

# **CHAPTER 19: REPEATING HISTORIES**

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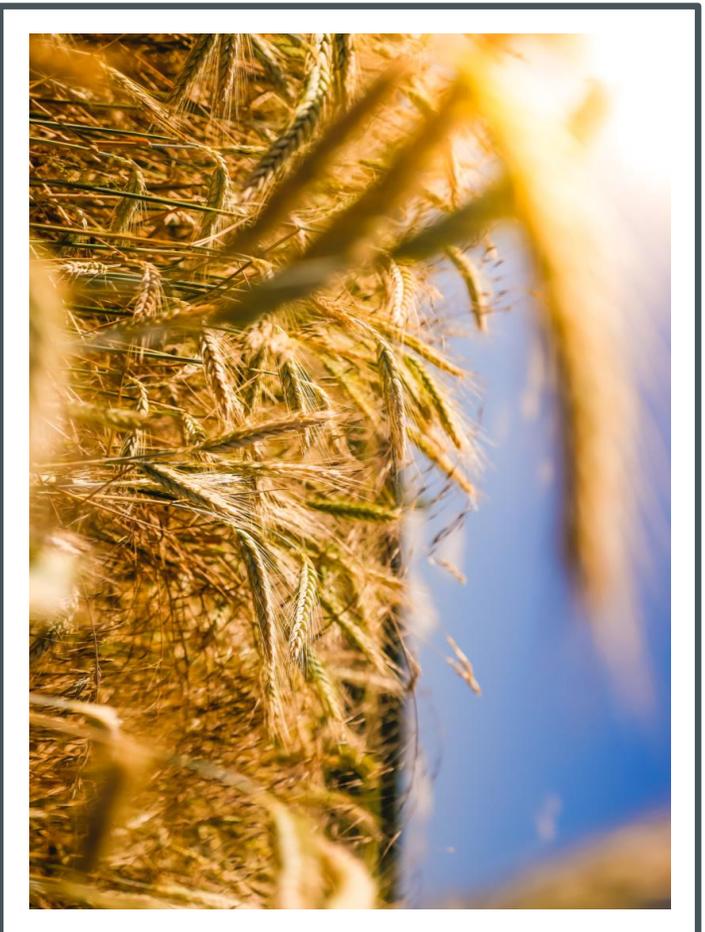
# SCHOLARS ON DIET & DISEASE

- George MacIlwain
  - Surgeon in the 1800s
  - "Constitutional Nature of Disease"
    - External causes acting independently
    - Opposing view: Local Theory of Disease
  - Theme of "wholism"
  - Diet as the way to prevent and treat disease



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# SCHOLARS ON DIET & DISEASE



- Plato's dialogue between Socrates & Glaucon
  - Socrates:
    - Simple cities
    - Living off the land
    - Living to an old age
    - Life of "luxury" will lead to disease
  - Glaucon:
    - "community of swine"
    - Sit on couches
    - Usual dishes and dessert (luxuries)
    - Promotes an increase in doctors and lawyers

Campbell, T. C., & Campbell II, T. M. (2016). *The China Study*.

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# SCHOLARS ON DIET & DISEASE

- Hippocrates
  - Father of Western medicine
  - Promoted diet as the chief way to prevent and treat disease
- Frederick L. Hoffman
  - American Cancer Society founder
  - Diet is the way to prevent and treat disease
- Seneca
  - Scholar from over 2,000 years ago
  - "Man alone supports himself by the pillage of the whole earth and sea. What! Has Nature indeed given us so insatiable a stomach, while she has given us so insignificant bodies?"

Campbell, T. C., & Campbell II, T. M. (2016). *The China Study*.



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# HOW DID WE GET HERE?

 How did we forget the lessons from the past?

 How did we get to a place where doctors know little about nutrition?

 How did advocating for a WFPB diet jeopardize your career?

