri F, Salvatore MA, et al. Dietary habits, lifestyle, and gestational diabetes in immigrant women: a survey in Northwestern Tuscany (Central Italy). Epidemiol Prev. Jul-Aug 2022;46(4):259-267. Abitudini alimentari, stile di vita e diabete gestazionale nelle donne migranti. Un'indagine in Toscana Nord-Ovest. doi:10.19191/EP22.4.A372.074	Study Design, Comparator
108	Costa-Urrutia P, Alvarez-Farina R, Abud C, et al. Effect of multi-component school-based program on body mass index, cardiovascular and diabetes risks in a multi-ethnic study. BMC Pediatr. Nov 4 2019;19(1):401. doi:10.1186/s12887-019-1787-x	Intervention or Exposure
109	Costello E, Goodrich J, Patterson WB, et al. Diet Quality Is Associated with Glucose Regulation in a Cohort of Young Adults. Nutrients. Sep 2022;14(18)doi:10.3390/nu14183734	Size of Study Groups
110	Courten BD, Karim MN, Hodge A. 714-P: Dietary Pattern and Risk of Type 2 Diabetes In Melbourne Collaborative Cohort. Diabetes. 2020;69:N.PAG-N.PAG. doi:10.2337/db20-714-P	Publication Status
111	Crimarco A, Springfield S, Petlura C, et al. A randomized crossover trial on the effect of plant-based compared with animal-based meat on trimethylamine-N-oxide and cardiovascular disease risk factors in generally healthy adults: Study With Appetizing Plantfood-Meat Eating Alternative Trial (SWAP-MEAT). Am J Clin Nutr. Nov 11 2020;112(5):1188-1199. doi:10.1093/ajcn/nqaa203	Intervention or Exposure,Study Duration
112	Croxford S, Gupta D, Bandyopadhyay M, Itsiopoulos C. An evaluation of dietary intakes of a selected group of South Asian migrant women with gestational diabetes mellitus. Ethn Health. May 2021;26(4):487-503.	Study Design, Outcome
113	Cuesta M, Fuentes M, Rubio M, et al. Incidence and regression of metabolic syndrome in a representative sample of the Spanish population: results of the cohort di@bet.es study. BMJ Open Diabetes Res Care. Oct 2020;8(1)	Outcome
114	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	Study Design, Intervention or Exposure
115	Currenti W, Godos J, Alanazi AM, et al. Dietary Fats and Cardio-Metabolic Outcomes in a Cohort of Italian Adults. Article. Nutrients. 2022;14(20)doi:10.3390/nu14204294	Study Design, Intervention or Exposure
116	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

No.	Citation	Rationale
117	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. doi:10.1093/eurpub/cky207	Study Design
118	Czekajlo-Kozlowska A, Rozanska D, Zatonska K, Szuba A, Regulska-Ilow B. Association between egg consumption and elevated fasting glucose prevalence in relation to dietary patterns in selected group of Polish adults. Nutr J. Dec 30 2019;18(1):90. doi:10.1186/s12937-019-0516-5	Intervention or Exposure, Outcome
119	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. Am J Clin Nutr. 2021;114(4):1546-1559. doi:10.1093/ajcn/nqab259	Intervention or Exposure
120	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. Nutrients. 2021;13(6)doi:10.3390/nu13061941	Study Design, Outcome
121	De La Torre NG, Assaf-Balut C, Varas IJ, et al. Effectiveness of following mediterranean diet recommendations in the real world in the incidence of gestational diabetes mellitus (Gdm) and adverse maternal-foetal outcomes: A prospective, universal, interventional study with a single group. the st carlos study. Nutrients. 2019;11(6)	Study Design
122	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	Intervention or Exposure, Comparator
123	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
124	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.Diabetes Research and Clinical Practice. 2019;156. doi:10.1016/j.diabres.2019.107825	Intervention or Exposure, Comparator
125	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. Diabetes Research and Clinical Practice. 2019;148:262-267. doi:10.1016/j.diabres.2017.11.007	Study Design, Intervention or Exposure
126	de Luis DA, Primo D, Izaola O, Aller R. Adiponectin Gene Variant rs266729 Interacts with Different Macronutrient Distribution of Two Different Hypocaloric Diets. Lifestyle Genom. 2020;13(1):20-27. doi:10.1159/000503863	Intervention or Exposure

No.	Citation	Rationale
127	de Luis DA, Primo D, Izaola O, et al. Role of the variant in adiponectin gene rs266729 on weight loss and cardiovascular risk factors after a hypocaloric diet with the Mediterranean pattern. Nutrition. 2019;60:1-5. doi:10.1016/j.nut.2018.08.018	Study Design, Intervention or Exposure
128	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, Intervention or Exposure
129	De Pergola G, Zupo R, Lampignano L, et al. Higher Body Mass Index, Uric Acid Levels, and Lower Cholesterol Levels are Associated with Greater Weight Loss. Endocr Metab Immune Disord Drug Targets. 2020;20(8):1268-1281. doi:10.2174/1871530320666200429235830	Study Design, Intervention or Exposure
130	Deledda A, Palmas V, Heidrich V, et al. Dynamics of Gut Microbiota and Clinical Variables after Ketogenic and Mediterranean Diets in Drug-Naive Patients with Type 2 Diabetes Mellitus and Obesity. Metabolites. Nov 2022;12(11)doi:10.3390/metabo12111092	Health Status
131	Deng X, Niu W. Plant-Based Dietary Patterns and Incidence of Type 2 Diabetes. 2019;179:1603-1604. doi:10.1001/jamainternmed.2019.4860	Study Design, Publication Status
132	Desormeaux G, Petrick HL, Brunetta H, Holloway G. 1805-P: Dietary Nitrate Prevents High-Fat Diet-Induced Glucose Intolerance and Liver-Specific Reactive Oxygen Species Emission. Diabetes. 2020;69. doi:10.2337/db20-1805-P	Publication Status
133	di Giuseppe R, Plachta-Danielzik S, Koch M, et al. Dietary pattern associated with selenoprotein P and MRI-derived body fat volumes, liver signal intensity, and metabolic disorders. Eur J Nutr. 2019;58(3):1067-1079. doi:10.1007/s00394-018-1624-2	Study Design
134	Dodd JM, Deussen AR, Louise J. A Randomised Trial to Optimise Gestational Weight Gain and Improve Maternal and Infant Health Outcomes through Antenatal Dietary, Lifestyle and Exercise Advice: The OPTIMISE Randomised Trial. Nutrients. Dec 2 2019;11(12). doi:10.3390/nu11122911	Intervention or Exposure
135	Domínguez-Coello S, Carrillo-Fernández L, Gobierno-Hernández J, et al. Decreased Consumption of Added Fructose Reduces Waist Circumference and Blood Glucose Concentration in Patients with Overweight and Obesity. The DISFRUTE Study: A Randomised Trial in Primary Care. Nutrients. 2020;12(4):1149-1149. doi:10.3390/nu12041149	Intervention or Exposure
136	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. Feb 18 2021:1-9. doi:10.1017/S0007114521000611	Intervention or Exposure

No.	Citation	Rationale
137	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
138	Dorenbos E, Drummen M, Adam T, et al. Effect of a high protein/low glycaemic index diet on insulin resistance in adolescents with overweight/obesity-A PREVIEW randomized clinical trial. Pediatr Obes. Jan 2021;16(1):e12702. doi:10.1111/ijpo.12702	Intervention or Exposure, Comparator
139	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. Aug 10 2021. doi:10.1093/ajcn/nqab247	Intervention or Exposure, Comparator
140	Du M, Liu J, Han N, Zhao Z, Luo S, Wang H. Association between sleep duration in early pregnancy and risk of gestational diabetes mellitus: a prospective cohort study. Diabetes Metab. Dec 16 2020;47(5):101217. doi:10.1016/j.diabet.2020.101217	Intervention or Exposure
141	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. 2021;doi:10.1093/ajcn/nqab287	Intervention or Exposure
142	Effoe VS, Carnethon MR, Echouffo-Tcheugui JB, et al. The American Heart Association Ideal Cardiovascular Health and Incident Type 2 Diabetes Mellitus Among Blacks: The Jackson Heart Study. J Am Heart Assoc. 2017;6(6)doi:10.1161/JAHA.116.005008	Intervention or Exposure, Comparator, Outcome
143	Efthymiou V, Charmandari E, Vlachakis D, et al. Adolescent Self-Efficacy for Diet and Exercise Following a School-Based Multicomponent Lifestyle Intervention. Nutrients. 2022;14(1):97. doi:10.3390/nu14010097	Intervention or Exposure, Outcome, Comparator
144	Ekuni D, Furuta M, Kimura T, et al. Association between intensive health guidance focusing on eating quickly and metabolic syndrome in Japanese middle-aged citizens. Eat Weight Disord. Feb 2020;25(1):91-98.	Intervention or Exposure
145	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. Article. International journal of behavioral medicine. 2019;26(5):461-473.	Intervention or Exposure
146	Esfandiar Z, Hosseini-Esfahani F, Mirmiran P, Azizi F. The association of dietary macronutrients composition with the incidence of type 2 diabetes, using iso-energetic substitution models: Tehran Lipid and Glucose Study. Prim Care Diabetes. Dec 2021;15(6):1080-1085. doi:10.1016/j.pcd.2021.09.006	Intervention or Exposure

No.	Citation	Rationale
147	Esfandiar Z, Hosseini-Esfahani F, Mirmiran P, Yuzbashian E, Azizi F. The Association of Dietary Polyphenol Intake with the Risk of Type 2 Diabetes: Tehran Lipid and Glucose Study. Diabetes Metab Syndr Obes. 2020;13:1643-1652.	Intervention or Exposure
148	Eshak ES, Iso H, Muraki I, Tamakoshi A. Among the water-soluble vitamins, dietary intakes of vitamins C, B2 and folate are associated with the reduced risk of diabetes in Japanese women but not men. Article. British Journal of Nutrition. 2019;121(12):1357-1364.	Intervention or Exposure
149	Fagherazzi S, Farias DR, Belfort GP, et al. The impact of the DASH diet on glycaemic control and consumption of processed and ultra-processed foods in pregnant women with pre-gestational diabetes mellitus: a randomized clinical trial. Journal: Article in Press. British journal of nutrition. 2020;	Health Status
150	Fagherazzi S, Farias DR, Belfort GP, et al. Impact of the Dietary Approaches to Stop Hypertension (DASH) diet on glycaemic control and consumption of processed and ultraprocessed foods in pregnant women with pre-gestational diabetes mellitus: a randomised clinical trial. Br J Nutr. Sep 28 2021;126(6):865-876.	Health Status
151	Falkenhain K, Locke SR, Lowe DA, et al. Keyto app and device versus WW app on weight loss and metabolic risk in adults with overweight or obesity: A randomized trial. Article in Press. Obesity. 2021;doi:10.1002/oby.23242	Intervention or Exposure
152	Farabi SS, Smith GI, Schweitzer GG, Stein RI, Klein S. Do lifestyle factors and quality of life differ in people with metabolically healthy and unhealthy obesity?	Study Design,
153	Farhadnejad H, Teymoori F, Asghari G, Mokhtari E, Mirmiran P, Azizi F. The higher adherence to a healthy lifestyle score is associated with a decreased risk of type 2 diabetes in Iranian adults. Bmc Endocrine Disorders. Feb 17 2022;22(1). doi:10.1186/s12902-022-00961-4	Intervention or Exposure
154	Farpour-Lambert NJ, Martin XE, Bucher Della Torre S, et al. Effectiveness of individual and group programmes to treat obesity and reduce cardiovascular disease risk factors in pre-pubertal children. Clin Obes. Dec 2019;9(6):e12335.	Intervention or Exposure
155	Feng Q, Yang M, Dong H, et al. Dietary fat quantity and quality in early pregnancy and risk of gestational diabetes mellitus in Chinese women: a prospective cohort study. Br J Nutr. Aug 1 2022:1-10. doi:10.1017/S0007114522002422	Intervention or Exposure
156	Fernandez CA, Potts K, Bazzano LA. Effect of ideal protein versus low-fat diet for weight loss: A randomized controlled trial. Article in Press. Obesity Science and Practice. 2021;doi:10.1002/osp4.567	Intervention or Exposure
157	Fernández-García JC, Martínez-Sánchez MA, Bernal-López MR, et al. Effect of a lifestyle intervention program with energy-restricted Mediterranean diet and exercise on the serum polyamine metabolome in individuals at high cardiovascular disease risk: A randomized clinical trial. Article. American Journal of Clinical Nutrition. 2020;111(5):975-982. doi:10.1093/ajcn/nqaa064	Comparator

No.	Citation	Rationale
158	Fernandez-Lazaro CI, Sayon-Orea C, Toledo E, Moreno-Iribas C, Guembe MJ, Investigators RS. Association of ideal cardiovascular health with cardiovascular events and risk advancement periods in a Mediterranean population-based cohort. BMC Med. Jul 5 2022;20(1):232. doi:10.1186/s12916-022-02417-x	Outcome
159	Fernandez-Lazaro CI, Toledo E, Salas-Salvado 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 & metabolism. 2019;75:20-21.	Publication Status
160	Fernández-Ruiz VE, Solé-Agustí M, Armero-Barranco D, Cauli O. Weight Loss and Improvement of Metabolic Alterations in Overweight and Obese Children Through the I2AO2 Family Program: A Randomized Controlled Clinical Trial. Biological Research For Nursing. 2021;23(3):488-503. doi:10.1177/1099800420987303	Intervention or Exposure
161	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	Size of Study Groups
162	Ford CN, Weber MB, Staimez LR, et al. Dietary changes in a diabetes prevention intervention among people with prediabetes: the Diabetes Community Lifestyle Improvement Program trial. Article. Acta Diabetologica. 2019;56(2):197-209.	Intervention or Exposure
163	Fu Y, Yang Y, Zhu L, Chen J, Yu N, Zhao M. Effect of dietary n-6: n-3 Poly-Unsaturated fatty acids ratio on gestational diabetes mellitus: a prospective cohort. Gynecol Endocrinol. Jul 2022;38(7):583-587. doi:10.1080/09513590.2022.2073995	Intervention or Exposure
164	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.	Intervention or Exposure
165	Gabriel Da Silva LB, Rosado EL, De Carvalho Padilha P, et al. Food intake of women with gestational diabetes mellitus, in accordance with two methods of dietary guidance: A randomised controlled clinical trial. Article. British Journal of Nutrition. 2019;121(1):82-92.	Intervention or Exposure, Health Status
166	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	Life Stage
167	Gadgil MD, Kanaya AM, Sands C, et al. Diet Patterns Are Associated with Circulating Metabolites and Lipid Profiles of South Asians in the United States. Article. Journal of Nutrition. 2022;152(11):2358-2366. doi:10.1093/jn/nxac191	Study Design, Outcome
168	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 Global Reports. 2023;3(2)doi:10.1016/j.xagr.2023.100214	Intervention or Exposure

No.	Citation	Rationale
169	Gajda R, Raczkowska E, Sobieszczańska M, Noculak Ł, Szymala-Pędzik M, Godyla-Jabłoński M. Diet Quality Variation among Polish Older Adults: Association with Selected Metabolic Diseases, Demographic Characteristics and Socioeconomic Status. Article in Press. International journal of environmental research and public health. 2023;20(4)doi:10.3390/ijerph20042878	Study Design
170	Garbutt J, England C, Jones AG, Andrews RC, Salway R, Johnson L. Is glycaemic control associated with dietary patterns independent of weight change in people newly diagnosed with type 2 diabetes? Prospective analysis of the Early-ACTivity-In-Diabetes trial. 20(1)	Health Status
171	Garbutt JDW, England C, Jones AG, Andrews RC, Johnson L. Are changes in a low-carbohydrate, high-fat diet pattern associated with subsequent changes in HbA1c during an intensive diet and physical activity intervention? Journal: Conference Abstract. Diabetic medicine. 2020;37(SUPPL 1):44-.	Publication Status
172	Gardner CD, Landry MJ, Perelman D, et al. Effect of a Ketogenic Diet versus Mediterranean Diet on HbA1c in Individuals with Prediabetes and Type 2 Diabetes Mellitus: the Interventional Keto-Med Randomized Crossover Trial.	Comparator
173	Garnæs KK, Elvebakk T, Salvesen Ø, et al. Dietary intake in early pregnancy and glycemia in late pregnancy among women with obesity. Article. Nutrients. 2022;14(1)doi:10.3390/nu14010105	Intervention or Exposure
174	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)	Intervention or Exposure
175	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. American Journal of Clinical Nutrition. 2022;115(3):970-979. doi:10.1093/ajcn/nqab405	Intervention or Exposure
176	George ES, Georgousopoulou EN, Mellor DD, Chrysohoou C, Pitsavos C, Panagiotakos DB. Exploring the Path of Mediterranean Diet, Non-Alcoholic Fatty Liver Disease (NAFLD) and Inflammation towards 10-Year Cardiovascular Disease (CVD) Risk: The ATTICA Study 10-Year Follow-Up (2002–2012). Article. Nutrients. 2022;14(12)doi:10.3390/nu14122367	Outcome
177	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. Article. Journal of Hepatology. 2019;71(2):379-388.	Intervention or Exposure
178	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. Article. American Journal of Clinical Nutrition. 2020;111(5):1048-1058.	Outcome, Comparator
179	Giacomello L, Bordignon S, Salm D, et al. RETRACTED: Effects of the application of a food processing-based classification system in obese women: A randomized controlled pilot study. Nutr Health. Feb 7 2023:2601060231153947. doi:10.1177/02601060231153947	Intervention or Exposure

No.	Citation	Rationale
180	Giardina S, Hernández-Alonso P, Díaz-López A, Salas-Huetos A, Salas-Salvadó J, Bulló M. Changes in circulating miRNAs in healthy overweight and obese subjects: Effect of diet composition and weight loss. Article. Clinical Nutrition. 2019;38(1):438-443.	Intervention or Exposure
181	Gillingham MB, Elizondo G, Behrend A, et al. Higher dietary protein intake preserves lean body mass, lowers liver lipid deposition, and maintains metabolic control in participants with long-chain fatty acid oxidation disorders. Article. Journal of Inherited Metabolic Disease. 2019;42(5):857-869.	Intervention or Exposure, Health Status
182	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. 2019;11(5)	Study Design
183	Goff LM, Rivas C, Moore A, Beckley-Hoelscher N, Reid F, Harding S. Healthy Eating and Active Lifestyles for Diabetes (HEAL-D), a culturally tailored self-management education and support program for type 2 diabetes in black-British adults: a randomized controlled feasibility trial. BMJ Open Diabetes Res Care. Sep 2021;9(1)doi:10.1136/bmjdrc-2021-002438	Intervention or Exposure, Health Status
184	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. British Journal of Nutrition. 2019;121(9):1069-1079.	Intervention or Exposure
185	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)	Intervention or Exposure
186	González CA, Bonet C, Pablo Md, et al. Greenhouse gases emissions from the diet and risk of death and chronic diseases in the EPIC-Spain cohort. European Journal of Public Health. 2021;31(1):130-135.	Intervention or Exposure
187	González-Domínguez Á, Domínguez-Riscart J, Millán-Martínez M, Lechuga-Sancho AM, González-Domínguez R. Exploring the association between circulating trace elements, metabolic risk factors, and the adherence to a Mediterranean diet among children and adolescents with obesity. 10	Study Design
188	Gower BA, Pearson K, Bush N, et al. Diet pattern may affect fasting insulin in a large sample of black and white adults. Article. European Journal of Clinical Nutrition. 2021;75(4):628-635. doi:10.1038/s41430-020-00762-9	Outcome
189	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. 2023;15(9)doi:10.3390/nu15092019	Study Design
190	Grangeiro É, Trigueiro MS, Siais LO, et al. Hypocaloric diet with lower meal frequency did not affect weight loss, body composition and insulin responsiveness, but improved lipid profile: a randomized clinical trial. Article. Food & function. 2021;12(24):12594-12605. doi:10.1039/d1fo00484k	Intervention or Exposure, Comparator