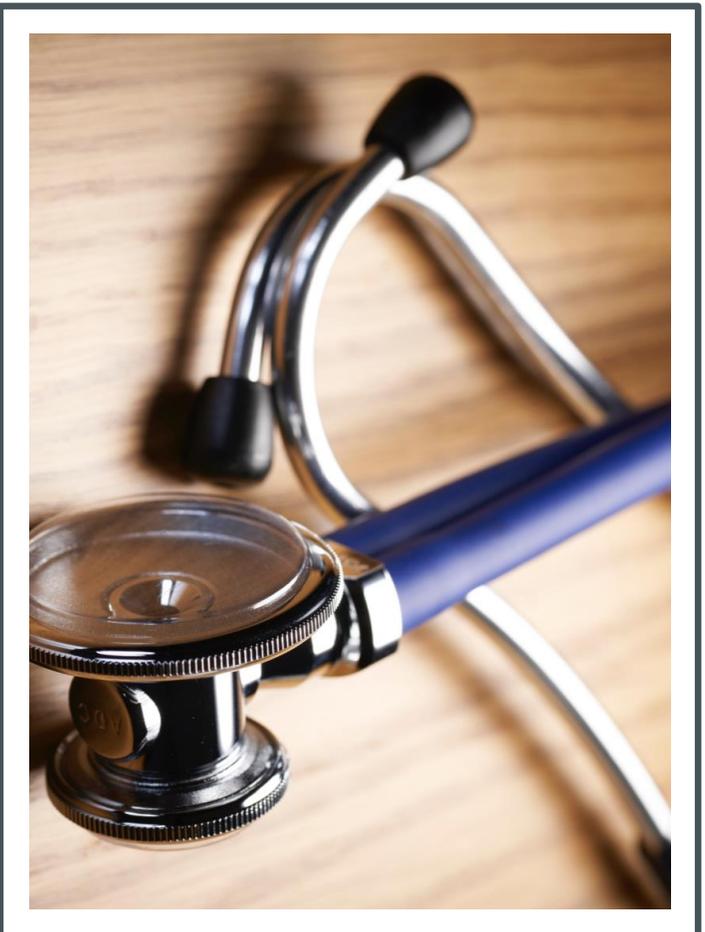
 How did the companies that profit from our food choices start telling us what to eat?

 How did government policies on food, drugs, and health get so corrupted?

 How did American's get so confused about what they are eating that they stopped caring?

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# A SICK COUNTRY



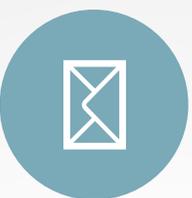
- Diseases of "affluence"
- Highest levels of obesity and diabetes
  - 82% of American adults have at least one risk factors for heart disease
  - 65% of American adults are overweight, 31% are obese
  - 105 million Americans have dangerously high cholesterol levels
  - 50 million Americans have high blood pressure
  - 16 millions Americans have diabetes
- Financial strain of health care
- Environmental impacts

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# HOPE FOR THE FUTURE



COMPREHENSIVE, WELL-DONE RESEARCH STUDIES ON WFPB DIET



ACCESSIBILITY TO EXCHANGE INFORMATION



HIGH LITERACY RATES



LARGE AMOUNT OF POPULATION WITH LUXURY TO CHOOSE WHAT THEY EAT



ATMOSPHERE THAT DEMANDS CHANGE



# **HOW EFFECTIVE IS A WHOLE FOOD PLANT-BASED DIET FOR PREVENTING CHRONIC DISEASE?**

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# FOR: **PLANT-BASED DIET & CHRONIC DISEASE PREVENTION**



- A whole food, plant-based diet consists of vegetables, fruits, legumes, whole grains, nuts, seeds, herbs, and spices.
- Associated with lowering:
  - Overall mortality
  - Reducing medication needs
  - Supporting sustainable weight management
  - Incidence & severity of high-risk conditions (obesity, hyperglycemia, hypertension, hyperlipidemia)
  - Reversing advanced CVD & Type II DM
- Contains two critical nutrients: fiber & phytonutrients
- Positive hormonal effects

Haver, J., & Cronise, R. J. (2017). Plant-based nutrition for healthcare professionals: implementing diet as a primary modality in the prevention and treatment of chronic disease.