No.	Citation	Rationale
191	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. American Journal of Clinical Nutrition. 2021;114(2):794-803.	Intervention or Exposure, Comparator
192	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 2022;14(4)doi:10.3390/nu14040854	Outcome
193	Guasch-Ferre M, Santos JL, Martinez-Gonzalez MA, et al. Glycolysis/gluconeogenesis- and tricarboxylic acid cycle-related metabolites, Mediterranean diet, and type 2 diabetes. Am J Clin Nutr. Apr 1 2020;111(4):835-844.	Size of Study Groups
194	Gunther J, Hoffmann J, Stecher L, et al. Associations between antenatal lifestyle and the risk for gestational diabetes mellitus in the GeliS trial-an exploratory secondary cohort analysis. Journal: Conference Abstract. Obesity facts. 2021;14(SUPPL 1):102-.	Publication Status
195	Guo X, Liu S, Zeng X, et al. Dietary patterns and diabetes risk in Southern Chinese in Guangxi Zhuang autonomous region. Article. International Journal of Diabetes in Developing Countries. 2023;43(2):258-266. doi:10.1007/s13410-022-01077-0	Study Design
196	Gurdeniz G, Uusitupa M, Hermansen K, et al. Analysis of the SYSDIET Healthy Nordic Diet randomized trial based on metabolic profiling reveal beneficial effects on glucose metabolism and blood lipids. Clin Nutr. Feb 2022;41(2):441-451. doi:10.1016/j.clnu.2021.12.031	Intervention or Exposure, Outcome
197	Ha K, Joung H, Song Y. Inadequate fat or carbohydrate intake was associated with an increased incidence of type 2 diabetes mellitus in Korean adults: A 12-year community-based prospective cohort study. Article. Diabetes Research and Clinical Practice. 2019;148:254-261.	Intervention or Exposure
198	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. British Journal of Nutrition. 2021;126(6):913-922.	Outcome
199	Hall M, Walicka M, Panczyk M, Traczyk I. Assessing Long-Term Impact of Dietary Interventions on Occurrence of Symptoms Consistent with Hypoglycemia in Patients without Diabetes: A One-Year Follow-Up Study. Article. Nutrients. 2022;14(3)doi:10.3390/nu14030497	Outcome
200	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. European Journal of Nutrition. 2022;61(1):269-275. doi:10.1007/s00394-021-02643-8	Intervention or Exposure
201	Hao Y, Qu L, Guo Y, et al. Association of pre-pregnancy low-carbohydrate diet with maternal oral glucose tolerance test levels in gestational diabetes. BMC Pregnancy Childbirth. Sep 26 2022;22(1):734. doi:10.1186/s12884-022-05059-2	Study Design, Intervention or Exposure

No.	Citation	Rationale
202	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
203	Harper CA, Smythe K, Wong VW, Rollo ME, Collins CE. Comparison of pre-diagnosis dietary intake of women with gestational diabetes mellitus to dietary recommendations. Midwifery. Sep 2021;100:103032.	Study Design
204	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-b-hydroxybutyrate, and fasting glucose concentrations: A secondary factorial analysis of the European multicenter, randomized controlled DALI lifestyle intervention trial. Article. Diabetes Care. 2019;42(8):1380-1389.	Intervention or Exposure
205	Hasbullah F, Mohd Yusof B, Appannah G, et al. Dietary Patterns and Type 2 Diabetes Risk in Malaysian Women With and Without History of Gestational Diabetes Mellitus. Journal of the Academy of Nutrition & Dietetics. 2021;121:A22-A22.	Publication Status
206	Haywood CJ, Prendergast LA, Lim R, Lappas M, Lim WK, Proietto J. Obesity in older adults: Effect of degree of weight loss on cardiovascular markers and medications. Article. Clinical Obesity. 2019;9(4)	Intervention or Exposure
207	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.	Intervention or Exposure
208	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
209	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. Oct 2022;14(19)doi:10.3390/nu14194040	Outcome, Country
210	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.	Study Design, Country
211	Hendryx M, Dinh P, Chow A, et al. Lifestyle and Psychosocial Patterns and Diabetes Incidence Among Women with and Without Obesity: a Prospective Latent Class Analysis. Prev Sci. Aug 2020;21(6):850-860.	Intervention or Exposure
212	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. Current developments in nutrition. 2019;3(8)	Intervention or Exposure
213	Hermenegildo-López Y, Donat-Vargas C, Sandoval-Insausti H, et al. A Higher Intake of Energy at Dinner Is Associated with Incident Metabolic Syndrome: A Prospective Cohort Study in Older Adults. 13(9)	Intervention or Exposure

No.	Citation	Rationale
214	Hernández-Alonso P, Giardina S, Cañueto D, Salas-Salvadó J, Cañellas N, Bulló M. Changes in Plasma Metabolite Concentrations after a Low-Glycemic Index Diet Intervention. Article. Molecular nutrition & food research. 2019;63(1):e1700975.	Intervention or Exposure
215	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
216	Hinkle SN, Bao W, Wu J, et al. Association of Habitual Alcohol Consumption with Long-term Risk of Type 2 Diabetes among Women with a History of Gestational Diabetes. Article. JAMA Network Open. 2021;4(9)doi:10.1001/jamanetworkopen.2021.24669	Intervention or Exposure
217	Hjorth MF, Astrup A, Zohar Y, et al. Personalized nutrition: pretreatment glucose metabolism determines individual long-term weight loss responsiveness in individuals with obesity on low-carbohydrate versus low-fat diet. Article. International Journal of Obesity. 2019;43(10):2037-2044.	Intervention or Exposure
218	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. 2019;11(3)	Intervention or Exposure
219	Hjorth MF, Corella D, Astrup A, et al. High fat diets for weight loss among subjects with elevated fasting glucose levels: The PREDIMED study. Article. Obesity Medicine. 2020;18	Intervention or Exposure, Comparator, Outcome
220	Holder M, Kapellen T, Ziegler R, et al. Diagnosis, Therapy and Follow-Up of Diabetes Mellitus in Children and Adolescents. Article. Experimental and Clinical Endocrinology and Diabetes. 2022;130(6):S49-S79. doi:10.1055/a-1624-3388	Study Design, Publication Status
221	Hosseini-Esfahani F, Beheshti N, Koochakpoor G, Mirmiran P, Azizi F. Meat Food Group Intakes and the Risk of Type 2 Diabetes Incidence. Front Nutr. 2022;9:891111. doi:10.3389/fnut.2022.891111	Intervention or Exposure
222	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
223	Hrolfsdottir L, Gunnarsdottir I, Birgisdottir BE, et al. Can a simple dietary screening in early pregnancy identify dietary habits associated with gestational diabetes? Article. Nutrients. 2019;11(8)	Data Overlap
224	Hu C, Mu Y, Wan Q, et al. Association between birth weight and diabetes: Role of body mass index and lifestyle in later life. J Diabetes. Jan 2020;12(1):10-20.	Intervention or Exposure

No.	Citation	Rationale
225	Hu J, Oken E, Aris IM, et al. Dietary patterns during pregnancy are associated with the risk of gestational diabetes mellitus: Evidence from a chinese prospective birth cohort study. Article. Nutrients. 2019;11(2)	Data Overlap
226	Hua Y, Zhang Z, Liu A. Long-Term Diet Quality and Risk of Diabetes in a National Survey of Chinese Adults. Nutrients. Nov 16 2022;14(22)doi:10.3390/nu14224841	Outcome
227	Huang L, Shang L, Yang W, et al. High starchy food intake may increase the risk of adverse pregnancy outcomes: a nested case-control study in the Shaanxi province of Northwestern China. BMC Pregnancy Childbirth. Oct 21 2019;19(1):362.	Outcome
228	Huo YT, Cao SX, Liu JC, et al. The Association between Plant-Based Diet Indices and Metabolic Syndrome in Chinese Adults: Longitudinal Analyses from the China Health and Nutrition Survey. Nutrients. Mar 2023;15(6)doi:10.3390/nu15061341	Outcome
229	Iglesies-Grau J, Dionne V, Bherer L, et al. Metabolic Improvements and Remission of Prediabetes and Type 2 Diabetes: Results From a Multidomain Lifestyle Intervention Clinic. Article. Canadian Journal of Diabetes. 2023;47(2):185-189. doi:10.1016/j.jcjd.2022.10.010	Intervention or Exposure
230	Author NR, rct 20180201038585N. The effect of DASH diet in subjects with metabolic syndrome. Trial registry record; Clinical trial protocol. https://trialsearch.who.int/Trial2.aspx?TrialID=IRCT20180201038585N12. 2022.	Publication Status
231	Author NR. The effect of aerobic training and DASH diet on insulin resistance and sex hormones in women with polycystic ovary syndrome. https://trialsearch.who.int/Trial2.aspx?TrialID=IRCT20211106052979N1. 2021.	Publication Status; Study Duration
232	Ismael S, Silvestre MP, Vasques M, et al. Gut microbial richness as an earlier biomarker of Mediterranean diet intervention in type 2 diabetes metabolic control. Proceedings of the Nutrition Society. 2021;80:1-1.	Publication Status
233	Ismael S, Silvestre MP, Vasques M, et al. A Pilot Study on the Metabolic Impact of Mediterranean Diet in Type 2 Diabetes: Is Gut Microbiota the Key? Nutrients. Apr 8 2021;13(4)	Study Design, Health Status
234	Issa BG, Harvie M, McDiarmid S, et al. Manchester Intermittent versus Daily diet Diabetes App Study (MIDDAS). Pilot RCT comparing a continuous with an intermittent low energy diet in patients with type 2 diabetes. Journal: Conference Abstract. Diabetologia. 2020;63(SUPPL 1):S104-S105.	Health Status, Study Duration
235	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	Study Duration
236	Izaola O, Primo D, De Luis D. Dietary Intervention during 9 Months with a Hypocaloric Diet, Interaction of the Genetic Variant of Adiponectin Gene rs822393 with Metabolic Parameters. Article. Disease Markers. 2022;2022doi:10.1155/2022/7058389	Study Design, Intervention or Exposure

No.	Citation	Rationale
237	Jannasch F, Kröger J, Agnoli C, et al. Generalizability of a Diabetes-Associated Country-Specific Exploratory Dietary Pattern Is Feasible across European Populations. Article. Journal of Nutrition. 2019;149(6):1047-1055.	Study Design
238	Jenkins DJA, Srichaikul K, Kendall CWC, Sievenpiper JL. Bean, fruit, and vegetable fiber, but not cereal fiber are associated with reduced mortality in Japan. American Journal of Clinical Nutrition. 2020;111(5):941-943.	Publication Status
239	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. Diabetes Metab Syndr Obes. 2022;15:2545-2561. doi:10.2147/DMSO.S377720	Intervention or Exposure, Outcome
240	Jia YM, Guo DX, Sun LL, et al. Diet, Lifestyle Behaviours and Other Risk Factors Associated With Type 2 Diabetes Beyond Body Mass Index: A Mendelian Randomization Study. Canadian Journal of Diabetes. Dec 2022;46(8):822-828. doi:10.1016/j.jcjd.2022.06.001	Intervention or Exposure
241	Jin SM, Ahn J, Park J, Hur KY, Kim JH, Lee MK. East Asian Diet-Mimicking Diet Plan Based on the Mediterranean Diet and the DASH Diet in Adults with Type 2 Diabetes: a Randomized Controlled Trial. Journal: Article in Press. Journal of diabetes investigation. 2020;	Health Status
242	Johansson A, Acosta S, Mutie PM, Sonestedt E, Engström G, Drake I. Components of a healthy diet and different types of physical activity and risk of atherothrombotic ischemic stroke: A prospective cohort study. Article. Frontiers in Cardiovascular Medicine. 2022;9doi:10.3389/fcvm.2022.993112	Outcome
243	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. American Journal of Clinical Nutrition. 2020;111(3):503-514.	Size of Study Groups
244	Goode JP, Smith KJ, Breslin M, et al. A healthful plant-based eating pattern is longitudinally associated with higher insulin sensitivity in Australian adults. The Journal of nutrition. Mar 2023 2023;doi:10.1016/j.tjnut.2023.03.017	Size of Study Groups
245	Juna CF, Cho Y, Ham D, Joung H. Association of carbohydrate and fat intake with prevalence of metabolic syndrome can be modified by physical activity and physical environment in ecuadorian adults: The ensanut-ecu study. Article. Nutrients. 2021;13(6)doi:10.3390/nu13061834	Study Design
246	Kafyra M, Kalafati IP, Katsareli EA, et al. The iMPROVE Study; Design, Dietary Patterns, and Development of a Lifestyle Index in Overweight and Obese Greek Adults. Nutrients. Oct 3 2021;13(10)doi:10.3390/nu13103495	Study Design, Outcome
247	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

No.	Citation	Rationale
248	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, Outcome
249	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. 41	Intervention or Exposure
250	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. Article. Nutrients. 2019;11(3)	Intervention or Exposure, Comparator
251	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. 2020;63(SUPPL 1):S16-S17.	Publication Status
252	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.	Intervention or Exposure, Comparator
253	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)	Intervention or Exposure
254	Kalam F, Gabel K, Cienfuegos S, et al. Changes in subjective measures of appetite during 6 months of alternate day fasting with a low carbohydrate diet. Article. Clinical Nutrition ESPEN. 2021;41:417-422.	Intervention or Exposure
255	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. Obesity Science and Practice. 2019;5(6):531-539.	Intervention or Exposure
256	Kalkuz S, Demircan A. Effects of the Mediterranean diet adherence on body composition, blood parameters and quality of life in adults. Postgrad Med J. Nov 12 2020;	Study Design
257	Kauffman SAE, Averill MM, Delaney JAC, Lemaitre RN, Howard BV, Fretts AM. Associations of diet quality and blood serum lipoprotein levels in a population at high risk for diabetes: the Strong Heart Family Study. Eur J Clin Nutr. Jul 2020;74(7):1084-1090.	Outcome
258	Kawada T. Egg consumption and incident type 2 diabetes: A risk assessment. Clinical Nutrition. 2021;40(11):5417-5417.	Publication Status

No.	Citation	Rationale
259	Kawada T. Red meat consumption and biological markers of metabolic disorders. 2021;60:2999-3000.	Publication Status
260	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, Outcome
261	Kenđel Jovanović G, Mrakovcic-Sutic I, Pavičić Žeželj S, et al. Metabolic and Hepatic Effects of Energy-Reduced Anti-Inflammatory Diet in Younger Adults with Obesity. Article. Canadian Journal of Gastroenterology and Hepatology. 2021;2021	Intervention or Exposure
262	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)	Intervention or Exposure
263	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	Intervention or Exposure, Outcome
264	Kesary Y, Avital K, Hiersch L. Maternal plant-based diet during gestation and pregnancy outcomes. Arch Gynecol Obstet. Oct 2020;302(4):887-898.	Study Design
265	Kesse-Guyot E, Rebouillat P, Payrastre L, et al. Prospective association between organic food consumption and the risk of type 2 diabetes: findings from the NutriNet-Sante cohort study. Int J Behav Nutr Phys Act. Nov 9 2020;17(1):136.	Intervention or Exposure
266	Khan I, Kwon M, Shivappa N, R. Hebert J K. Proinflammatory Dietary Intake is Associated with Increased Risk of Metabolic Syndrome and Its Components: Results from the Population-Based Prospective Study. Nutrients. Apr 24 2020;12(4)	Intervention or Exposure
267	Kharmats AY, Popp C, Hu L, et al. A randomized clinical trial comparing low-fat versus precision nutrition-based diets for weight loss: impact on glycemic variability and HbA1c.	Intervention or Exposure
268	Khoury N, Gómez-Donoso C, Martínez MA, et al. Associations Between the Modified Food Standard Agency Nutrient Profiling System Dietary Index and Cardiovascular Risk Factors in an Elderly Population. Front Nutr. Jul 14 2022;9doi:10.3389/fnut.2022.897089	Outcome
269	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
270	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 2022;14(24)doi:10.3390/nu14245298	Intervention or Exposure

No.	Citation	Rationale
271	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
272	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. Clin Nutr. Oct 2022;41(10):2156-2162. doi:10.1016/j.clnu.2022.07.038	Outcome
273	Kim H, Lee K, Rebholz CM, Kim J. Association between unhealthy plant-based diets and the metabolic syndrome in adult men and women: a population-based study in South Korea. Br J Nutr. Mar 14 2021;125(5):577-590.	Study Design
274	Kim H, Lee K, Rebholz CM, Kim J. Plant-based diets and incident metabolic syndrome: Results from a South Korean prospective cohort study. PLoS Med. Nov 2020;17(11):e1003371.	Outcome
275	Kim HS, Lee H, Provido SMP, et al. Association Between Diet Quality and Prevalence of Obesity, Dyslipidemia, and Insulin Resistance Among Filipino Immigrant Women in Korea: The Filipino Women's Diet and Health Study. Front Public Health. 2021;9:647661.	Study Design
276	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 and Gynecology. 2021;48(5):1178-1185. doi:10.31083/j.ceog4805188	Intervention or Exposure, Comparator
277	Kim MJ, Park S, Yang HJ, et al. Alleviation of Dyslipidemia via a Traditional Balanced Korean Diet Represented by a Low Glycemic and Low Cholesterol Diet in Obese Women in a Randomized Controlled Trial. Article. Nutrients. 2022;14(2)doi:10.3390/nu14020235	Study Duration
278	Kim SH, Kim HJ, Shin G. Self-Management Mobile Virtual Reality Program for Women with Gestational Diabetes. Int J Environ Res Public Health. Feb 5 2021;18(4)	Intervention or Exposure
279	Kinnunen T, Liu Y, Koivisto A, Maija V, Suvi L. Effects of dietary counselling on micronutrient intakes in pregnant women in Finland. Maternal & Child Nutrition. 2021;17(4):1-10.	Intervention or Exposure
280	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
281	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. Article. Nutrients. 2023;15(1)doi:10.3390/nu15010007	Size of Study Groups