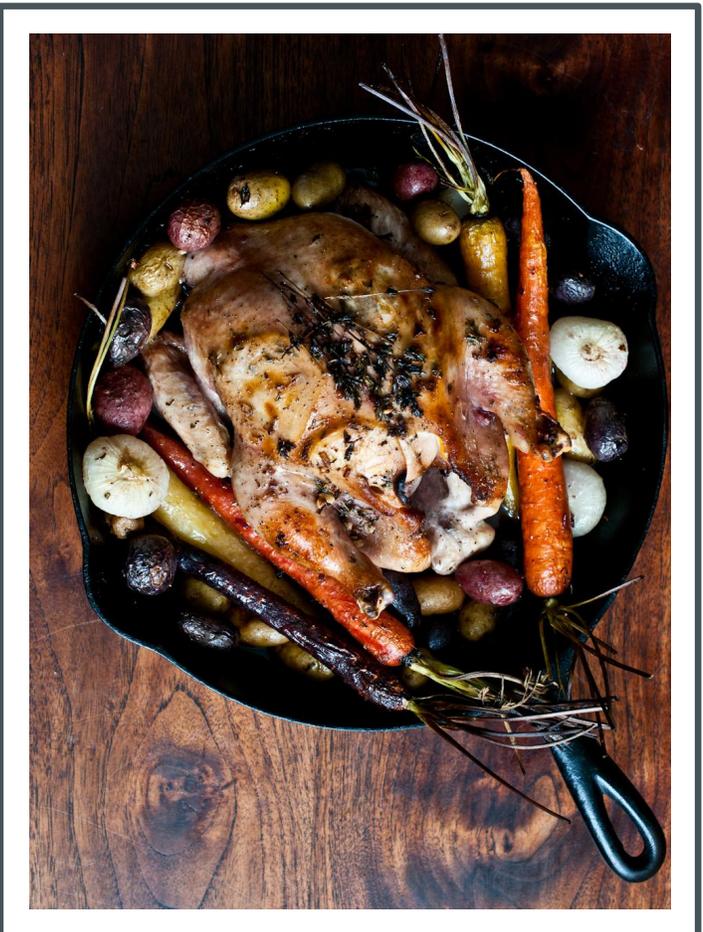
# **FOR:** **PLANT-BASED DIET & CHRONIC DISEASE PREVENTION CONT.**

- **Obesity**
  - *Nutrition Reviews*
  - Vegan or vegetarian diets are highly effective for weight loss
- **Diabetes**
  - *The Adventist Health Studies*
  - Vegetarians have approximately half the risk of developing diabetes as non-vegetarians
- **Heart Disease**
  - *Public Health Nutrition Journal*
  - The vegetarians had a 24% reduction in ischemic heart disease death rates compared with non-vegetarians.
- **High Blood Pressure**
  - *Dietary Guidelines Advisory Committee*
  - Vegetarian diets were associated with lower systolic blood pressure and lower diastolic blood pressure

Tuso, P. J., Ismail, M. H., Ha, B. P., & Bartolotto, C. (2013). Nutritional update for physicians: plant-based diets. *The Permanente journal*, 17(2), 61–66.

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# AGAINST: PLANT-BASED DIET & CHRONIC DISEASE PREVENTION



- Paleolithic diet
  - Typically includes lean meats, fish, fruits, vegetables, nuts and seeds
  - Food that in the past could be obtained by hunting and gathering
- Study analyzes the influence of a Paleolithic diet on prevention & control of chronic diseases in humans
- Meta-analysis showed a positive association of adopting the Paleolithic diet in relation to weight, body mass index, and waist circumference

de Menezes, E.V.A., Sampaio, H.Ad.C., Carnoça, A.A.F. et al. Influence of Paleolithic diet on anthropometric markers in chronic diseases: systematic review and meta-analysis.

**AGAINST:**  
**PLANT-BASED DIET & CHRONIC DISEASE PREVENTION CONT.**

- Outpatient, metabolically control study
- Nine nonobese sedentary healthy volunteers, ensuring no weight loss by daily weight
- Short-term consumption of a paleolithic type diet improved:
  - BP/glucose tolerance
  - Decreases insulin secretion/increases insulin sensitivity
  - Reduction in total cholesterol, LDL, and triglycerides

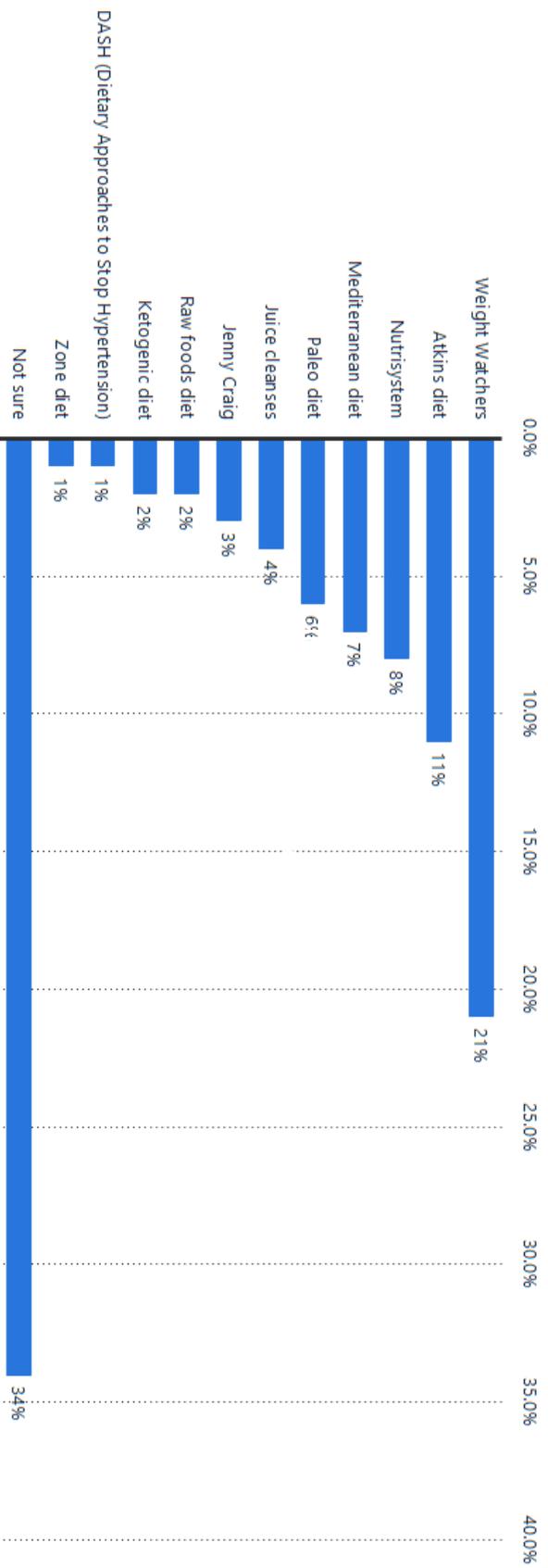
Frossetto, L., Schloetter, M., Mietus-Synder, M. *et al.* Metabolic and physiologic improvements from consuming a paleolithic, hunter-gatherer type diet.

# HOW EFFECTIVE IS A MEDITERRANEAN DIET FOR PREVENTING CHRONIC DISEASE



# Level of awareness regarding selected diet trends in the United States as of March 2017

Awareness regarding diet trends in the U.S. 2017



United States: March 23, 2017: 18 years and older: 5,858 Respondents  
Further information regarding this statistic can be found on page 8.

**Source(s):** YouGov, ID Z1576Z  
Statista, <https://www.statista.com/statistics/715767/awareness-diet-trends-us/>



## WHAT IS THE MEDITERRANEAN DIET?

- Overall food pattern rather than a single nutrient intake
- No single Mediterranean diet it is a collection of eating patterns
- Plant-based diet that allows for a low consumption of meat, meat products, fermented dairy, and moderate consumption of fish
- High intake of vegetables, fruits, nuts, legumes, abundant in fat (EVOO), moderate fish, low meat and meat products, consumption of wine during meals; water intake and physical activity included
- Fat intake from olive oil but still low in saturated fat
- Rich in nutrients and dietary fiber including Vitamin B12 and iron
- Rich in antioxidant compounds and low glycemic index
- Considered high-quality diet pattern

Marinez-Gonzalez, M, a., (2017). Transferability of the mediterranean diet to non-mediterranean countries: what is and what is not the mediterranean diet  
TODEA, D. A., (2013). Benefits of the mediterranean diet in the prevention of non-communicable diseases as the epidemic of the 21st century

# WHAT IS THE MEDITERRANEAN DIET?

Table 1. Two frequently used operational definitions of the Mediterranean diet.

	Mediterranean Diet Score (0 to 9 Points)	PREDIMED Screener Score (0 to 14 Points)
<b>Positively weighted items</b>	Monounsaturated/Saturated fat ratio * Vegetables * Fruits and nuts * Legumes * Fish * Cereals *	Olive oil as main culinary fat ≥4 tablespoons/day olive oil ≥2 servings/day vegetables ≥3 servings/day fruits ≥3 servings/week legumes ≥3 servings/week fish
<b>Negatively weighted items</b>	Meat/meat products † Dairy products †	≥2 servings/week nuts ≥2 servings/day olive oil sauce with tomato garlic and onion ("sofrito") Preference for poultry > red meats † <1/day Red/processed meats <1/day Butter/Margarine/cream <1/day carbonated/sugared sodas <2/week commercial bakery, cakes, biscuits or pastries
<b>Moderate alcohol intake</b>	5–25 g/day (women) 10–50 g/day (men)	≥7 glasses/week of wine

\* One point if the consumption was at or above the sex-specific median. † One point if the consumption was below the sex-specific median. ‡ The wording of the question was: Do you prefer to eat chicken or turkey instead of beef, pork, hamburgers of sausages?