No.	Citation	Rationale
282	Koloverou E, Panagiotakos DB, Georgousopoulou EN, et al. Dietary patterns and 10-year (2002-2012) incidence of type 2 diabetes: Results from the ATTICA cohort study. Article. Review of Diabetic Studies. 2016;13(4):246-256. doi:10.1900/RDS.2016.13.246	Publication Date
283	Korat AVA, Li Y, Sacks F, et al. Dairy fat intake and risk of type 2 diabetes in 3 cohorts of US men and women. American Journal of Clinical Nutrition. 2019;110(5):1192-1200.	Intervention or Exposure
284	Kouvari M, Tsiampalis T, Kosti RI, et al. Quality of plant-based diets is associated with liver steatosis, which predicts type 2 diabetes incidence ten years later: Results from the ATTICA prospective epidemiological study. Clinical Nutrition. Oct 2022;41(10):2094-2102. doi:10.1016/j.clnu.2022.07.026	Study Design, Outcome
285	Kouvari M, Boutari C, Chrysohoou C, et al. Mediterranean diet is inversely associated with steatosis and fibrosis and decreases ten-year diabetes and cardiovascular risk in NAFLD subjects: Results from the ATTICA prospective cohort study. Clin Nutr. May 2021;40(5):3314-3324.	Intervention or Exposure, Comparator, Outcome
286	Kouvari M, Panagiotakos DB, Yannakoulia M, et al. Transition from metabolically benign to metabolically unhealthy obesity and 10-year cardiovascular disease incidence: The ATTICA cohort study. Article. Metabolism: Clinical and Experimental. 2019;93:18-24.	Intervention or Exposure, Outcome
287	Koyuncu Z, Kadak MT, Tarakçıoğlu MC, Bingöl Çağlayan RH, Doğangün B, Ercan O. Eatıng behavıours and alexıthymıc features of obese and overweıght adolescents. Article in Press. Pediatrics international : official journal of the Japan Pediatric Society. 2021;doi:10.1111/ped.15008	Intervention or Exposure
288	Kunath J, Günther 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. Article. BMC Medicine. 2019;17(1)	Intervention or Exposure
289	Kunduraci YE, Ozbek H. Does the Energy Restriction Intermittent Fasting Diet Alleviate Metabolic Syndrome Biomarkers? A Randomized Controlled Trial. Nutrients. Oct 21 2020;12(10)	Intervention or Exposure
290	Kwon YJ, Park K, Lee JH. Low-protein diet is inversely related to the incidence of chronic kidney disease in middle-aged and older adults: results from a community-based prospective cohort study. Article in Press. European journal of nutrition. 2022;doi:10.1007/s00394-022-02981-1	Intervention or Exposure, Outcome
291	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
292	Lagstrom H, Stenholm S, Akbaraly T, et al. Diet quality as a predictor of cardiometabolic disease-free life expectancy: the Whitehall II cohort study. Am J Clin Nutr. Apr 1 2020;111(4):787-794.	Outcome

No.	Citation	Rationale
293	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 of Study Groups
294	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 of Study Groups
295	Lakka TA, Aittola K, Jarvela-Reijonen E, et al. Real-world effectiveness of digital and group-based lifestyle interventions as compared with usual care to reduce type 2 diabetes risk - A stop diabetes pragmatic randomised trial. Lancet Reg Health-Eu. Jan 2023;24:100527. doi:10.1016/j.lanepe.2022.100527	Intervention or Exposure
296	Lakka TA, Lintu N, Vaisto J, et al. A 2 year physical activity and dietary intervention attenuates the increase in insulin resistance in a general population of children: the PANIC study. Diabetologia. Nov 2020;63(11):2270-2281.	Intervention or Exposure
297	Laouali N, Berrandou T, A. Rothwell J S, et al. Profiles of Polyphenol Intake and Type 2 Diabetes Risk in 60,586 Women Followed for 20 Years: Results from the E3N Cohort Study. Nutrients. Jun 29 2020;12(7)	Intervention or Exposure
298	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.	Study Design
299	Lawrence RL, Wall CR, Bloomfield FH. Adherence to Dietary Guidelines among Women with and without Gestational Diabetes: Evidence from the Growing Up in New Zealand Study. Article. Nutrients. 2022;14(10)doi:10.3390/nu14102145	Study Design, Intervention or Exposure
300	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. Nutrients. Jan 15 2020;12(1)	Study Design
301	Lee KW, Shin D. Interactions between Bitter Taste Receptor Gene Variants and Dietary Intake Are Associated with the Incidence of Type 2 Diabetes Mellitus in Middle-Aged and Older Korean Adults. International Journal of Molecular Sciences. Feb 2023;24(3)doi:10.3390/ijms24032199	Intervention or Exposure
302	Lee KW, Shin D. Positive association between dietary acid load and future insulin resistance risk: findings from the Korean Genome and Epidemiology Study. Nutrition Journal. Dec 8 2020;19(1)doi:10.1186/s12937-020-00653-6	Intervention or Exposure
303	Lee DH, Fung TT, Tabung FK, et al. Dietary Pattern and Risk of Multiple Myeloma in Two Large Prospective US Cohort Studies. Article. JNCI cancer spectrum. 2019;3(2):pkz025. doi:10.1093/jncics/pkz025	Outcome
304	Lee HA, Park H. Substitution of Carbohydrates for Fats and Risk of Type 2 Diabetes among Korean Middle-Aged Adults: Findings from the Korean Genome and Epidemiology Study. Article. Nutrients. 2022;14(3)doi:10.3390/nu14030654	Intervention or Exposure

No.	Citation	Rationale
305	Lehtovirta M, Matthews LA, Laitinen TT, et al. Achievement of the Targets of the 20-Year Infancy-Onset Dietary Intervention—Association with Metabolic Profile from Childhood to Adulthood. Nutrients. 2021;13(2):533-533.	Intervention or Exposure
306	Levy RB, Rauber F, Chang K, et al. Ultra-processed food consumption and type 2 diabetes incidence: A prospective cohort study. Clinical Nutrition. 2021;40(5):3608-3614.	Intervention or Exposure
307	Ley SH, Chavarro JE, Li M, et al. Lactation Duration and Long-term Risk for Incident Type 2 Diabetes in Women With a History of Gestational Diabetes Mellitus. Diabetes Care. Apr 2020;43(4):793-798.	Intervention or Exposure
308	Li L, Shan ZL, Wan ZZ, et al. Associations of lower-carbohydrate and lower-fat diets with mortality among people with prediabetes. American Journal of Clinical Nutrition. Jul 6 2022;116(1):206-215. doi:10.1093/ajcn/nqac058	Study Design, Intervention or Exposure
309	Li L, Wan Z, Geng T, et al. Associations of healthy dietary patterns with mortality among people with prediabetes. Eur J Nutr. Apr 2023;62(3):1377-1387. doi:10.1007/s00394-022-03078-5	Study Design, Outcome
310	Li Y, Yatsuya H, Wang C, et al. Dietary Patterns Derived from Reduced Rank Regression Are Associated with the 5-Year Occurrence of Metabolic Syndrome: Aichi Workers' Cohort Study. Nutrients. Jul 22 2022;14(15)doi:10.3390/nu14153019	Outcome
311	Li LJ, Aris IM, Han WM, Tan KH. A Promising Food-Coaching Intervention Program to Achieve Optimal Gestational Weight Gain in Overweight and Obese Pregnant Women: Pilot Randomized Controlled Trial of a Smartphone App. JMIR Form Res. Oct 24 2019;3(4):e13013. doi:10.2196/13013	Intervention or Exposure, Outcome
312	Li M, Lin Q, Shi J, et al. The impact of lifestyle intervention on dietary quality among rural women with previous gestational diabetes mellitus— a randomized controlled study. Article. Nutrients. 2021;13(8)doi:10.3390/nu13082642	Outcome
313	Li M, Shi Z. Association between Ultra-Processed Food Consumption and Diabetes in Chinese Adults—Results from the China Health and Nutrition Survey. Article. Nutrients. 2022;14(20). doi:10.3390/nu14204241	Country
314	Li M, Li S, Chavarro JE, et al. Prepregnancy habitual intakes of total, supplemental, and food folate and risk of gestational diabetes mellitus: A prospective cohort study. Article. Diabetes Care. 2019;42(6):1034-1041. doi:10.2337/dc18-2198	Intervention or Exposure, Comparator
315	Li M, Rahman ML, Wu J, et al. Genetic factors and risk of type 2 diabetes among women with a history of gestational diabetes: findings from two independent populations. BMJ Open Diabetes Res Care. Jan 2020;8(1). doi:10.1136/bmjdrc-2019-000850	Intervention or Exposure
316	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	Health Status, Outcome

No.	Citation	Rationale
317	Li Y, Schoufour J, Wang DD, et al. Healthy lifestyle and life expectancy free of cancer, cardiovascular disease, and type 2 diabetes: prospective cohort study. BMJ. Jan 8 2020;368:l6669. doi:10.1136/bmj.l6669	Outcome
318	Liang Z, Wang L, Liu H, et al. Genetic susceptibility, lifestyle intervention and glycemic changes among women with prior gestational diabetes. Clin Nutr. Jul 2020;39(7):2144-2150. doi:10.1016/j.clnu.2019.08.032	Intervention or Exposure
319	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. 2023 May 18;302:1009-1010. doi: 10.3233/SHTI230328.	Intervention or Exposure
320	Lim SX, Cox V, Rodrigues N, et al. Evaluation of Preconception Dietary Patterns in Women Enrolled in a Multisite Study. Article. Current Developments in Nutrition. 2022;6(7). doi:10.1093/cdn/nzac106	Study Design
321	Lin LY, Hsu CY, Chiou HY, et al. Association between Dietary Patterns and Serum Hepatic Enzyme Levels in Adults with Dyslipidemia and Impaired Fasting Plasma Glucose. Nutrients. Mar 18 2021;13(3). doi:10.3390/nu13030987	Study Design, Outcome
322	Lin R, Chien KL, Tsai MC, Wang YJ, Hsu LY. Association between a priori and a posteriori dietary patterns and the risk of type 2 diabetes: A representative cohort study in Taiwan. Article. Journal of Nutritional Science. 2023;12doi:10.1017/jns.2023.8	Country
323	Lin TJ, Tang SC, Liao PY, Dongoran RA, Yang JH, Liu CH. A comparison of L-carnitine and several cardiovascular-related biomarkers between healthy vegetarians and omnivores. Nutrition. 2019. 66:29-37. doi:10.1016/j.nut.2019.03.019	Study Design, Intervention or Exposure
324	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. Frontiers in Bioscience-Landmark. Dec 30 2021;26(12):1548-1558. doi:10.52586/5048	Intervention or Exposure
325	Linke CS, Kelly J, Karlsen M, Pollard K, Trapp C. Type 2 Diabetes Prevention and Management With a Low-Fat, Whole-Food, Plant-Based Diet. J Fam Pract. Jan 2022;71(Suppl 1 Lifestyle):S41-S47. doi:10.12788/jfp.0252	Study Design
326	Lisón JF, Palomar G, Mensorio MS, et al. Impact of a Web-Based Exercise and Nutritional Education Intervention in Patients Who Are Obese with Hypertension: Randomized Wait-List Controlled Trial. Journal of Medical Internet Research. 2020. 22. doi:10.2196/14196	Intervention or Exposure
327	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. Nutrients. Feb 25 2022;14(5)doi:10.3390/nu14050980	Country
328	Liu YH, Lu LP, Yi MH, et al. Study on the correlation between homocysteine-related dietary patterns and gestational diabetes mellitus:a reduced-rank regression analysis study. BMC Pregnancy Childbirth. 2022 Apr 10;22(1):306. doi: 10.1186/s12884-022-04656-5.	Study Design

No.	Citation	Rationale
329	Liu M, Liu C, Zhang Z, et al. Quantity and variety of food groups consumption and the risk of diabetes in adults: A prospective cohort study. Clinical Nutrition. 2021. 40:5710-5717. doi:10.1016/j.clnu.2021.10.003	Intervention or Exposure
330	Liu X, Zheng Y, Guasch-Ferré M, et al. High plasma glutamate and low glutamine-to-glutamate ratio are associated with type 2 diabetes: Case-cohort study within the PREDIMED trial. Nutrition, Metabolism and Cardiovascular Diseases. 29:1040-1049. doi:10.1016/j.numecd.2019.06.005	Intervention or Exposure
331	Livingstone KM, Milte CM, Torres SJ, et al. Nineteen-Year Associations between Three Diet Quality Indices and All-Cause and Cardiovascular Disease Mortality: The Australian Diabetes, Obesity, and Lifestyle Study. Journal of Nutrition. Mar 3 2022;152(3):805-815. doi:10.1093/jn/nxab386	Outcome
332	Lönnberg L, Ekblom-Bak E, Damberg M. Improved unhealthy lifestyle habits in patients with high cardiovascular risk: results from a structured lifestyle programme in primary care. Article. Upsala journal of medical sciences. 2019. 124:94-104. doi:10.1080/03009734.2019.1602088	Study Design, Intervention or Exposure
333	Lonnie M, Wadolowska L, Morze J, Bandurska-Stankiewicz E. Associations of Dietary-Lifestyle Patterns with Obesity and Metabolic Health: Two-Year Changes in MeDiSH(®) Study Cohort. Int J Environ Res Public Health. 2022 Oct 21;19(20):13647. doi: 10.3390/ijerph192013647.	Intervention or Exposure, Comparator
334	Looman M, Geelen A, Samlal RAK, et al. Changes in micronutrient intake and status, diet quality and glucose tolerance from preconception to the second trimester of pregnancy. Nutrients. 2019. 11. doi:10.3390/nu11020460	Data Overlap
335	Lopez-Contreras IN, Vilchis-Gil J, Klunder-Klunder M, Villalpando-Carrion S, Flores-Huerta S. Dietary habits and metabolic response improve in obese children whose mothers received an intervention to promote healthy eating: randomized clinical trial. BMC Public Health. Aug 14 2020;20(1):1240.	Intervention or Exposure
336	Lopez-Olmedo N, Jonnalagadda S, Basto-Abreu A, et al. Adherence to Dietary Guidelines in Adults by Diabetes Status: Results From the 2012 Mexican National Health and Nutrition Survey. Nutrients. 2020. 12. doi:10.3390/nu12113464	Study Design
337	Lotfaliany M, Mansournia MA, Azizi F, et al. Long-term effectiveness of a lifestyle intervention on the prevention of type 2 diabetes in a middle-income country. Sci Rep. 2020. 10:14173. doi:10.1038/s41598-020-71119-2	Intervention or Exposure
338	Lotfi MH, Fallahzadeh H, Rahmanian M, et al. Association of food groups intake and physical activity with gestational diabetes mellitus in Iranian women. J Matern Fetal Neonatal Med. 2020. 33:3559-3564. doi:10.1080/14767058.2019.1579189	Study Design
339	Lowe DA, Wu N, Rohdin-Bibby L, et al. Effects of Time-Restricted Eating on Weight Loss and Other Metabolic Parameters in Women and Men with Overweight and Obesity: The TREAT Randomized Clinical Trial. Article. JAMA Internal Medicine. 2020. 180:1491-1499. doi:10.1001/jamainternmed.2020.4153	Intervention or Exposure

No.	Citation	Rationale
340	Lu D, Yuan Z, Yang L, et al. Body Composition and Metabolic Improvement in Patients Followed up by a Multidisciplinary Team for Obesity in China. Article. Journal of Diabetes Research. 2021;2021doi:10.1155/2021/8862217	Intervention or Exposure
341	Luo Y, Wang J, Sun L, et al. Isocaloric-restricted Mediterranean Diet and Chinese Diets High or Low in Plants in Adults With Prediabetes. J Clin Endocrinol Metab. Jul 14 2022;107(8):2216-2227. doi:10.1210/clinem/dgac303	Outcome
342	Lüscher, TF. Nutrition, obesity, diabetes, and cardiovascular outcomes: A deadly association. European Heart Journal. 2020. 41:2603-2607. doi:10.1093/eurheartj/ehaa622	Publication Status
343	Lynch EB, Mack L, Avery E, et al. Randomized Trial of a Lifestyle Intervention for Urban Low-Income African Americans with Type 2 Diabetes. Article. Journal of General Internal Medicine. 2019. 34:1174-1183. doi:10.1007/s11606-019-04894-y	Intervention or Exposure, Health Status
344	Madlala SS, Hill J, Kunneke E, Kengne AP, Peer N, Faber M. Dietary Diversity and its Association with Nutritional Status, Cardiometabolic Risk Factors and Food Choices of Adults at Risk for Type 2 Diabetes Mellitus in Cape Town, South Africa. Nutrients. Aug 2022;14(15)doi:10.3390/nu14153191	Study Design
345	Magkos F, Rasmussen SI, Hjorth MF, et al. Unprocessed red meat in the dietary treatment of obesity: a randomized controlled trial of beef supplementation during weight maintenance after successful weight loss. Am J Clin Nutr. Dec 19 2022;116(6):1820-1830. doi:10.1093/ajcn/nqac152	Intervention or Exposure
346	Mahdavi S, Jenkins DJA, El-Sohemy A. Genetic variation in 9p21, dietary patterns, and insulin sensitivity. Front Genet. 2022;13:988873. doi:10.3389/fgene.2022.988873	Study Design, Comparator
347	Mahjoub F, Ben Jemaa H, Ben Sabeh F, Ben Amor N, Gamoudi A, Jamoussi H. Impact of nutrients and Mediterranean diet on the occurrence of gestational diabetes. Article. Libyan Journal of Medicine. 2021;16(1)	Study Design
348	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. 13(4)	Study Design
349	Mak JKL, Pham NM, Lee AH, et al. Dietary patterns during pregnancy and risk of gestational diabetes: A prospective cohort study in Western China. Article. Nutrition Journal. 2018;17(1)doi:10.1186/s12937-018-0413-3	Data Overlap
350	Maldonado LE, Farzan SF, Toledo-Corral CM, et al. A Vegetable, Oil, and Fruit Dietary Pattern in Late Pregnancy is Linked to Reduced Risks of Adverse Birth Outcomes in a Predominantly Low-Income Hispanic and Latina Pregnancy Cohort. Journal of Nutrition. Dec 2022;152(12):2837-2846. doi:10.1093/jn/nxac209	Study Design, Outcome

No.	Citation	Rationale
351	Maldonado LE, Farzan SF, Toledo-Corral CM, et al. Vegetables, Oils, and Fruit Dietary Pattern in Late Pregnancy is Linked to Reduced Risk of Adverse Birth Outcomes in a Predominantly Low-Income Hispanic/Latina Pregnancy Cohort.	Study Design; Duplicate
352	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
353	Mansourian M, Yazdani A, Faghihimani E, Aminorraya A, Amini M, Jafari-Koshki T. Factors associated with progression to pre-diabetes: a recurrent events analysis. Article. Eating and Weight Disorders. 2020;25(1):135-141.	Study Design, Intervention or Exposure
354	Martensson A, Stomby A, Tellstrom A, Ryberg M, Waling M, Otten J. Using a Paleo Ratio to Assess Adherence to Paleolithic Dietary Recommendations in a Randomized Controlled Trial of Individuals with Type 2 Diabetes. Nutrients. Mar 17 2021;13(3)	Intervention or Exposure, Health Status
355	Martin S, Banzer W, Berg A, et al. Prediabetes conversion to normoglycemia is superior adding a low-carbohydrate formula diet to lifestyle intervention-a 12-month subanalysis of the accorh study. Journal: Conference Abstract. Diabetes. 2019;68	Publication Status
356	Martinez-Gonzalez MA, Fernandez-Lazaro CI, Toledo E, et al. Carbohydrate quality changes and concurrent changes in cardiovascular risk factors: a longitudinal analysis in the PREDIMED-Plus randomized trial. Am J Clin Nutr. Feb 1 2020;111(2):291-306.	Intervention or Exposure
357	Martin-Piedra L, Alcala-Diaz JF, Gutierrez-Mariscal FM, et al. Evolution of Metabolic Phenotypes of Obesity in Coronary Patients after 5 Years of Dietary Intervention: From the CORDIOPREV Study. Nutrients. Nov 12 2021;13(11)doi:10.3390/nu13114046	Health Status
358	Maskarinec G, Hullar MAJ. Understanding the Interaction of Diet Quality with the Gut Microbiome and Their Effect on Disease. J Nutr. Apr 1 2020;150(4):654-655.	Outcome, Publication Status
359	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	Size of Study Groups
360	Mauro AD, Tuccinardi D, Toro RD, et al. 226-OR: The Mediterranean Diet Increases GLP-1 and Oxyntomodulin Compared with Vegetarian Diet in Type 2 Diabetes Subjects. Diabetes. 2020;69:N.PAG-N.PAG.	Publication Status
361	Mazidi M, Katsiki N, Mikhailidis DP, Banach M. Effect of Dietary Insulinemia on All-Cause and Cause-Specific Mortality: Results From a Cohort Study. Article. Journal of the American College of Nutrition. 2020;39(5):407-413.	Outcome