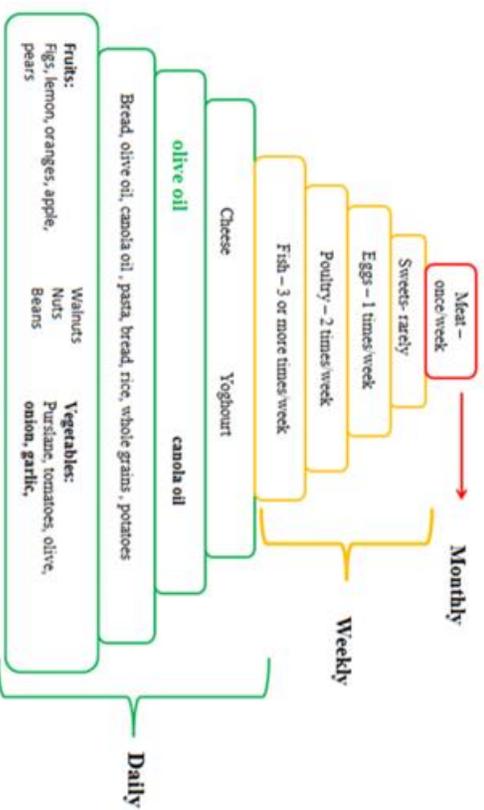


Fig. 1. Mediterranean diet-food guide pyramid

Martinez-Gonzalez, M. a., (2017). Transferability of the mediterranean diet to non-mediterranean countries. what is and what is not the mediterranean diet TODEA, D. A., (2013). Benefits of the mediterranean diet in the prevention of non-communicable diseases as the epidemic of the 21st century



## BENEFITS OF THE MEDITERRANEAN DIET

- Evaluating Mediterranean diet and risk of chronic disease in cohort studies: an umbrella review of meta-analyses
  - Umbrella review of the meta-analyses on cohort studies evaluating the MedDiet with Type 2 diabetes, cardiovascular disease, cancer, and cognitive-related diseases
  - Almost all included showed inverse association between high adherence to a MedDiet and risk of chronic disease
  - Higher adherence had lower incidence of T2D, CVD, incidence/ mortality of cancer
  - Credibility was low to moderate

Galbete, C, (2018). Evaluating Mediterranean diet and risk of chronic disease in cohort studies: An umbrella review of meta-analyses  
Martinez-Gonzalez, M. a., (2017). Transferability of the mediterranean diet to non-mediterranean countries. what is and what is not the mediterranean diet

# BENEFITS OF THE MEDITERRANEAN DIET

- Transferability of the Mediterranean Diet to Non-Mediterranean Countries. What is and what is not the Mediterranean diet
- Figure 1 shows the cumulative meta-analysis (sorted by the Year of publication) of prospective studies (observational cohorts and trials) supporting a strong inverse association between closer adherence to the MedDiet and the incidence of hard clinical events of CVD