No.	Citation	Rationale
362	Mazidi M, Katsiki N, Mikhailidis DP, Bartłomiejczyk MA, Banach M. Association of empirical dietary atherogenic indices with all-cause and cause-specific mortality in a multi-ethnic adult population of the United States. Article. Nutrients. 2019;11(10)	Intervention or Exposure, Outcome
363	McEvoy CT, Moore SE, Erwin CM, 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 cardiovascular disease risk. Article in Press. The British journal of nutrition. 2021:1-37. doi:10.1017/S0007114521003986	Intervention or Exposure, Size of Study Groups
364	McKenzie AL, Athinarayanan SJ, McCue JJ, et al. Type 2 diabetes prevention focused on normalization of glycemia: A two-year pilot study. Article. Nutrients. 2021;13(3):1-9.	Study Design, Intervention or Exposure
365	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
366	Meinila 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. European Journal of Clinical Nutrition. 2017;71(4):555-557. doi:10.1038/ejcn.2016.275	Data Overlap
367	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)	Data Overlap
368	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)	Intervention or Exposure, Comparator
369	Merino J, Jablonski KA, Mercader JM, et al. Interaction Between Type 2 Diabetes Prevention Strategies and Genetic Determinants of Coronary Artery Disease on Cardiometabolic Risk Factors. Diabetes. Jan 2020;69(1):112-120.	Intervention or Exposure
370	Meroni A, Muirhead RP, Atkinson FS, Fogelholm M, Raben A, Brand-Miller JC. Is a Higher Protein-Lower Glycemic Index Diet More Nutritious Than a Conventional Diet? A PREVIEW Sub-study. Front Nutr. 2020;7:603801.	Intervention or Exposure
371	Migliaretti G, Ame C, Ciullo S, et al. Metabolic and psychological effects of short-term increased consumption of less-processed foods in daily diets: A Pilot Study. Article. Diabetes and Metabolism. 2020;46(1):66-69. doi:10.1016/j.diabet.2019.07.002	Intervention or Exposure

No.	Citation	Rationale
372	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
373	Milone G, Chung JH, Haas DM, et al. Periconceptional diet quality predicts glycemic control and gestational diabetes risk in nulliparous women. American Journal of Obstetrics & Gynecology. 2022;226(1):S46-S47.	Publication Status
374	Minhas AS, Hong X, Wang G, et al. Mediterranean-Style Diet and Risk of Preeclampsia by Race in the Boston Birth Cohort. Article. Journal of the American Heart Association. 2022;11(9)doi:10.1161/JAHA.121.022589	Study Design
375	Mirmiran P, Hosseini S, Bahadoran Z, Azizi F. Dietary pattern scores in relation to pre-diabetes regression to normal glycemia or progression to type 2 diabetes: a 9-year follow-up. BMC Endocr Disord. Jan 20 2023;23(1):20. doi:10.1186/s12902-023-01275-9	Size of Study Groups
376	Mirmiran P, Ramezan M, Farhadnejad H, Asghari G, Tahmasebinejad Z, Azizi F. High Dietary Diabetes Risk Reduction Score Is Associated with Decreased Risk of Chronic Kidney Disease in Tehranian Adults. Int J Clin Pract. Feb 3 2022;2022doi:10.1155/2022/5745297	Study Design, Outcome
377	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
378	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. BMC Public Health. Nov 6 2019;19(1):1457.	Outcome
379	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.	Outcome
380	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. British Journal of Nutrition. 2019;121(9):1002-1017.	Intervention or Exposure
381	Mizgier M, Jarzabek-Bielecka G, Mruczyk K. Maternal diet and gestational diabetes mellitus development. J Matern Fetal Neonatal Med. Jan 2021;34(1):77-86.	Intervention or Exposure
382	Mohd Y, B N. A low glycemic index diet in the management of gestational diabetes mellitus: the Malaysian experience. Journal: Conference Abstract. Annals of nutrition & metabolism. 2019;75(3):34-35.	Publication Status

No.	Citation	Rationale
383	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. Diabetology and Metabolic Syndrome. 2021;13(1)doi:10.1186/s13098-021-00674-z	Outcome
384	Molina-Leyva A, Cuenca-Barrales C, Vega-Castillo JJ, Ruiz-Carrascosa JC, Ruiz-Villaverde R. Adherence to Mediterranean diet in Spanish patients with psoriasis: Cardiovascular benefits? Article. Dermatologic Therapy. 2019;32(2)	Study Design, Health Status
385	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	Outcome
386	Mu L, Yu P, Xu H, et al. Efecto de la reducción de sodio basada en la dieta DASH sobre la presión arterial en pacientes hipertensos con diabetes de tipo 2. Article in Press. Effect of sodium reduction based on the DASH diet on blood pressure in hypertensive patients with type 2 diabetes. 2022;doi:10.20960/nh.04039	Health Status
387	Mulcahy MC, Tellez-Rojo MM, Cantoral A, et al. Maternal Carbohydrate Intake During Pregnancy is Associated with Child Peripubertal Markers of Metabolic Health but not Adiposity.	Intervention or Exposure
388	Muralidharan J, Moreno-Indias I, Bullo M, et al. Effect on gut microbiota of a 1-y lifestyle intervention with Mediterranean diet compared with energy-reduced Mediterranean diet and physical activity promotion: PREDIMED-Plus Study. Am J Clin Nutr. Sep 1 2021;114(3):1148-1158. doi:10.1093/ajcn/nqab150	Intervention or Exposure
389	Murni IK, Sulistyoningrum DC, Susilowati R, Julia M, Dickinson KM. The association between dietary intake and cardiometabolic risk factors among obese adolescents in Indonesia. Bmc Pediatrics. May 12 2022;22(1)doi:10.1186/s12887-022-03341-y	Study Design
390	Murphy J. Exercise, healthy diet in midlife may prevent serious health conditions in senior years. 2021.	Publication Status
391	Murphy KJ, Dyer KA, Hyde B, et al. Long-Term Adherence to a Mediterranean Diet 1-Year after Completion of the MedLey Study. Article. Nutrients. 2022;14(15)doi:10.3390/nu14153098	Outcome
392	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, Comparator
393	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. 2021;13(6)doi:10.3390/nu13061884	Health Status

No.	Citation	Rationale
394	Myshak-Davis AT, Evans J, Howay H, Sakakibara BM. The effects of a primary care low-carbohydrate, high-fat dietary educational intervention on laboratory and anthropometric data of patients with chronic disease: a retrospective cohort chart review. Fam Pract. Sep 24 2022;39(5):819-825. doi:10.1093/fampra/cmac003	Study Design, Intervention or Exposure
395	Nabila S, Kim JE, Choi J, et al. Associations Between Modifiable Risk Factors and Changes in Glycemic Status Among Individuals With Prediabetes. Diabetes Care. Mar 2023;46(3):535-543. doi:10.2337/dc22-1042	Intervention or Exposure, Publication Status
396	Nah EH, Chu J, Kim S, Cho S, Kwon E. Efficacy of lifestyle interventions in the reversion to normoglycemia in Korean prediabetics: One-year results from a randomised controlled trial. Article. Primary Care Diabetes. 2019;13(3):212-220.	Intervention or Exposure
397	No author field. A Mediterranean Intervention on Prediabetic Children. https://clinicaltrials.gov/show/NCT05424107. 2022.	Publication Status
398	No author field. Acceptability, Feasibility and Effectiveness of a Worksite Intervention to Lower Cardiometabolic Risk in South Africa. https://clinicaltrials.gov/show/NCT04494139. 2020.	Publication Status
399	No author field, Healthy Lifestyle Intervention on Diabetes Risk Reduction Among Bruneian Young Adults. https://clinicaltrials.gov/show/NCT04217759. 2020.	Publication Status
400	No author field. Optimizing Gestational Weight Gain for Prevention of Gestational Diabetes Mellitus in Malaysia. https://clinicaltrials.gov/show/NCT05489536. 2022.	Publication Status
401	Nguyen HD, Oh H, Kim M-S. Higher intakes of fruits, vegetables, and multiple individual nutrients is associated with a lower risk of metabolic syndrome among adults with comorbidities. Nutrition Research. 2022;99:1-12.	Study Design, Intervention or Exposure
402	Nilsen I, Andersson A, Laurenius A, Osterberg J, Sundbom M, Haenni A. Lower interstitial glucose concentrations but higher glucose variability during low-energy diet compared to regular diet—an observational study in females with obesity. Article. Nutrients. 2021;13(11)doi:10.3390/nu13113687	Intervention or Exposure, Study Duration
403	Njike VY, Kela GCM, Treu JA, et al. Egg Consumption in the Context of Plant-Based Diets and Diet Quality in Adults at Risk for Type 2 Diabetes: A Randomized Single Blind Cross-over Controlled Trial. J Am Nutr Assoc. Feb 17 2023;42(2):130-139. doi:10.1080/07315724.2021.2006824	Study Duration, Outcome

No.	Citation	Rationale
404	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. The Journal of nutrition. 2021;doi:10.1093/jn/nxab283	Intervention or Exposure, Study Duration
405	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.	Outcome, Country
406	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: An International Journal of Obstetrics and Gynaecology. 2019;126(4):514-524.	Intervention or Exposure, Outcome
407	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. 13(1)	Outcome
408	Okuda M, Fujiwara A, Sasaki S. Adherence to the Japanese Food Guide: The Association between Three Scoring Systems and Cardiometabolic Risks in Japanese Adolescents. 14(1)	Study Design
409	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. Article. Frontiers in Genetics. 2022;13doi:10.3389/fgene.2022.820878	Intervention or Exposure, Comparator
410	Olsson K, Ramne S, Gonzalez-Padilla E, Ericson U, Sonestedt E. Associations of carbohydrates and carbohydrate-rich foods with incidence of type 2 diabetes. Br J Nutr. Oct 14 2021;126(7):1065-1075.	Intervention or Exposure
411	O'Reilly S, Versace V, Mohebbi M, Lim S, Janus E, Dunbar J. The effect of a diabetes prevention program on dietary quality in women with previous gestational diabetes. Article. BMC Women's Health. 2019;19(1)	Comparator
412	Otten J, Ryberg M, Mellberg C, et al. Postprandial levels of GLP-1, GIP and glucagon after 2 years of weight loss with a Paleolithic diet: A randomised controlled trial in healthy obese women. Article. European Journal of Endocrinology. 2019;180(6):417-427.	Intervention or Exposure, Outcome
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420	Paltoglou G, Raftopoulou C, Nicolaides NC, et al. A Comprehensive, Multidisciplinary, Personalized, Lifestyle Intervention Program Is Associated with Increased Leukocyte Telomere Length in Children and Adolescents with Overweight and Obesity. 13(8)	Intervention or Exposure
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422	Pandya R, Abdelaal R, Chen JW, et al. Retrospective assessment of metabolic syndrome components in early adult life on vegetarian dietary status. 10	Intervention or Exposure
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424	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. 15(3)	Health Status, Outcome
425	Park S. A Causal and Inverse Relationship between Plant-Based Diet Intake and in a Two-Sample Mendelian Randomization Study. 12(3)	Study Design,

No.	Citation	Rationale
426	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. 111	Study Design, Intervention or Exposure
427	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. 11(11)	Study Design, Intervention or Exposure
428	Park YMM, Choi MK, Lee SS, et al. Dietary inflammatory potential and risk of mortality in metabolically healthy and unhealthy phenotypes among overweight and obese adults. Article. Clinical Nutrition. 2019;38(2):682-688.	Intervention or Exposure, Outcome
429	Parlapani E, Agakidis C, Karagiozoglou-Lampoudi T, et al. The Mediterranean diet adherence by pregnant women delivering prematurely: association with size at birth and complications of prematurity. Article. Journal of Maternal-Fetal and Neonatal Medicine. 2019;32(7):1084-1091.	Study Design
430	Parnell LD, Noel SE, Bhupathiraju SN, et al. Metabolite patterns link diet, obesity, and type 2 diabetes in a Hispanic population. 17(10)	Intervention or Exposure
431	Partula V, Deschasaux M, Druesne-Pecollo N, et al. Associations between consumption of dietary fibers and the risk of cardiovascular diseases, cancers, type 2 diabetes, and mortality in the prospective NutriNet-Santé cohort. American Journal of Clinical Nutrition. 2020;112(1):195-207.	Intervention or Exposure
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433	Peng S, Yu Y, Yu X, et al. Adherence to the Chinese dietary guidelines and metabolic syndrome among children aged 6-14 years. 13(19)	Study Design,
434	Perraud E, Wang J, Salomé M, Huneau JF, Lapidus N, Mariotti F. Plant and Animal Protein Intakes Largely Explain the Nutritional Quality and Health Value of Diets Higher in Plants: A Path Analysis in French Adults. 9	Outcome
435	Petersen JM, Naimi AI, Kirkpatrick SI, Bodnar LM. Equal Weighting of the Healthy Eating Index-2010 Components May not be Appropriate for Pregnancy.	Intervention or Exposure, Outcome
436	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. 14(14)	Intervention or Exposure

No.	Citation	Rationale
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439	Phillips Q. REDUCED-CARBOHYDRATE, HIGH-PROTEIN DIET SHOWS BENEFITS IN TYPE 2. Diabetes Self-Management. Fall2021 2021;38(3):14-14.	Publication Status
440	Pintó 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. Journal of Nutrition. 2019;149(11):1920-1929. doi:10.1093/jn/nxz147	Intervention or Exposure, Comparator
441	Piovesan CH, Gustavo A, Macagnan FE, et al. The Effect of Different Interventions for Lifestyle Modifications on the Number of Diagnostic Criteria and Clinical Aspects of Metabolic Syndrome. 19(1)	Intervention or Exposure
442	Pletsch-Borba L, Wernicke C, Meyer N, et al. A 36-month high-protein and high-unsaturated fatty-acid dietary intervention improves HbA1c in subjects aged 50-80y: preliminary results of the NutriAct Trial. Journal article; Conference proceeding. Diabetologia. 2022;65:S274-.	Publication Status
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444	Pokharel P, Kyrø C, Olsen A, et al. Vegetable, But Not Potato, Intake is Associated With a Lower Risk of Type 2 Diabetes in the Danish Diet, Cancer and Health Cohort.	Intervention or Exposure
445	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. 5(9)	Intervention or Exposure, Outcome
446	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. Journal of Clinical Lipidology. 2019;13(6):920-931.	Intervention or Exposure

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447	Prater MC, Scheurell AR, Paton CM, Cooper JA. Comparison of Blood Lipid Responses to Diets Enriched with Cottonseed Oil vs. Olive Oil in Adults with High Cholesterol in a Randomized Trial.	Study Duration
448	Primo Martín D, Izaola Jáuregui O, López Gómez 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. Nutricion hospitalaria. 2020;37(4):742-749.	Publication Language
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450	Qiao T, Chen Y, Duan R, et al. Beyond protein intake: does dietary fat intake in the year preceding pregnancy and during pregnancy have an impact on gestational diabetes mellitus? European Journal of Nutrition. 2021;60(6):3461-3472.	Intervention or Exposure
451	Quattrini S, Pampaloni B, Cianferotti L, et al. Mediterranean diet adherence and dietary calcium intake in a group of pregnant women: Results of an Italian survey. Food Sci Nutr. Jul 2021;9(7):3426-3435.	Confounders
452	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. 13(3)	Intervention or Exposure
453	Raben A, Vestentoft PS, Brand-Miller J, et al. The PREVIEW intervention study: Results from a 3-year randomized 2 x 2 factorial multinational trial investigating the role of protein, glycaemic index and physical activity for prevention of type 2 diabetes. Article. Diabetes, Obesity and Metabolism. 2021;23(2):324-337.	Intervention or Exposure
454	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. 31(6)	Size of Study Groups
455	Ramesh G, Wood AC, Allison MA, et al. Associations between adherence to the dietary approaches to stop hypertension (DASH) diet and six glucose homeostasis traits in the Microbiome and Insulin Longitudinal Evaluation Study (MILES).	Study Design
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458	Ramos-Levi A, Barabash A, Valerio J, et al. Genetic variants for prediction of gestational diabetes mellitus and modulation of susceptibility by a nutritional intervention based on a Mediterranean diet. 13	Intervention or Exposure
459	Rea K, Jadallah J, Nadpara P, Goode JV. 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. Journal of the American Pharmacists Association. 2021;61(4):S147-S153. doi:10.1016/j.japh.2021.01.027	Study Design, Intervention or Exposure
460	Rebouillat P, Vidal R, Cravedi JP, et al. Prospective association between dietary pesticide exposure profiles and type 2 diabetes risk in the NutriNet-Santé cohort. 21(1)	Intervention or Exposure
461	Redman LM, Drews KL, Klein S, et al. Attenuated early pregnancy weight gain by prenatal lifestyle interventions does not prevent gestational diabetes in the LIFE-Moms consortium. Article. Diabetes Research and Clinical Practice. 2021;171doi:10.1016/j.diabres.2020.108549	Intervention or Exposure
462	Reyes-López MA, González-Leyva CP, Rodríguez-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. 2021;13(6)doi:10.3390/nu13061853	Study Design
463	Riddle J. Plant-Based Eating and Diabetes. Today's Dietitian. 2022;24(8):6-6.	Publication Status
464	Rinott E, Youngster I, Yaskolka Meir A, et al. Effects of Diet-Modulated Autologous Fecal Microbiota Transplantation on Weight Regain. Gastroenterology. Jan 2021;160(1):158-173 e10.	Intervention or Exposure
465	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. Journal of the Academy of Nutrition and Dietetics. 2022;122(2):298-308. doi:10.1016/j.jand.2021.05.020	Intervention or Exposure
466	Rodrigues CCR, Riboldi BP, Rodrigues TC, et al. 304-OR: Association of Eating Patterns and Diabetic Kidney Disease in Type 2 Diabetes. Diabetes. 2021;70:N.PAG-N.PAG.	Publication Status
467	Röhling M, Kempf K, Banzer W, et al. Prediabetes conversion to normoglycemia is superior adding a low-carbohydrate and energy deficit formula diet to lifestyle intervention— a 12-month subanalysis of the acoorh trial. Article. Nutrients. 2020;12(7):1-13.	Intervention or Exposure
468	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

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471	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.	Intervention or Exposure
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473	Rostgaard-Hansen AL, Lau CJ, Halkjær J, Olsen A, Toft U. An updated validation of the Dietary Quality Score: associations with risk factors for cardiometabolic diseases in a Danish population.	Study Design
474	Ru Y, Wang N, Min Y, et al. Characterization of dietary patterns and assessment of their relationships with metabolomic profiles: A community-based study. 40(5)	Study Design
475	Rydhög B, Granfeldt Y, Frassetto L, Fontes-Villalba M, Carrera-Bastos P, Jönsson T. Assessing compliance with Paleolithic diet by calculating Paleolithic Diet Fraction as the fraction of intake from Paleolithic food groups. Article. Clinical Nutrition Experimental. 2019;25:29-35.	Health Status
476	Sadeghian M, Hosseini SA, Zare Javid A, Ahmadi Angali K, Mashkournia A. Effect of Fasting-Mimicking Diet or Continuous Energy Restriction on Weight Loss, Body Composition, and Appetite-Regulating Hormones Among Metabolically Healthy Women with Obesity: a Randomized Controlled, Parallel Trial. Obes Surg. May 2021;31(5):2030-2039.	Intervention or Exposure, Study Duration
477	Sadiya A, Jakapure V, Shaar G, Adnan R, Tesfa Y. Lifestyle intervention in early pregnancy can prevent gestational diabetes in high-risk pregnant women in the UAE: a randomized controlled trial. 22(1)	Intervention or Exposure, Comparator
478	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.	Intervention or Exposure, Comparator

No.	Citation	Rationale
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480	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. 12(5)	Intervention or Exposure
481	Salas-Salvadó J, Díaz-López 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. Article. Diabetes Care. 2019;42(5):777-788.	Intervention or Exposure, Comparator
482	Sandborg J, Soderstrom E, Henriksson P, et al. Effectiveness of a Smartphone App to Promote Healthy Weight Gain, Diet, and Physical Activity During Pregnancy (HealthyMoms): Randomized Controlled Trial. JMIR Mhealth Uhealth. Mar 11 2021;9(3):e26091.	Intervention or Exposure, Outcome
483	Santos KD, Rosado EL, Fonseca ACP, et al. FTO and ADRB2 Genetic Polymorphisms Are Risk Factors for Earlier Excessive Gestational Weight Gain in Pregnant Women with Pregestational Diabetes Mellitus: Results of a Randomized Nutrigenetic Trial. 14(5)	Health Status
484	Santos ASAC, Rodrigues APS, Rosa LPS, Noll M, Silveira EA. Traditional Brazilian diet and olive oil reduce cardiometabolic risk factors in severely obese individuals: A randomized trial. Article. Nutrients. 2020;12(5)	Intervention or Exposure
485	Šarac J, Havaš Auguštin D, Lovrić M, et al. A Generation Shift in Mediterranean Diet Adherence and Its Association with Biological Markers and Health in Dalmatia, Croatia. Nutrients. 2021;13(12):4564-4564.	Study Design
486	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. 21(3)	Intervention or Exposure, Size of Study Groups
487	Sayón-Orea C, Razquin C, Bulló M, et al. Effect of a Nutritional and Behavioral Intervention on Energy-Reduced Mediterranean Diet Adherence Among Patients With Metabolic Syndrome: interim Analysis of the PREDIMED-Plus Randomized Clinical Trial. Comparative Study; Journal Article; Multicenter Study; Randomized Controlled Trial; Research Support, Non-U.S. Gov't. JAMA. 2019;322(15):1486-1499.	Intervention or Exposure, Outcome
488	Schembre SM, Jospe MR, Giles ED, et al. A low-glucose eating pattern improves biomarkers of postmenopausal breast cancer risk: An exploratory secondary analysis of a randomized feasibility trial. Article. Nutrients. 2021;13(12)doi:10.3390/nu13124508	Intervention or Exposure, Outcome

No.	Citation	Rationale
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490	Schnermann ME, Schulz CA, Herder C, Alexy U, Nöthlings U. A lifestyle pattern during adolescence is associated with cardiovascular risk markers in young adults: Results from the DONALD cohort study. Article. Journal of Nutritional Science. 2021;10doi:10.1017/jns.2021.84	Intervention or Exposure, Comparator
491	Schroder H, Zomeno MD, Martinez-Gonzalez MA, et al. Validity of the energy-restricted Mediterranean Diet Adherence Screener. Clin Nutr. Aug 2021;40(8):4971-4979.	Outcome
492	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. American Journal of Clinical Nutrition. 2022;116(1):132-150.	Intervention or Exposure
493	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. 2022;6(1):1-10. doi:10.3399/BJGPO.2021.0137	Study Design, Intervention or Exposure
494	Seah JYH, Koh W-P, Yuan J-M, van Dam RM. Rice intake and risk of type 2 diabetes: the Singapore Chinese Health Study. European Journal of Nutrition. 2019;58(8):3349-3360.	Intervention or Exposure
495	Seguin R, Folta S, Marshall G, Graham M, Strogatz DS. The effect of a community-based healthy lifestyle behavior change program on simple 7 score among rural women. Journal: Conference Abstract. Circulation. 2019;139	Intervention or Exposure, Publication Status
496	Seguin-Fowler RA, Strogatz D, Graham ML, et al. The Strong Hearts, Healthy Communities Program 2.0: An RCT Examining Effects on Simple 7. Am J Prev Med. Jul 2020;59(1):32-40.	Intervention or Exposure, Outcome
497	Seixas MB, Pereira DAG, Ghisi GLM, et al. Exercise and Lifestyle Education program for Brazilians living with prediabetes and diabetes: A pilot randomized trial. 16(10)	Intervention or Exposure
498	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)	Study Design
499	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? J Pediatr Endocrinol Metab. Apr 28 2020;33(4):495-502.	Study Design, Intervention or Exposure

No.	Citation	Rationale
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501	Shakeri Z, Mirmiran P, Khalili-Moghadam S, Hosseini-Esfahani F, Ataie-Jafari A, Azizi F. Empirical dietary inflammatory pattern and risk of metabolic syndrome and its components: Tehran Lipid and Glucose Study. Article. Diabetology and Metabolic Syndrome. 2019;11(1)	Outcome
502	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. 19(1)	Country
503	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. Preventive medicine. 2020;133	Intervention or Exposure
504	Shang X, Li Y, Xu H, et al. Meal patterns and changes in cardiometabolic risk factors in children: a longitudinal analysis. Journal: Article. Nutrients. 2020;12(3)	Intervention or Exposure
505	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)	Intervention or Exposure, Country
506	Shemirani F, Djafarian K, Fotouhi A, et al. Effect of Paleolithic-based low-carbohydrate vs. moderate-carbohydrate diets with portion-control and calorie-counting on CTRP6, asprosin and metabolic markers in adults with metabolic syndrome: A randomized clinical trial. Article. Clinical Nutrition ESPEN. 2022;48:87-98. doi:10.1016/j.clnesp.2021.11.013	Study Duration
507	Shen QM, Li HL, Li ZY, et al. Joint impact of BMI, physical activity and diet on type 2 diabetes: findings from two population-based cohorts in China.	Country
508	Shen XM, Huang YQ, Zhang XY, Tong XQ, Zheng PF, Shu L. Association between dietary patterns and prediabetes risk in a middle-aged Chinese population. Journal NR. 19(1)	Study Design
509	Shen XM, Shu L, Huang YQ, Zhang XY, Zheng PF, Zhu Q. Association between dietary patterns and glycemic control in a middle-aged Chinese population. Journal NR. Doi NR.	Study Design; Duplicate
510	Shen X-M, Shu L, Huang Y-Q, Zhang X-Y, Zheng P-F, Zhu Q. Association between dietary patterns and glycaemic control in a middle-aged Chinese population. Public Health Nutrition. 2022;25(8):2197-2205.	Study Design
511	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. 14(17)	Study Design

No.	Citation	Rationale
512	Shin J, Zhou X, Tan JTM, Hyppönen E, Benyamin B, Lee SH. Lifestyle Modifies the Diabetes-Related Metabolic Risk, Conditional on Individual Genetic Differences. 13	Intervention or Exposure
513	Shin D, Lee KW. Dietary carbohydrates interacts with AMY1 polymorphisms to influence the incidence of type 2 diabetes in Korean adults. Article. Scientific reports. 2021;11(1):16788. doi:10.1038/s41598-021-96257-z	Intervention or Exposure
514	Shin Y, Kim Y. Psychological Stress Accompanied by a Low-Variety Diet Is Positively Associated with Type 2 Diabetes in Middle-Aged Adults. Nutrients. Aug 27 2020;12(9)	Study Design, Intervention or Exposure
515	Shivappa N, Hebert JR, Akhoundan M, Mirmiran P, Rashidkhani B. Association between inflammatory potential of diet and odds of gestational diabetes mellitus among Iranian women. J Matern Fetal Neonatal Med. Nov 2019;32(21):3552-3558.	Study Design
516	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. Clinical Obesity. 2014;4(6):316-323. doi:10.1111/cob.12074	Study Design
517	Siregar DAS, Rianda D, Irwinda R, et al. Associations between diet quality, blood pressure, and glucose levels among pregnant women in the Asian megacity of Jakarta. PLoS One. 2020;15(11):e0242150.	Study Design
518	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.	Intervention or Exposure
519	Skurk T, Bosy-Westphal A, Grünerbel A, et al. Dietary recommendations for persons with type 2 diabetes mellitus.	Study Design, Health Status, Publication Status
520	Slomski A. Low-Carbohydrate, High-Fat Diet Improved Type 2 Diabetes Without Restricting Calories. 329(4)	Publication Status
521	Sluijs I, Van Der Schouw YT, Van Der A DL, et al. Carbohydrate quantity and quality and risk of type 2 diabetes in the European Prospective Investigation into Cancer and Nutrition-Netherlands (EPIC-NL) study. Article. American Journal of Clinical Nutrition. 2010;92(4):905-911. doi:10.3945/ajcn.2010.29620	Intervention or Exposure
522	Smith PJ, Mabe SM, Sherwood A, et al. Metabolic and Neurocognitive Changes Following Lifestyle Modification: Examination of Biomarkers from the ENLIGHTEN Randomized Clinical Trial. J Alzheimers Dis. 2020;77(4):1793-1803.	Intervention or Exposure

No.	Citation	Rationale
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524	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. 9	Intervention or Exposure
525	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. 20(1)	Intervention or Exposure
526	Song YM, Lee K. Genetic and environmental associations between insulin resistance and weight-related traits and future weight change. Nutrition. Nov - Dec 2020;79-80:110939.	Intervention or Exposure
527	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.	Intervention or Exposure
528	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. 20(1)	Intervention or Exposure, Comparator
529	Steele CC, Steele TJ, Gwinner M, Rosenkranz SK, Kirkpatrick K. The relationship between dietary fat intake, impulsive choice, and metabolic health. Article. Appetite. 2021;165	Intervention or Exposure, Study Duration,
530	Stentz FB, Mikhael A, Kineish O, Christman J, Sands C. High protein diet leads to prediabetes remission and positive changes in incretins and cardiovascular risk factors. Article. Nutrition, Metabolism and Cardiovascular Diseases. 2021;31(4):1227-1237.	Intervention or Exposure
531	Storz MA. Reduced Diabetes Medication Needs With a Plant-Based Diet. J Am Coll Nutr. Aug 2020;39(6):574-577.	Study Design, Publication Status
532	Strączek K, Horodnicka-Józwa 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. Article. Frontiers in Endocrinology. 2022;13doi:10.3389/fendo.2022.1034148	Intervention or Exposure
533	Stratakis N, Siskos AP, Papadopoulou E, et al. Urinary metabolic biomarkers of diet quality in European children are associated with metabolic health. 11	Study Design, Outcome

No.	Citation	Rationale
534	Sugihiro T, Yoneda M, Ohno H, Oki K, Hattori N. Associations of nutrient intakes with obesity and diabetes mellitus in the longitudinal medical surveys of Japanese Americans. Article. Journal of Diabetes Investigation. 2019;10(5):1229-1236.	Intervention or Exposure
535	Suliga E, Brola W, Sobaś K, et al. Dietary Patterns and Metabolic Disorders in Polish Adults with Multiple Sclerosis. Nutrients. 2022;14(9):1927-1927.	Study Design, Health Status
536	Sun Y, Chen S, Zhao X, et al. Adherence to the Dietary Approaches to Stop Hypertension diet and non-alcoholic fatty liver disease.	Study Design, Country
537	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 Medicine. 2023;21(1)doi:10.1186/s12916-023-02869-9	Intervention or Exposure
538	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. 152(2)	Outcome
539	Tang N, Wu Y, Chen Y, et al. Association between postpartum low-carbohydrate-diet scores and glucose levels in Chinese women. Nutrition. Sep 2021;89:111305.	Intervention or Exposure
540	Tanner H, Barrett HL, Callaway LK, Wilkinson SA, Nitert MD. Consumption of a low carbohydrate diet in overweight or obese pregnant women is associated with longer gestation of pregnancy. Article. Nutrients. 2021;13(10)doi:10.3390/nu13103511	Intervention or Exposure
541	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. 19(1)	Intervention or Exposure, Comparator
542	Terschüren C, Damerau L, Petersen EL, Harth V, Augustin M, Zyriax BC. Association of Dietary Pattern, Lifestyle and Chronotype with Metabolic Syndrome in Elderly-Lessons from the Population-Based Hamburg City Health Study. 19(1)	Study Design, Outcome
543	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. 2021;13(12)doi:10.3390/nu13124380	Study Duration
544	Teymoori F, Mokhtari E, Farhadnejad H, Mirmiran P, Rad HA, Azizi F. The dietary and lifestyle indices of insulin resistance are associated with increased risk of cardiovascular diseases: A prospective study among an Iranian adult population.	Intervention or Exposure, Outcome

No.	Citation	Rationale
545	Teymoori F, Mokhtari E, Salehi P, Hosseini-Esfahani F, Mirmiran P, Azizi F. A nutrient pattern characterized by vitamin A, C, B6, potassium, and fructose is associated with reduced risk of insulin-related disorders: A prospective study among participants of Tehran lipid and glucose study. Diabetol Metab Syndr. Jan 26 2021;13(1):12.	Intervention or Exposure
546	Thao U, Lajous M, Laouali N, Severi G, Boutron-Ruault MC, MacDonald CJ. Replacing processed red meat with alternative protein sources is associated with a reduced risk of hypertension and diabetes in a prospective cohort of French women. Article in Press. The British journal of nutrition. 2022:1-31. doi:10.1017/S0007114522002689	Intervention or Exposure, Comparator
547	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. 14(10)	Intervention or Exposure, Study Duration
548	Titcomb TJ, Liu B, Wahls TL, et al. Comparison of the ketogenic ratio of macronutrients with the low-carbohydrate diet score and their association with risk of type 2 diabetes in postmenopausal women: A secondary analysis of the women's health initiative.	Intervention or Exposure
549	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.	Study Design, Outcome
550	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.	Study Design, Intervention or Exposure
551	Tresserra-Rimbau A, Castro-Barquero S, Becerra-Tomás N, et al. Adopting a High-Polyphenolic Diet Is Associated with an Improved Glucose Profile: Prospective Analysis within the PREDIMED-Plus Trial. 11(2)	Intervention or Exposure
552	Trimigno A, Khakimov B, Savorani F, et al. Human urine (1)H NMR metabolomics reveals alterations of protein and carbohydrate metabolism when comparing habitual Average Danish diet vs. healthy New Nordic diet. Nutrition. Nov - Dec 2020;79-80:110867.	Outcome
553	Trouwborst I, Gijbels A, Jardon KM, et al. Cardiometabolic health improvements upon dietary intervention are driven by tissue-specific insulin resistance phenotype: A precision nutrition trial. Article. Cell Metabolism. 2023;35(1):71-83.e5. doi:10.1016/j.cmet.2022.12.002	Intervention or Exposure
554	Tryggvadottir EA, Halldorsson TI, Landberg R, et al. Higher Alkylresorcinol Concentrations, a Consequence of Whole-Grain Intake, are Inversely Associated with Gestational Diabetes Mellitus in Iceland. Article. The Journal of nutrition. 2021;151(5):1159-1166. doi:10.1093/jn/nxaa449	Intervention or Exposure
555	Tryggvadottir EA, Gunnarsdottir I, Birgisdottir BE, et al. Early pregnancy plasma fatty acid profiles of women later diagnosed with gestational diabetes. BMJ Open Diabetes Res Care. Aug 2021;9(1)	Intervention or Exposure

No.	Citation	Rationale
556	Tsaban G, Yaskolka Meir A, Rinott E, et al. The effect of green Mediterranean diet on cardiometabolic risk; a randomised controlled trial. Heart. Nov 23 2020;	Intervention or Exposure, Comparator
557	Tsai TJ, Li MC. Adherence to the Taiwan Daily Food Guide and the Risk of Type 2 Diabetes: A Populational Study in Taiwan. 20(3)	Study Design
558	Tunçer E, Keser A, Ünsal EN, Güneş SO, Akın O. The Correlation Between Adherence to Mediterranean Diet and HOMA-IR in Children and Adolescents. Article. Çocuk ve Adölesanlarda Akdeniz Diyetine Uyum ile HOMA-IR Arasındaki İlişki. 2022;20(2):188-196. doi:10.4274/JCP.2022.59251	Study Design
559	Tuomainen M, Karkkainen O, Leppanen J, et al. Quantitative assessment of betainized compounds and associations with dietary and metabolic biomarkers in the randomized study of the healthy Nordic diet (SYSDIET). Am J Clin Nutr. Nov 1 2019;110(5):1108-1118.	Intervention or Exposure, Comparator
560	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. 153(2)	Intervention or Exposure
561	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. Metabolic Syndrome and Related Disorders. 2022;20(2):94-103. doi:10.1089/met.2021.0042	Study Design, Intervention or Exposure
562	Uçar Z, Akman M. Mediterranean type diet protects adult individuals from diabetes. Article. Progress in Nutrition. 2021;23(3)doi:10.23751/pn.v23i3.10828	Study Design
563	Unwin D, Delon C, Unwin J, Tobin S, Taylor R. What predicts drug-free type 2 diabetes remission? Insights from an 8-year general practice service evaluation of a lower carbohydrate diet with weight loss. Article in Press. BMJ Nutrition, Prevention and Health. 2023;doi:10.1136/bmjnph-2022-000544	Intervention or Exposure
564	Unwin DJ, Tobin SD, Murray SW, Delon C, Brady AJ. Substantial and sustained improvements in blood pressure, weight and lipid profiles from a carbohydrate restricted diet: An observational study of insulin resistant patients in primary care. Article. International Journal of Environmental Research and Public Health. 2019;16(15)	Intervention or Exposure
565	Ushula TW, Mamun A, Darssan D, et al. Dietary patterns explaining variations in blood biomarkers in young adults are associated with the 30-year predicted cardiovascular disease risks in midlife: A follow-up study.	Size of Study Groups, Outcome

No.	Citation	Rationale
566	Utari A, Maududi MS, Kusumawati NRD, Mexitalia M. Effects of low glycemic index diet on insulin resistance among obese adolescent with non-alcoholic fatty liver disease: A randomized controlled trial. Article. Medical Journal of Indonesia. 2019;28(2):123-128.	Intervention or Exposure
567	Vahid F, Hoge A, Hébert JR, Bohn T. Association of diet quality indices with serum and metabolic biomarkers in participants of the ORISCAV-LUX-2 study.	Study Design
568	Vahid F, Goodarzi R, Shivappa N, Hébert JR, Fazeli Moghadam E. Dietary Inflammatory Index (DII®): A significant association between coronary heart disease and DII® in Armenian adults. Article. European Journal of Preventive Cardiology. 2020;27(19):2235-2237.	Outcome, Publication Status
569	Valerio J, Barabash A, Garcia de la Torre N, et al. The Relationship between Serum Adipokines, miR-222-3p, miR-103a-3p and Glucose Regulation in Pregnancy and Two to Three Years Post-Delivery in Women with Gestational Diabetes Mellitus Adhering to Mediterranean Diet Recommendations. 14(22)	Intervention or Exposure, Comparator
570	Valsdottir TD, Øvrebø B, Kornfeldt TM, et al. Effect of aerobic exercise and low-carbohydrate high-fat diet on glucose tolerance and android/gynoid fat in overweight/obese women: A randomized controlled trial. Article. Frontiers in Physiology. 2023;14doi:10.3389/fphys.2023.1056296	Intervention or Exposure, Study Duration
571	van Baak MA, Roumans NJT, Mariman ECM. Diet Composition, Glucose Homeostasis, and Weight Regain in the YoYo Study. Nutrients. Jun 30 2021;13(7)	Intervention or Exposure
572	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. 2022;14(9)doi:10.3390/nu14091795	Study Design, Intervention or Exposure
573	van Etten S, Crielaard L, Muilwijk M, et al. Lifestyle clusters related to type 2 diabetes and diabetes risk in a multi-ethnic population: The HELIUS study. Article. Preventive Medicine. 2020;137	Intervention or Exposure, Comparator
574	van Poppel MNM, Jelsma JGM, Simmons D, et al. Mediators of lifestyle behaviour changes in obese pregnant women. Secondary analyses from the DALI lifestyle randomised controlled trial. Article. Nutrients. 2019;11(2)	Intervention or Exposure, Outcome
575	Vassou C, Yannakoulia M, Georgousopoulou EN, et al. Irrational Beliefs, Dietary Habits and 10-Year Incidence of Type 2 Diabetes; the ATTICA Epidemiological Study (2002-2012). 17(1)	Size of Study Groups

No.	Citation	Rationale
576	Velázquez-López L, Ponce-Martínez X, Colín-Ramírez E, Muñoz-Torres AV, Escobedo-de la Peña J. Un patrón dietético con alto contenido de lácteos enteros y bebidas azucaradas se asocia con la hemoglobina glicosilada y el peso en pacientes mexicanos con diabetes de tipo 2. Article in Press. A dietary pattern high in full-fat dairy and sweetened beverages is associated with glycated hemoglobin and weight in Mexican patients with type-2 diabetes. 2021;doi:10.20960/nh.03651	Study Design, Health Status
577	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. Nutrition and Metabolism. 2022;19(1)doi:10.1186/s12986-022-00707-y	Intervention or Exposure
578	Vinke PC, Navis G, Kromhout D, Corpeleijn E. Associations of Diet Quality and All-Cause Mortality Across Levels of Cardiometabolic Health and Disease: A 7.6-Year Prospective Analysis From the Dutch Lifelines Cohort. 44(5)	Outcome
579	Virtanen E, Kivela J, Wikstrom K, et al. Feel4Diabetes healthy diet score: development and evaluation of clinical validity. BMC Endocr Disord. May 6 2020;20(Suppl 2):46.	Outcome
580	Vitale M, Calabrese I, Massimino E, et al. Dietary inflammatory index score, glucose control and cardiovascular risk factors profile in people with type 2 diabetes. Article. International journal of food sciences and nutrition. 2021;72(4):529-536. doi:10.1080/09637486.2020.1832054	Health Status
581	Vitale S, Mattioli V, Shivappa N, et al. The dietary inflammatory index in women diagnosed with breast cancer after 12 months of dietary. Treatment with a Mediterranean diet low in glycemic index: data from DEDICA randomized controlled trial. Nutrition, Metabolism & Cardiovascular Diseases. 2021;31(11):3256-3256.	Intervention or Exposure, Publication status
582	Vizzari G, Sommariva MC, Cas MD, et al. Circulating salicylic acid and metabolic profile after 1-year nutritional–behavioral intervention in children with obesity. Article. Nutrients. 2019;11(5)	Study Design, Intervention or Exposure
583	Vizzuso S, Amatruda M, Banderali G, Mameli C, Zuccotti G, Verduci E. One year individual or group based lifestyle intervention in obese. Impact on metabolic profile and body composition. Journal: Conference Abstract. Obesity reviews. 2020;21(SUPPL 1)	Study Design, Publication Status
584	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.	Study Design, Intervention or Exposure
585	Wabo TMC, Nkondjock VRN, Onwuka JU, Sun C, Han T, Sira J. Association of fourteen years diet quality trajectories and type 2 diabetes mellitus with related biomarkers. Aging (Albany NY). Mar 26 2021;13(7):10112-10127.	Country

No.	Citation	Rationale
586	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. J Am Heart Assoc. Apr 7 2020;9(7):e013836.	Outcome
587	Wakasugi M, Narita I, Iseki K, et al. Healthy Lifestyle and Incident Hypertension and Diabetes in Participants with and without Chronic Kidney Disease: The Japan Specific Health Checkups (J-SHC) Study. Article. Internal Medicine. 2022;61(19):2841-2851. doi:10.2169/internalmedicine.8992-21	Intervention or Exposure
588	Wang CR, Hu TY, Hao FB, et al. Type 2 diabetes prevention diet and all-cause and cause-specific mortality in the US population: a prospective study.	Outcome
589	Wang DD, Qi Q, Wang Z, et al. The Gut Microbiome Modifies the Association between a Mediterranean Diet and Diabetes in US Hispanic / Latino Population. Journal of Clinical Endocrinology and Metabolism. 2022	Study Duration; Duplicate
590	Wang J, Lv S, Zhou Y, et al. The association between low carbohydrate diet scores and cardiometabolic risk factors in Chinese adults.	Study Design
591	Wang J, Xie Z, Chen P, Wang Y, Li B, Dai F. Effect of dietary pattern on pregnant women with gestational diabetes mellitus and its clinical significance. 17(1)	Health Status
592	Wang W, Lv J, Yu C, et al. Lifestyle factors and fetal and childhood origins of type 2 diabetes: A prospective study of Chinese and European adults.	Intervention or Exposure
593	Wang Y, Chen B, Zhang J, et al. Diets with Higher Insulinemic Potential Are Associated with Increased Risk of Overall and Cardiovascular Disease-specific Mortality. Journal NR; 128(10); doi NR	Outcome; Duplicate
594	Wang Y, Chen B, Zhang J, et al. Diets with Higher Insulinemic Potential Are Associated with Increased Risk of Overall and Cardiovascular Disease-specific Mortality. Journal NR; doi NR	Outcome; Duplicate
595	Wang Y, Xie W, Tian T, et al. The Relationship between Dietary Patterns and High Blood Glucose among Adults Based on Structural Equation Modelling. 14(19)	Study Design
596	Wang DD, Qi Q, Wang Z, et al. The Gut Microbiome Modifies the Association between a Mediterranean Diet and Diabetes in USA Hispanic/ Latino Population. Article. Journal of Clinical Endocrinology and Metabolism. 2022;107(3):E924-E934. doi:10.1210/clinem/dgab815	Study Design
597	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. 2023;15(9)doi:10.3390/nu15092226	Outcome

No.	Citation	Rationale
598	Wang Z, Adair LS, Cai J, et al. Diet quality is linked to insulin resistance among adults in China. Article. Journal of Nutrition. 2017;147(11):2102-2108. doi:10.3945/jn.117.256180	Country
599	Watanabe M, Sianoya A, Mishima R, et al. Gut microbiome status of urban and rural Filipino adults in relation to diet and metabolic disorders. Article. FEMS microbiology letters. 2021;368(20)doi:10.1093/femsle/fnab149	Study Design
600	Wawro N, Pestoni G, Riedl A, et al. Association of Dietary Patterns and Type-2 Diabetes Mellitus in Metabolically Homogeneous Subgroups in the KORA FF4 Study. Nutrients. Jun 5 2020;12(6)	Study Design
601	Weston LJ, Kim H, Talegawkar SA, Tucker KL, Correa A, Rebholz CM. Plant-based diets and incident cardiovascular disease and all-cause mortality in African Americans: A cohort study. Article. PLoS Medicine. 2022;19(1)doi:10.1371/journal.pmed.1003863	Outcome
602	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-.	Publication Status
603	Wilson JE, Blizzard L, Gall SL, et al. An age- and sex-specific dietary guidelines index is a valid measure of diet quality in an Australian cohort during youth and adulthood. Article. Nutrition Research. 2019;65:43-53.	Study Design,
604	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. The Journal of nutrition. 2021;doi:10.1093/jn/nxab315	Intervention or Exposure
605	Wu L, Ouyang J, Lai Y, et al. Combined healthy lifestyle in early pregnancy and risk of gestational diabetes mellitus: A prospective cohort study.	Intervention or Exposure
606	Wu SL, Peng LY, Chen YM, et al. Greater Adherence to Dietary Guidelines Associated with Reduced Risk of Cardiovascular Diseases in Chinese Patients with Type 2 Diabetes. Article. Nutrients. 2022;14(9)doi:10.3390/nu14091713	Study Design, Health Status
607	Wu W, Tang N, Zeng J, Jing J, Cai L. Dietary Protein Patterns during Pregnancy Are Associated with Risk of Gestational Diabetes Mellitus in Chinese Pregnant Women. Article. Nutrients. 2022;14(8)doi:10.3390/nu14081623	Study Design, Intervention or Exposure
608	Wu Y, Sun G, Zhou X, et al. Pregnancy dietary cholesterol intake, major dietary cholesterol sources, and the risk of gestational diabetes mellitus: A prospective cohort study. Clin Nutr. May 2020;39(5):1525-1534.	Intervention or Exposure
609	Würtz AML, Jakobsen MU, Bertoia ML, et al. Replacing the consumption of red meat with other major dietary protein sources and risk of type 2 diabetes mellitus: A prospective cohort study. Article. American Journal of Clinical Nutrition. 2021;113(3):612-621.	Intervention or Exposure

No.	Citation	Rationale
610	Xia Y, Cao L, Zhang Q, et al. Adherence to a vegetable dietary pattern attenuates the risk of non-alcoholic fatty liver disease on incident type 2 diabetes: the TCLSIH cohort study.	Health Status, Comparator
611	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. Article. The Lancet Regional Health - Western Pacific. 2021;15doi:10.1016/j.lanwpc.2021.100252	Study Design,
612	Xu Y, Li Y, Liang S, Li G. Differential analysis of nutrient intake, insulin resistance and lipid profiles between healthy and premature thelarche Chinese girls. Italian Journal of Pediatrics. 2019;45(1):1-6.	Study Design, Intervention or Exposure
613	Yabe D, Kuwata H, Fujiwara Y, et al. Dietary instructions focusing on meal-sequence and nutritional balance for prediabetes subjects: An exploratory, cluster-randomized, prospective, open-label, clinical trial. J Diabetes Complications. Dec 2019;33(12):107450.	Intervention or Exposure
614	Yaegashi A, Kimura T, Hirata T, Iso H, Tamakoshi A. Association between low-carbohydrate diet score and incidence of type 2 diabetes among Japanese adults: The JACC Study. Article. Journal of Nutritional Science. 2023;12doi:10.1017/jns.2022.122	Intervention or Exposure
615	Yamada P, Paetow A, Chan M, Arslan A, Landberg R, Young BK. Pregnancy outcomes with differences in grain consumption: a randomized controlled trial. Journal of Perinatal Medicine. 2022;50(4):411-418.	Intervention or Exposure
616	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
617	Yan F, Eshak ES, Shirai K, et al. Soy Intake and Risk of Type 2 Diabetes Among Japanese Men and Women: JACC Study. 8	Intervention or Exposure
618	Yang HJ, Kim MJ, Hur HJ, et al. Inverse Association of the Adequacy and Balance Scores in the Modified Healthy Eating Index with Type 2 Diabetes in Women. 15(7)	Study Design
619	Yang J, 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. 378	Intervention or Exposure
620	Yang R, Lv J, Yu C, et al. Importance of healthy lifestyle factors and ideal cardiovascular health metrics for risk of heart failure in Chinese adults. Article. International Journal of Epidemiology. 2022;51(2):567-578. doi:10.1093/ije/dyab236	Intervention or Exposure, Outcome

No.	Citation	Rationale
621	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. Article. Journal of Diabetes Investigation. 2021;12(9):1569-1576. doi:10.1111/jdi.13522	Study Design,
622	Yashpal S, Liese AD, Boucher BA, et al. Metabolomic profiling of the Dietary Approaches to Stop Hypertension (DASH) diet provides novel insights for the nutritional epidemiology of type 2 diabetes mellitus (T2DM).	Intervention or Exposure, Outcome
623	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.	Intervention or Exposure
624	Yilmaz S, Eskici G, Mertoglu C, Ayaz A. Effect of different protein diets on weight loss, inflammatory markers, and cardiometabolic risk factors in obese women. Article. Journal of Research in Medical Sciences. 2021;26(1)doi:10.4103/jrms.JRMS_611_20	Study Design, Intervention or Exposure, Study Duration
625	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.	Intervention or Exposure
626	Yokose C, McCormick N, Rai SK, et al. Effects of Low-Fat, Mediterranean, or Low-Carbohydrate Weight Loss Diets on Serum Urate and Cardiometabolic Risk Factors: A Secondary Analysis of the Dietary Intervention Randomized Controlled Trial (DIRECT). Diabetes Care. Nov 2020;43(11):2812-2820.	Intervention or Exposure
627	Yuan S, He J, Wu S, et al. Trends in dietary patterns over the last decade and their association with long-term mortality in general US populations with undiagnosed and diagnosed diabetes. 13(1)	Outcome
628	Yuste Gómez A, Ramos Álvarez MDP, Bartha JL. Influence of Diet and Lifestyle on the Development of Gestational Diabetes Mellitus and on Perinatal Results. Article. Nutrients. 2022;14(14)doi:10.3390/nu14142954	Intervention or Exposure
629	Yuzbashian E, Pakseresht M, Vena J, Chan CB. Association of dairy consumption patterns with the incidence of type 2 diabetes: Findings from Alberta's Tomorrow Project. Article in Press. Nutrition, Metabolism and Cardiovascular Diseases. 2022;doi:10.1016/j.numecd.2022.09.022	Intervention or Exposure
630	Zamani B, Milajerdi A, Tehrani H, Bellissimo N, Brett NR, Azadbakht L. Association of a plant-based dietary pattern in relation to gestational diabetes mellitus. Nutr Diet. Nov 2019;76(5):589-596.	Study Design
631	Zhang B, Xu K, Mi B, et al. Maternal Dietary Inflammatory Potential and Offspring Birth Outcomes in a Chinese Population. 153(5)	Study Design, Intervention or Exposure

No.	Citation	Rationale
632	Zhang N, Zhou M, Li M, Ma G. 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. 25	Intervention or Exposure
633	Zhang X, Xiao D, Guzman G, Edirisinghe I, Burton-Freeman B. Avocado consumption for 12 weeks and cardio-metabolic risk factors: a randomized controlled trial in adults with overweight or obesity and insulin resistance.	Intervention or Exposure
634	Zhang Y, Wang Y, Zhang S, Zhang Y, Zhang Q. Complex Association Among Diet Styles, Sleep Patterns, and Obesity in Patients with Diabetes. 16	Study Design, Health Status
635	Zhang Z, Tabung FK, Jin Q, et al. Diet-Driven Inflammation and Insulinemia and Risk of Interval Breast Cancer.	Outcome
636	Zhang C, Olsen SF, Hinkle SN, et al. Diabetes & Women's Health (DWH) Study: An observational study of long-term health consequences of gestational diabetes, their determinants and underlying mechanisms in the USA and Denmark. BMJ Open. 2019;9(4)	Intervention or Exposure
637	Zhang S, Meng G, Zhang Q, et al. Dietary fibre intake and risk of prediabetes in China: results from the Tianjin Chronic Low-grade Systemic Inflammation and Health (TCLSIH) Cohort Study. British Journal of Nutrition. 2022;128(4):753-761.	Intervention or Exposure
638	Zhang X, Gong Y, Della Corte K, et al. Relevance of dietary glycemic index, glycemic load and fiber intake before and during pregnancy for the risk of gestational diabetes mellitus and maternal glucose homeostasis. Clinical Nutrition. 2021;40(5):2791-2799.	Intervention or Exposure
639	Zhang YZ, Zhou L, Tian L, et al. A mid-pregnancy risk prediction model for gestational diabetes mellitus based on the maternal status in combination with ultrasound and serological findings. Experimental and Therapeutic Medicine. 2020;20(1):293-300.	Intervention or Exposure
640	Zhang Z, Wu Y, Zhong C, et al. Association between dietary inflammatory index and gestational diabetes mellitus risk in a prospective birth cohort study. Nutrition. Jul-Aug 2021;87-88:111193.	Intervention or Exposure
641	Zhao R, Zhou L, Lei G, et al. Dietary Acid Load Is Positively Associated With Risk of Gestational Diabetes Mellitus in a Prospective Cohort of Chinese Pregnant Women. 9	Intervention or Exposure
642	Zheng C, Shi C, Bai J, Shao W, Zhang C, Bu J. Large-scale investigation on healthy status of teachers in Jiangsu Province, China. Progress in Nutrition. 2019;21(2):294-298.	Study Design
643	Zhong H, Penders J, Shi Z, et al. Impact of early events and lifestyle on the gut microbiota and metabolic phenotypes in young school-age children. Microbiome. 2019;7(1)	Intervention or Exposure
644	Zhou C, Liu C, Zhang Z, et al. Variety and quantity of dietary protein intake from different sources and risk of new-onset diabetes: a Nationwide Cohort Study in China. 20(1)	Intervention or Exposure

No.	Citation	Rationale
645	Zhou C, Zhang Z, Liu M, et al. Dietary carbohydrate intake and new-onset diabetes: A nationwide cohort study in China. Article. Metabolism: Clinical and Experimental. 2021;123. doi:10.1016/j.metabol.2021.154865	Intervention or Exposure
646	Zhou J, Sheng J, Fan Y, Zhu X, Wang S. Dietary patterns, dietary intakes and the risk of type 2 diabetes: results from the Hefei Nutrition and Health Study. International journal of food sciences and nutrition. 2019;70(4):412-420.	Study Design,
647	Zhou X, Chen R, Zhong C, et al. Fresh fruit intake in pregnancy and association with gestational diabetes mellitus: A prospective cohort study. Nutrition. 2019;60:129-135.	Intervention or Exposure
648	Zhu Y. Are you what you eat? Through the lens of prepregnancy plant-based diets and risk of gestational diabetes.	Study Design, Publication Status
649	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. Clinical Nutrition. 2022;41(4):817-828. doi:10.1016/j.clnu.2022.02.002	Intervention or Exposure
650	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. Nutrients. 2021;13(11). doi:10.3390/nu13113916	Size of Study Groups
651	Zhu Z, Li FR, Jia Y, et al. Association of Lifestyle With Incidence of Heart Failure According to Metabolic and Genetic Risk Status: A Population-Based Prospective Study. Article in Press. Circulation Heart failure. 2022. doi:10.1161/CIRCHEARTFAILURE.122.009592	Outcome
652	Zhuang P, Zhang Y, Mao L, et al. The association between consumption of monounsaturated fats from animal- v. plant-based foods and the risk of type 2 diabetes: a prospective nationwide cohort study. Br J Nutr. Feb 27 2020:1-10.	Intervention or Exposure
653	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. Applied physiology, nutrition & metabolism. 2017;42(11):1158-1164.	Intervention or Exposure, Publication Date

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, a full description of each dietary pattern, 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 12**). 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.

Table A 9. Visualization of dietary pattern components across dietary patterns consumed by adults and older adults from intervention studies organized alphabetically by first-author last name[*],[†]

Article; Dietary patterns compared	Vegetables	Potato	Legumes	Fruit	Fruit Juice	Nuts, Seeds	Grains: Whole	Grains	Grains: Refined	Fish	Seafood, shellfish	Meats (Red Processed)	Lean meats	Eggs	Dairy	Dairy: Low, non-fat	Dairy: Whole fat	Sugary Beverages	Sugary foods	Fat: Unsaturated, Oils	Fat: Other	Fat: Saturated	Alcohol	Sodium	Other, A	Other, B
Babio, 2014; Med+Evo v. Med+Nuts v. Control	▲ ▲		▲	▲	Fr	◄		▲		▲	FS	▼ RP	▲	◄	▼	◄ ch				▲ evo			◄ w		◄	
Babio, 2014; Med+Evo v. Med+Nuts v. Control	▲ ▲		▲	▲	Fr	▲		▲		▲	FS	▼ RP	▲	◄	▼	◄ ch				◄ evo			◄ w		◄	
Bruno, 2020; IG vs. Control	▲ ▲		▲	▲		▲			▼	▲		▼ RP	▲					▼		▲ oo ▲ oo to cook		▼	▲ rw			
Calvo-Malvar, 2021 B; Atlantic v. Control	▲	▲	▲	▲		▲	▲	▲	▼	▲	FS	▼	▲	▲	▲				▼	▲ oo		▼ ▼	◄ w		▲	
Georgoulis, 2020; 2021, 2023; MDG v. SCG	▲		▲	▲			▲			▲	FS	▼R ▼P	▲		▲			▼	▼	▲ oo			◄	▼ salt		
Gotfredsen, 2021; OFF v. HAB																						▼				
Gotfredsen, 2021; SUB v. HAB	▲						▲													▲		▼			▲	▼ V
Howard, 2018; Low-fat v. Control	▲			▲				▲													▼	▼				

[*] ▲ 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 this table are from a priori investigator-assigned intervention and/or index/score analysis as indicated. 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: ch, cheese; evo, extra-virgin olive oil; Fr, included with Fruits; FS, included with Fish or Seafood; L, included with Legumes; M, meat/ products; Med, Mediterranean; NP, not processed; NS, not sweetened; oo, olive oil; P, processed; RP, red and processed; rw, red wine; UP, ultra-processed; w, wine;

Article; Dietary patterns compared	**Vegetables**	**Potato**	**Legumes**	**Fruit**	**Fruit Juice**	**Nuts, Seeds**	**Grains: Whole**	**Grains**	**Grains: Refined**	**Fish**	**Seafood, shellfish**	**Meats (Red Processed)**	**Lean meats**	**Eggs**	**Dairy**	**Dairy: Low, non-fat**	**Dairy: Whole fat**	**Sugary Beverages**	**Sugary foods**	**Fat: Unsaturated, Oils**	**Fat: Other**	**Fat: Saturated**	**Alcohol**	**Sodium**	**Other, A**	**Other, B**
Pavić, 2019; RCT: MD v. SHD						▲				▲										▲ oo						
Reidlinger, 2015; DG v. Control	▲			▲			▲			▲		▼	▼					▼	▼		▼	▼		▼ salt		
Sidahmed, 2014; Med v. 'Healthy-eating' arm	▲			▲			▲													▲						
Tussing-Humphreys, 2022; MedDiet v. Control	▲	▲	▲	▲		L	▲			▲		▼	▼				▼			▲ oo			◀ ◀ w			
Prentice, 2019; Low-fat v. Control	▲			▲				▲								▲					▼					
Salas-Salvado, 2014; Med+evo v. Control	▲ ▲		▲	▲	Fr	◀		▲		▲	FS	▼ RP	▲	◀	▼	◀ ch				▲ evo			◀ w		◀	
Salas-Salvado, 2014; Med+Nuts v. Control	▲ ▲		▲	▲	Fr	▲		▲		▲	FS	▼ RP	▲	◀	▼	◀ ch				◀ evo			◀ w		◀	

Table A 10. Visualization of dietary pattern components across dietary patterns consumed by adults and older adults from observational studies 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	Salty food (Sodium Na+)	Tea and Coffee	Other, A	Other, B
Ahmad, 2018; a priori: tMED	▲	X	▲	▲		Fr		▲		▲		▼ RP			▼					▲ UF: SF		UF: SF	◄				
Ahmad, 2020; a priori: mMDS	▲		▲	▲		▲	▲			▲		▼ RP								▲ UF: SF		UF: SF	◄				
Alae-Carew, 2020; LCA: Stage 1'	▼	◄	◄	◄					◄		▲	◄ R	◄	▼												▲ UP	
Alae-Carew, 2020; LCA: Stage 2'	▼	▲		▼					▼				▼	▼	▼											▼ UP	▲ V

* ▲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 methods such as a priori index/score analysis (a priori), a posteriori latent class (LCA), principal component analysis (PCA), partial least squares regression (PLS), 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 12.**

† Abbreviations: AF, added fat; AP, animal products; AS, added sugar; C, coffee; ch, cheese; D, dairy/products; evo, extra-virgin olive oil; Fr, included with Fruits; F, included with Fish component; FS, included as Fish or Seafood; G, included with Grains/products; HF, high-fiber; L, included with Legumes; LCA, latent class analysis; LN, legumes and nuts; M, meat/ products; Na+, sodium; NP, not processed; NS, not sweetened; oo, olive oil; P, processed; PCA, principal component analysis; PLS, partial least square regression; pro, included with or as total, animal, or plant protein foods; RP, red and processed; RRR, reduced rank regression; rw, red wine; SB, sugar-sweetened beverage; SF, saturated fat; SO, sunflower oil; T, tea; Tr, Trans fat; UF, unsaturated; UF: SF, ratio of unsaturated-to-saturated fats; UP, ultra-processed; V, included with Vegetables; VO, vegetable oil; w, wine; 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, Oils	Fat: Other	Fat: Saturated	Alcohol	Salty food (Sodium Na^+)	Tea and Coffee	Other, A	Other, B
Alae-Carew, 2020; LCA: Stage 3'	▼	▲	▼	▼			▼		▼			▼ R	▼	▼	▼											▼ UP	◀ V
Alae-Carew, 2020; LCA: Stage 4'	▲		◀	▲					◀			▲ R	▲		▲											▲ UP	◀ V
Alhazmi, 2014; a priori: ARFS	▲		▲ pro	▲		L, pro		▲		L, pro		▼	▼			▲					◀		◀				
Alhazmi, 2014; a priori: aDGI	▲		▲	▲			▲	▲		▲ pro			F, pro		▲			▼	SB		▼		◀			▼	
Allaire, 2020; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◀	▼ Na^+			
Andre, 2020; a priori: LitMDS	▲		▲	▲		Fr		▲		▲		▼			▼					▲			◀				
Bantle, 2016; a priori: AmMDS	▲	▼	▲	▲		Fr	▲		▼	▲	FS	▼ RP		▲	▼	▲ milk	milk	▼		▲ UF: SF		UF: SF	◀			▼	
Bao, 2016; a priori: LCDs	▼			▼		◀	▼			◀		▲	◀	◀				▼									
Beigrezaei, 2023; PCA: DP1					▲		▼			▲		▲ P						▲	▲		▲					▲ ▲	
Beigrezaei, 2023; PCA: DP2	▲ ▲	▲		▲					▲						▲					▲							

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	Salty food (Sodium Na$^+$)	Tea and Coffee	Other, A	Other, B
Beigrezaei, 2023; PCA: DP3					▲		▼			▲		▲ P						▲	▲		▲					▲ ▲	
Beigrezaei, 2023; PLS: DP1					▼		▲			▼		▼ P	▼						▼		▼					▼ ▼	
Beigrezaei, 2023; PLS: DP2		▼							▼										▼	▼					▼ T		
Beigrezaei, 2023; PLS: DP3	▲ ▲			▲											▲						▼						
Beigrezaei, 2023; RRR: DP1					▼		▲			▼		▼ RP	▼					▼	▼		▼					▼	
Beigrezaei, 2023; RRR: DP2		▼		▲					▼				▲		▲			▲								▼	
Beigrezaei, 2023; RRR: DP3				▲	▲				▲			▼								▲	▼					▼	
Boonpor, 2022; Other: 'Vegetarian'										X		X	X		▲												
Boonpor, 2022; Other: 'Fish eater'										▲		X	X		▲												
Boonpor, 2022; Other: 'Fish & poultry eater'										▲		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, Oils	Fat: Other	Fat: Saturated	Alcohol	Salty food (Sodium Na^+)	Tea and Coffee	Other, A	Other, B
Boonpor, 2022; Other: 'Meat eater'										▲		▲ R	▲		▲												
Brayner, 2021; RRR: DP1				▼		▲										▼						▲					
Brayner, 2021; RRR: DP2						▼											▲					▲					
Cea-Soriano, 2021; a priori: adMedDietScore	▲	▲	▲	▲		▲	▲	▲		▲		▼ ▼	M						▼	▲ VO		▼	▼			▼ ▼ ▼	
Cespedes, 2016; a priori: aMED	▲	X	▲	▲		▲	▲			▲		▼ RP						▼		▲		▼	◄	▼ Na^+			
Cespedes, 2016; a priori: HEI-2010	▲ ▲	V	V	▲ ▲			▲		▼	▲ pro	F, pro	F, pro	F, pro		▲			▼	SB	▲		▼		▼ Na^+			
Cespedes, 2016; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼ Na^+			
Cespedes, 2016; a priori: DASH	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ Na^+			
Chen, 2018_Am; a priori: aMED	▲	X	▲	▲		▲	▲			▲		▼ RP						▼		▲		▼	◄	▼ 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, Oils	Fat: Other	Fat: Saturated	Alcohol	Salty food (Sodium Na^+)	Tea and Coffee	Other, A	Other, B
Chen, 2018_Am; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲			▲		▼ RP						▼		▲ ▲	▼ Tr		◀	▼ Na^+			
Chen, 2018_Am; a priori: DASH	▲	X	▲	▲	Fr	LN	▲					▼ RP			▲	▲		▼						▼ Na^+			
Chen, 2018_Am; a priori: PDI	▲	▲	▲	▲	▲	▲	▲		▲	▼	FS	▼	M	▼	▼			▲	▲	▲		▼			▲	▼ AP	
Chen, 2018_Am; a priori: hPDI	▲	▼	▲	▲	▼ SB	▲	▲		▼	▼	FS	▼	M	▼	▼			▼	▼	▲		▼			▲	▼ AP	
Chen, 2018_Eur; a priori: aPDI	▲	▲	▲	▲	▲	▲	▲		▲	▼	FS	▼ RP	▼	▼	▼	▼	▼	▲	▲	▲		▼	▲		▲	▼ D; ch	
Chen, 2021; a priori: PDI	▲	▲	▲	▲	▲	▲	▲		▲	▼	FS	▼	M	▼	▼			▲	▲	▲		▼	X		▲	▼ AP	
Chen, 2021; a priori: hPDI	▲	▼	▲	▲	▼ SB	▲	▲		▼	▼	FS	▼	M	▼	▼			▼	▼	▲		▼			▲	▼ AP	
Chen, 2021; a priori: uPDI	▼	▲	▼	▼	▼	▼	▼		▲	▼	FS	▼	M	▼	▼			▲	▲	▼ VO		▼			▼	▼ AP	
Choi, 2020; a priori: aPDQS	▲	◀	▲	▲	◀	▲	▲		◀	▲	◀	▼	◀	◀		▲	▼	▼	▼	▲	◀	▼	▲	▼	▲	◀ ◀	▼ ▼
Choi, 2023; a priori: aPDQS	▲ ▲ ▲ ▲	◀	▲ ▲	▲ ▲	◀	▲	▲		◀	▲ not fried	◀	▼ ▼ 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, Oils	Fat: Other	Fat: Saturated	Alcohol	Salty food (Sodium Na^{+})	Tea and Coffee	Other, A	Other, B
Conway, 2018; a priori: HEI-2010	▲ ▲	V	V	▲ ▲			▲		▼	▲ pro	F, pro	F, pro	F, pro		▲			▼	SB	▲		▼		▼ Na^{+}			
den Braver, 2019; a priori: DHD 15	▲		▲	▲	SB	▲	▲		▼	▲		▼ R ▼ P						▼				▼	▼		▲ T		
Dominguez, 2015; a priori: DDS	▲			▲		▲	▲					▼ R ▼ P				▲		▼		▲			◄		▲ C	▲	
Dow, 2019; a priori: ADG-13	▲		V	▲		L, pro		▲		L, pro			L, pro	L, pr o	▲								◄				
Duan, 2021; RRR: DP ♀	▼			▼	▲	▼		▼		▼ ▼				▼	▼	▼	▼	▲	▲						▼ T		
Duan, 2021; RRR: DP ♂	▼			▼	▲	▼		▼							▼	▼	▼	▲	▲						▲ C	▲	▼
Duan 2022_L; a priori: LLDS	▲		▲	▲		LN	▲			▲		▼ RP			▲			▼		▲		▼			▲		
Duan, 2022 UP; F/C: 'warm savory snack'		▲																								▲	
Duan, 2022 UP; F/C: 'cold savory snack'												▲ P			▲ ch											▲	

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	Salty food (Sodium Na⁺)	Tea and Coffee	Other, A	Other, B
Duan, 2022 UP; F/C: 'traditional Dutch cuisine'								▲				▲ P														▲	
Duan, 2022 UP; F/C: 'sweet snack'																			▲								
Duan, 2022 UP; a priori: UPF, Nova4								▲								▲	D, not ch	▲							SB		
Eguaras, 2017; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼					▲ UF: SF		UF: SF	◄				
Ericson, 2018; a priori: DRS, eDRS							▼					▲ RP						▲							▼		
Ericson, 2018; a priori: DRS, eDRS	▼			FV			▼			▼		▲ RP			▼			▲							▼		
Ericson, 2019; F/C: Health-Conscious'	▲			▲			▲	▲	▼	▲		▼ RP			▲	▲		▼									
Ericson, 2019; F/C: Low Fat'																▲					▲	▼					
Ericson, 2019; F/C: Dressing-Vegetables'	▲	◄						▲					▲		▲ ch				▼	▲				▲		▲	

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	Salty food (Sodium Na^+)	Tea and Coffee	Other, A	Other, B
Esfandiar, 2022; a priori: HEI-2015	▲ ▲	V	V	▲ ▲			▲		▼	▲ pro	F, pro	F, pro	F, pro		▲			▼	SB	▲ UF: SF		▼		▼ Na^+			
Esfandiar, 2022; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼					▲ UF: SF			◀				
Esfandiar, 2022; a priori: DASH	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ Na^+			
Farhadnejad, 2020; a priori: EDIH	▼	▲ fried		▼						▲		▲ R ▲ P	▲	▲		▲	▼	▲			▲		▼ w		▼ C	▲	
Farhadnejad, 2020; a priori: EDIR	▼	▲ fried		▼	▲	▼		▲		▲		▲ R ▲ P					▼	▲			▲				▼ C		▲
Filippatos, 2016; a priori: MedDietScore	▲	▲	▲	▲			▲			▲		▼ RP	▼				▼			▲ oo			▼				
Freisling, 2020; a priori: rMED	▲	X	▲	▲		Fr	▲	G	G	▲		▼ RP								▲ oo			◀				
Fung, 2021; a priori: GDQS,m	▲ ▲ ▲ ▲	▼	▲	▲ ▲ ▲	▼	▲	▲		▼	▲	FS	▼ R ▼ 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, Oils	Fat: Other	Fat: Saturated	Alcohol	Salty food (Sodium Na^+)	Tea and Coffee	Other, A	Other, B
Fung, 2021; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼ Na^+			
Fung, 2021; a priori: MDD-W	▲ ▲ ▲			▲ FrV ▲		▲		V				▲	M	▲	▲												
Galbete, 2018; a priori: Nordic diet score	▲	▲ ▲		▲			▲			▲						▲					▲						
Galbete, 2018; a priori: LitMDS	▲	▼	▲	▲		Fr		▲		▲		▼	M	▲	▼				▼	▲ oo			◄				
Galbete, 2018; a priori: PyrMDS	▲	▼	▲	▲		▲		▲		▲		▼ R ▼ P	▲	▲	▲				▼	▲ oo			▼				
Gao, 2022; RRR: DP1	▼			▼					▲										▲			▲				▲	
Gao, 2022; RRR: DP2					▲												▼	▲				▼				▲	
Glenn, 2021_W; a priori: aMED	▲	X	▲	▲		▲	▲			▲		▼ RP								▲ UF: SF		UF: SF	◄				
Glenn, 2021_W; a priori: DASH	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ 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, Oils	Fat: Other	Fat: Saturated	Alcohol	Salty food (Sodium Na^+)	Tea and Coffee	Other, A	Other, B
Glenn, 2021_P; a priori: DASH	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ Na^+			
Hirahatake, 2019; a priori: aPDQS	▲	◀	▲	▲	◀	▲	▲		◀	▲	◀	▼	◀	◀		▲	▼	▼	▼	▲ VO	◀	▼	▲	▼	▲	◀ ◀ ◀ ◀ ◀	▼ ▼ ▼ ▼
Hirahatake, 2019; a priori: DGA-2015	▲		▲	▲		LN	▲		▼	▲	FS	▼ RP	X			▲		▼	SB		X		◀	▼ Na^+	X		
Hirahatake, 2019; a priori: Paleo	▲			▲		▲		▼	▼ G			▼ RP	▲		▼								▼	▼ Na^+		▲	
Hirahatake, 2019; a priori: Empty Calories		▲ fried			▲				▲ ▲						▲ AS			▲	▲		▲	▲	▲	▲		▲ ▲	
Hlaing-Hlaing, 2021; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼					▲ UF: SF		UF: SF	◀				
Hlaing-Hlaing, 2021; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◀	▼ Na^+			
Hlaing-Hlaing, 2021; a priori: HEIFA-2013	▲ ▲		▲	▲ ▲		Fat	▲	▲		▲		▼ P	◀ M, L		◀ D, L			▼	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, Oils	Fat: Other	Fat: Saturated	Alcohol	Salty food (Sodium Na$^+$)	Tea and Coffee	Other, A	Other, B
Hlaing-Hlaing, 2022; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼ Na$^+$			
Hodge, 2021; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼ Na$^+$			
Hodge, 2021; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼					▲ UF: SF		UF: SF	◄				
Jacobs, 2015; a priori: HEI-2010	▲ ▲	V	V	▲ ▲			▲		▼	▲ pro	F, pro	F, pro	F, pro		▲			▼	SB	▲		▼		▼ Na$^+$			
Jacobs, 2015; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼ Na$^+$			
Jacobs, 2015; a priori: aMED	▲	X	▲	▲		▲	▲			▲		▼ RP								▲ UF: SF		UF: SF	◄				
Jacobs, 2015; a priori: DASH	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ Na$^+$			
Jacobs, 2017_A; a priori: HEI-2010	▲ ▲	V	V	▲ ▲			▲		▼	▲ pro	F, pro	F, pro	F, pro		▲			▼	SB	▲		▼		▼ Na$^+$			
Jacobs, 2017_A; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼ 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, Oils	Fat: Other	Fat: Saturated	Alcohol	Salty food (Sodium Na^+)	Tea and Coffee	Other, A	Other, B
Jacobs, 2017_A; a priori: aMED	▲	X	▲	▲		▲	▲			▲		▼ RP								▲ UF: SF		UF: SF	◄				
Jacobs, 2017_A; a priori: DASH	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ Na^+			
Jacobs, 2017_D; RRR: Combined diet of all	▲			▲			▲		▼			▼ RP				▲		▼								▼	
Jannasch, 2019; F/C: France DP1	▲	▲										▲ R	▲														
Jannasch, 2019; F/C: France DP2				▲		▲				▲		▲ P		▲					▲				▲		▲ C		
Jannasch, 2019; F/C: Italy DP1	▲		▲							▲										▲							
Jannasch, 2019; F/C: Italy DP2								▲				▲ RP							▲		▲						
Jannasch, 2019; F/C: Spain DP1		▲	▲					▲				▲ RP		▲						▲			▲				
Jannasch, 2019; F/C: Spain DP2	▲	▲		▲																							
Jannasch, 2019; F/C: UK Norfolk DP1	▲	▲		▲				▲																			

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**	**Salty food (Sodium Na^+)**	**Tea and Coffee**	**Other, A**	**Other, B**
Jannasch, 2019; F/C: UK Norfolk DP2		▲										▲ P							▲	▲					▲ T		
Jannasch, 2019; F/C: UK Oxford DP1	▲	▲	▲	▲																							
Jannasch, 2019; F/C: UK Oxford DP2		▲								▲		▲ RP	▲							▲						▲	
Jannasch, 2019; F/C: Netherlands, DP1		▲						▲				▲ RP							▲		▲						
Jannasch, 2019; F/C: Netherlands, DP2	▲			▲				▲					▲							▲	▲						
Jannasch, 2019; F/C: Germany, DP1	▲	▲		▲																▲							
Jannasch, 2019; F/C: Germany, DP2		▲										▲ RP	▲								▲		▲ B			▲	
Jannasch, 2019; F/C: Sweden, DP1		▲						▲				▲ 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, Oils**	**Fat: Other**	**Fat: Saturated**	**Alcohol**	**Salty food (Sodium Na^+)**	**Tea and Coffee**	**Other, A**	**Other, B**
Jannasch, 2019; F/C: Sweden, DP2																							▲ w				
Jannasch, 2019; F/C: Denmark, DP1	▲	▲	▲	▲				▲		▲			▲							▲							
Jannasch, 2019; F/C: Denmark, DP2		▲						▲				▲ RP									▲					▲	
Jin, 2021; a priori: EDIP	▲ ▲				▲				▼	▼		▼ P ▼ R ▼						▼							▲ T ▲ C	▲ ▲	▼ V ▼ V
Jin, 2021; a priori: EDIH	▲	▲ fried		▼						▲		▲ R ▲ P	▲	▲		▲	▼	▲			▲		▼ w		▼ C	▲	▼ V
Kanerva, 2014; a priori: BSD	▲	**X**	▲	▲			▲			▲		▼ RP								▲ UF: SF		UF: SF	◀				
Kesse-Guyot, 2021; a priori: PNNS-GS2	▲	◀	▲	V		▲	▲	◀		◀	▲	▼ R ▼ P	◀	◀	▲			▼	▼	▲		▼	▼	▼ 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, Oils	Fat: Other	Fat: Saturated	Alcohol	Salty food (Sodium Na^{+})	Tea and Coffee	Other, A	Other, B
Khalili-Moghadam, 2019; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼					▲ UF: SF		UF: SF	◄				
Kim & Giovannucci, 2022; a priori: PDI	▲	▲	▲	▲	▲	▲	▲		▲	▼	FS	▼	M	▼	▼			▲	▲	Fr		▼			▲	▼ AP	
Kim & Giovannucci, 2022; a priori: hPDI	▲	▼	▲	▲	▼	▲	▲		▼	▼	FS	▼	M	▼	▼			▼	▼	Fr		▼			▲	▼ AP	
Kim & Giovannucci, 2022; a priori: uPDI	▼	▲	▼	▼	▲ SB	▼	▼		▲	▼	FS	▼	M	▼	▼			▲	▲	Fr		▼			▼	▼ AP	
Koloverou, 2016_A; a priori: MedDietScore	▲	▲	▲	▲			▲			▲		▼ RP	▼				▼		▼	▲ oo			▼				
Koloverou, 2016 D; F/C: Factor 1		▲										▲	▲														
Koloverou, 2016 D; F/C: Factor 2	▲		▲	▲				▲																			
Koloverou, 2016 D; F/C: Factor 3												▲ P			▲ ch												

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	Salty food (Sodium Na⁺)	Tea and Coffee	Other, A	Other, B
Koloverou, 2016 D; F/C: Factor 4										▲																	
Koloverou, 2016 D; F/C: Factor 5						▲													▲								
Koloverou, 2016 D; F/C: Factor 6								▲							▲												
Kroger (Interact Consortium), 2014; a priori: aHEI (2000)	▲	X	▲	▲		LN						W: R	▲ W: R							▲ UF: SF	▼ Tr	UF: SF	◄			▲ ▲	
Kroger (Interact Consortium), 2014; a priori: DASH 1995	▲		▲	▲		LN	▲			M		▼	M		▲				▼		▼						
Kroger(Interact Consortium), 2014; RRR, 1	▲								▼			▼ P						▼					▲ w		▲ C	▼	
Kroger(Interact Consortium), 2014; RRR, 2			▼	▲				▼				▼	▼					▼					▼ B				
Kroger(Interact Consortium), 2014; RRR, 3								▲	▲			▼ P						▼	▲					▼		▼	▲
Lacoppidan, 2015; a priori: HNFI	▲	▲		▲			▲ ▲			▲																	

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	Salty food (Sodium Na^+)	Tea and Coffee	Other, A	Other, B
Langmann, 2023; a priori: EAT-LR	▲	◀	▲	▲		▲	▲			▲		▼		◀	◀			▼	SB	▲	◀	▼					
Langmann, 2023; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◀	▼ Na^+			
Laouali, 2021; a priori: PDI	▲	▲	▲	▲	▲	▲	▲		▲	▼	FS	▼	M	▼	▼			▲	▲	▲		▼			▲	▼ AP	
Laouali, 2021; a priori: hPDI	▲	▼	▲	▲	▼	▲	▲		▼	▼	FS	▼	M	▼	▼			▼	▼	▲		▼			▲	▼ AP	
Laouali, 2021; a priori: uPDI	▼	▲	▼	▼	▲ SB	▼	▼		▲	▼	FS	▼	M	▼	▼			▲	▲	▼		▼			▼	▼ AP	
Lee, 2019 A; RRR: ♂			▲ soy			▲				▲		▲ R	▲					▼							▲ C	▲	▼ M, P
Lee, 2019 A; RRR: ♀				▲				▼	▲	▼	▼		▼						▼							▲	
Lee, 2019 I; F/C: 'Prudent'	▲	▲	▲	▲						▲	▲				▲												
Lee, 2019 I; F/C: 'Fatty fish, meat, flour-based'								▲		▲	▲	▲ RP	▲		▲			▲	▲							▲ ▲	
Lee, 2019 I; F/C: 'Coffee Sweets'																			▲	▲					▲ C		

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	Salty food (Sodium Na^+)	Tea and Coffee	Other, A	Other, B
Lee, 2019 I; F/C: 'White Rice'							▲ ♂ ▼ ♀		▲ ♀ ▼ ♂																		
Lee, 2020; a priori: EDIP	▲ ▲				▲				▼	▼		▼ P ▼ R ▼						▼							▲ T ▲ C	▲ ▲	▼ V ▼ V
Lee, 2020; a priori: EDIH	▼	▲ fried		▼						▲		▲ R ▲ P	▲	▲		▲	▼	▲			▲		▼ w		▼ C	▲	▲V
Ley, 2016; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼ Na^+			
Llavero-Valero, 2021; a priori: UPF, Nova4	▲ UP	▲	V		SB			▲ U P	▲			▲ RP	M, P		▲ UP	▲	▲	▲	▲	▲		▲	▲	▲	SB	▲	
Lopez, 2022; a priori: EAT-LR	▲	◄	▲	▲		▲	▲			▲		▼		◄	◄			▼	SB	▲	◄	▼					
Ma, 2022; PCA: typical Japanese'	▲		▲	▲	▼			▼	▲	▲		◄	◄ RP		◄											▲	▼ V
Ma, 2022; PCA: Juice'			▲	▲	▲			▲				▼ R	◄		▲											▲	

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**	**Salty food (Sodium Na^+)**	**Tea and Coffee**	**Other, A**	**Other, B**
Ma, 2022; PCA: Meat'								▲ ♀				▲ RP	▲														
Maldonado ; PCA: 'Burgers, Fries, Soft Drinks'		▲ FF																▲								▲ ▲	
Maldonado ; PCA: 'White Rice, Beans, Red Meats'									▲			▲ RP															
Maldonado ; PCA: 'Fish & Whole Grain'	▲						▲			▲			▲														
Maldonado ; PCA: 'Cheese & Sweets'									▼						▲				▲						▲	▲ ▲	
Maldonado ; PCA: 'Stew & Corn'													▼		▲											▲ ▲	
Mandalazi, 2016; a priori: DQI-SNR	▲			V						▲	FS								▼	◄		▼				◄	
Markanti, 2021; a priori: D-DGI	▲			V			▲			▲		▼ RP							▼			▼					
Mattei, 2017; a priori: AHA-DS	▲			▲	Fr		▲			▲								▼	SB		▼	▼	◄	▼ 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, Oils	Fat: Other	Fat: Saturated	Alcohol	Salty food (Sodium Na^{+})	Tea and Coffee	Other, A	Other, B
Mattei, 2017; a priori: aHEI-2010	▲		▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲		▼	◄	▼ Na^{+}			
Mattei, 2017; a priori: HEI-2005	▲ ▲		▲	▲ ▲			▲	▲	G			▲			▲			▼	SB	▲		AS	AS	▼ Na^{+}			
Mattei, 2017; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼					▲ UF: SF		UF: SF	◄				
Mattei, 2017; a priori: DASH, m	▲	X	▲	▲	Fr	LN	▲					▼ RP			▲			▼						▼ Na^{+}			
Merino, 2022; a priori: DASH	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ Na^{+}			
Merino, 2022; a priori: aHEI-2010	▲	X	▲	▲		LN	▲					▼ RP				▲		▼		▲ ▲	▼ Tr		◄	▼ Na^{+}			
Neuhouser, 2022; a priori: HEI-2010	▲ ▲	V	V	▲ ▲			▲		▼	▲ pro	F, pro	F, pro	F, pro		▲			▼	SB	▲		▼		▼ Na^{+}			
O'Connor, 2020; a priori: aMED	▲	X	▲	▲		▲	▲			▲		▼ RP								▲ UF: SF		UF: SF	◄				
Otto, 2015; a priori: aHEI	▲	X	▲	▲		LN						W: R	▲ W: R							▲ UF: SF	▼ Tr	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**	**Salty food (Sodium Na^+)**	**Tea and Coffee**	**Other, A**	**Other, B**
Otto, 2015; a priori: aDASH	▲	X	▲	▲	Fr	▲	▲					▼ RP				▲		▼		▲				▼ Na^+			
Otto, 2015; a priori: aPDQS	▲	◀	▲	▲	◀	▲	▲		◀	▲	◀	▼	◀	◀		▲	▼	▼	▼	▲	◀	▼	▲	▼	▲	◀ ◀ ◀ ◀ ◀	▼ ▼ ▼ ▼
Pant, 2023; a priori: UPF, Nova4		▲ UP						▲ ▲	▲ ▲			▲ P			▲ ▲ AS				▲		▲					▲ ▲	
Papier, 2019; Other: Regular meat eater;	▼		▼	▼		▼						▲ RP	▲		▼ ch	▲ milk	milk		▲	▲	▲	▲				▼ pro	
Papier, 2019; Other: Low meat eater;	▲		▲	▲		▲						▼ RP	▼		▲ ch	▼ milk	milk		▼	▼	▼	▼				▲ pro	
Papier, 2019; Other: Fish eater'	▲		▲	▲		▲				▲					▲ ch	▼ milk	milk		▼	▼	▼	▼				▲ pro	
Papier, 2019; Other: Vegetarian'	▲		▲	▲		▲								▲	▲ ch	▼ milk	milk		▼	▼	▼	▼				▲ pro	
Papier, 2019; Other: Vegan'	▲		▲	▲		▲													▼	▼	▼	▼					
Pastorino, 2016; RRR: No name	▼	▲ fried		▼			▼		▲			▲ 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, Oils**	**Fat: Other**	**Fat: Saturated**	**Alcohol**	**Salty food (Sodium Na⁺)**	**Tea and Coffee**	**Other, A**	**Other, B**
Qiao, 2014; a priori: aHEI (2000)	▲		▲	▲		LN						W: R	▲ W: R							▲ UF: SF	▼ Tr	UF: SF	◀			▲	
Rajaobelina, 2019; a priori MDS, modified	▲		▲	▲		▲		▲		▲	FS	▼ RP			▼					▲ oo			◀				
Rayner, 2020; a priori: LCDs	▲			▼	▼		▼	▼ ▼	▲									▼	SB	▲ ▲	▲ ▲	▲				▼ ▼	▲ pro
Riboldi, 2022; a priori: IFI				▼	▲ N S ▲ SB	▼	▼				▲	▲ R ▲ P ▲ ▲	▼					▲ ▲ ▲ C				▼	▼ w		SB	▼	
Ruiz-Estigarribia, 2020; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼					▲ UF: SF		UF: SF	◀				
Sali, 2020; a priori: LCS	▲		▲	▼		LN	▼	▼				▲ RP			▲												
Satija, 2016; a priori: PDI	▲	▲	▲	▲	▲	▲	▲		▲	▼	FS	▼	M	▼	▼			▲	▲	▲		▼			▲	▼ AP	
Satija, 2016; a priori: hPDI	▲	▼	▲	▲	▼	▲	▲		▼	▼	FS	▼	M	▼	▼			▼	▼	▲ VO		▼			▲	▼ AP	
Seah, 2019; RRR: No name	▲ ▲		▲ soy	▲				▲	▼	▲		▼ ▼	M	▼	▲			▼			▲		▼		▲ T		

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	Salty food (Sodium Na^+)	Tea and Coffee	Other, A	Other, B
Shah, 2021; a priori: Paleo	▲ ▲			▲		▲		▼	▼	▲		▼ RP	▲		▼								▼	▼ Na^+		▲	
Shan, 2018 BMJ; a priori: aHEI-2010	▲	X	▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲	▼ Tr		◄	▼ Na^+			
Song, 2019; RRR: ♂				▲		▼		▲			▲ fer		▼						▼					FS			
Song, 2019; RRR: ♀						▼						▲ ▲	▲		▼												
Song, 2021; a priori: 'high-quality' score	▲			▲						▲	FS	▼ P	◄ NP														
Srour, 2020; a priori: UPF, Nova4				▲ UP	▲ U P			▲ U P	▲ U P			▲ UP	▲ UP		▲ UP	▲ UP	▲ UP	▲ UP	▲ UP		▲ UP			▲ UP	SB	▲	
Tait, 2020; a priori: HEI-C	▲ ▲ ▲		M	▲			▲	▲				▲	M, MA		▲ D, DA					▲		▼		▼ Na^+		▼	
Tertsunen, 2021; a priori: mBSD	▲	V	V	▲			▲			▲		▼ RP				▲				▲ UF: SF	▼	UF: SF	◄				
Teymoori, 2021; a priori: DIS	▲ ▲				▲				▼	▼		▼ P ▼ R ▼						▼							▲ T ▲ C	▲ ▲	▼V ▼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, Oils	Fat: Other	Fat: Saturated	Alcohol	Salty food (Sodium Na^{+})	Tea and Coffee	Other, A	Other, B
Teymoori, 2021; a priori: EDIP	▲ ▲				▲				▼	▼		▼ P ▼ R ▼						▼							▲ T ▲ C	▲ ▲	▼V ▼V
Teymoori, 2023; a priori: DIR																											
Tison, 2022; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼					▲ UF: SF			◄				
Tison, 2022; a priori: DASH	▲	X	▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ Na^{+}			
Tison, 2022; a priori: MIND	▲	▲	▲	▲		▲	▲				▲	▼ R	▲		▼ ch					▲ oo		▼	▲ w			▼	
Tison, 2022; F/C: 'Plant-based'	▲		▲	▲						▲			▲														
Tison, 2022; F/C: 'Southern'								▲				▲ P		▲			▲	▲			▲						
Ushula, 2022; F/C : 'Western'							▼					▲	▲			▼	▲									▲	
Ushula, 2022; F/C: 'Prudent'	▲			▲		▲		▲	▼							▲										▲	
Vinke, 2020; a priori: LLDS	▲		▲	▲		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	Salty food (Sodium Na^+)	Tea and Coffee	Other, A	Other, B
Voortman, 2017; a priori: DDG-15	▲		▲	▲		▲	▲		▼	▲		▼ R ▼ P			▲			▼		▲		▼	▼	▼ Na^+	▲ T		
Walsh, 2021; PCA: Western'	▲ ▲	▲						▲	▲			▲ RP	▲	▲ fri ed				▲	▲		▲	▲	▲	▲		▲ ▲	
Walsh, 2021; PCA: Prudent'	▲		▲	▲		▲				▲					▲											▲ ▲	
Wang F, 2022; a priori: PDI	▲	▲	▲	▲	▲	▲	▲		▲	▼	FS	▼	M	▼	▼			▲	▲	▲		▼			▲	▼ AP	
Wang F, 2022; a priori: hPDI	▲	▼	▲	▲	▼	▲	▲		▼	▼	FS	▼	M	▼	▼			▼	▼	▲		▼			▲	▼ AP	
Wang F, 2022; a priori: uPDI	▼	▲	▼	▼	▲ SB	▼	▼		▲	▼	FS	▼	M	▼	▼			▲	▲	▼		▼			▼	▼ AP	
Wang P, 2023; a priori: aHEI-2010	▲		▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲		▼	◄	▼ Na^+			
Wang P, 2023; a priori: aMED	▲		▲	▲		▲	▲			▲		▼ RP								▲ UF: SF		UF: SF	◄				
Wang P, 2023; a priori: hPDI	▲	▼	▲	▲	▼	▲	▲		▼	▼	FS	▼	M	▼	▼			▼	▼	▲		▼			▲	▼ AP	
Wang P, 2023; a priori: DASH	▲		▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ 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, Oils**	**Fat: Other**	**Fat: Saturated**	**Alcohol**	**Salty food (Sodium Na^+)**	**Tea and Coffee**	**Other, A**	**Other, B**
Wang P, 2023; a priori: DRRD				▲	SB	▲						▼ R						▼		▲ UF: SF	▼ Tr	UF: SF			▲ C	▲	▼
Wang P, 2023; a priori: WCRF AICR diet score	▲		▲	▲			▲					▼ RP						▼					◀			▼ ▼	
Wang P, 2023; a priori: EDIH	▼	▲ fried		▼						▲		▲ R ▲ P	▲	▲		▲	▼	▲			▲		▼ w		▼ C	▲ ▲ V	
Wang P, 2023; a priori: EDIP	▲ ▲				▲				▼	▼		▼ P ▼ R ▼						▼							▲ T ▲ C	▲ ▲	▼V ▼V
Wang Y, 2022; PCA: Junk food'																		▲	▲							▲	
Wang Y, 2022; PCA: Vegetable-grain'	▲							▲																			
Xu, 2020; a priori: HEI-2015	▲ ▲	V	V	▲ ▲			▲		▼	▲ pro	F, pro	F, pro	F, pro		▲			▼	SB	▲ UF: SF		▼		▼ Na^+			
Xu, 2020; a priori: aHEI-2010	▲		▲	▲	SB	LN	▲					▼ RP						▼		▲ ▲		▼	◀	▼ 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, Oils**	**Fat: Other**	**Fat: Saturated**	**Alcohol**	**Salty food (Sodium Na^+)**	**Tea and Coffee**	**Other, A**	**Other, B**
Xu, 2022; a priori: EAT-LR	▲	◄	▲	▲		▲	▲			▲		▼		◄	◄			▼	SB	▲	◄	▼					
Yu, 2022; a priori: MDS	▲		▲	▲		▲		▲		▲		▼ RP			▼					▲ UF: SF		UF: SF	◄				
Yu, 2022; a priori: DASH	▲		▲	▲	Fr	LN	▲					▼ RP				▲		▼						▼ Na^+			
Yu, 2022; a priori: DDG-15	▲		▲	▲	▼	▲	▲		▼	▲		▼ R ▼ P			▲			▼		▲		▼	▼	▼ Na^+	▲ T		
Zhang, 2023; a priori: EAT-LR	▲	◄	▲	▲		▲	▲			▲		▼		◄	◄			▼	SB	▲	◄	▼					
Zhuang, 2021; a priori: DQs	▲			▲			▲		▼	▲		▼ R ▼ P			▲			▼		▲ VO							