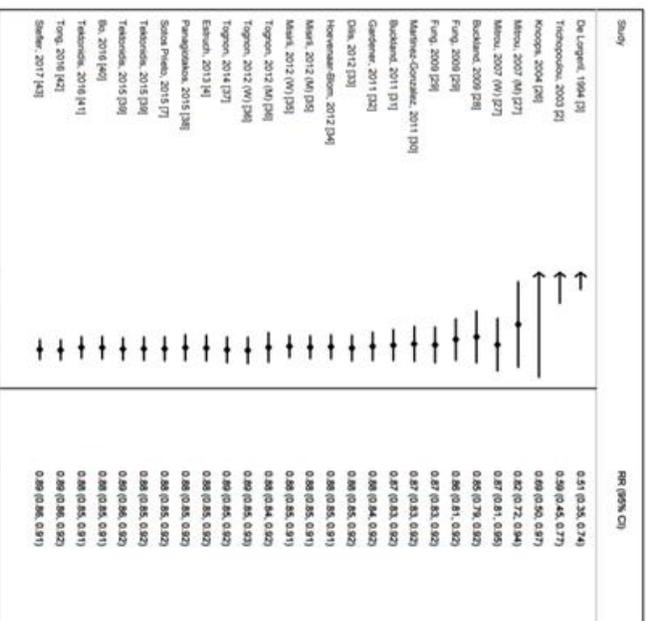


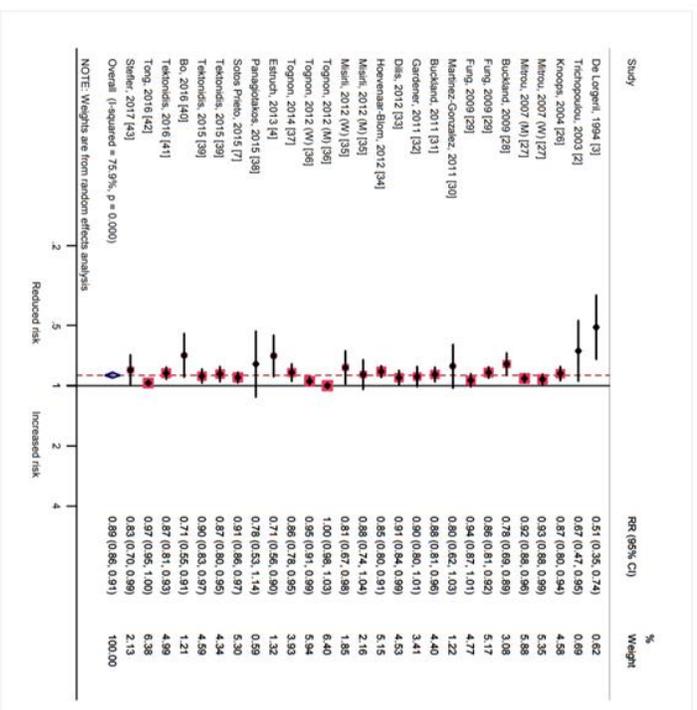
Figure 1. Cumulative meta-analysis of prospective cohort studies of Mediterranean diet adherence (for each 2 additional points in a 0 to 9 score) and the risk of mortality from or incidence of cardiovascular disease. W: Women; M: Men.

Martinez-Gonzalez, M. a., (2017). Transferability of the mediterranean diet to non-mediterranean countries. what is and what is not the mediterranean diet

# BENEFITS OF THE MEDITERRANEAN DIET

Transferability of the Mediterranean Diet to Non-Mediterranean Countries. What is and what is not the Mediterranean diet

In Figure 2 with 27 estimates showed that each 2-point increment in a 0–9 score of MedDiet was associated with a 1.1% relative reduction in the risk of CVD



**Figure 2.** Forest plot describing the association between adherence to MedDiet (for each 2 additional points in a 0 to 9 score) and the risk of mortality from or incidence of cardiovascular disease (CVD). The center of each square indicates the relative risk of the study and the horizontal lines 95% Confidence Intervals (CI). The area of the square is proportional to the size of the study. The diamond indicates a pooled estimate.

Martinez-Gonzalez, M. a., (2017). Transferability of the mediterranean diet to non-mediterranean countries. what is and what is not the mediterranean diet



## CHALLENGES OF THE MEDITERRANEAN DIET

- Previous studies show moderate to low credibility
- Typical American diet is different than the Mediterranean diet and may need behavioral changes
- Different definitions of the Mediterranean diet
- Alcohol consumption in the United states differs from the low to moderate consumption depicted by the Mediterranean diet
- Transferability of the MedDiet should be flexible but also incorporate traditional components
- There are ways to overcome the challenges of the MedDiet

# CHALLENGES OF THE MEDITERRANEAN DIET

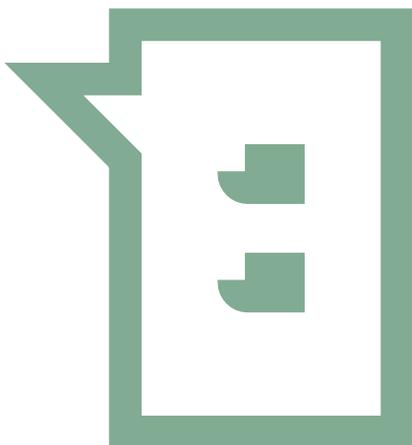
Table 2. Practical approaches for adopting the Mediterranean Diet.

Mediterranean Diet	Western Diet	Incorporating the Mediterranean Diet
Olive oil	Solid fat: butter, margarine, cream cheese, coconut, palm, and tropical oils Cooking oils: soybean, canola, corn, sunflower	Use extra virgin or virgin olive oil, if not always possible, prefer using olive oil raw Consume with vegetables and legumes in many salads, stir fries and sautes Use herbs, spices, garlic, onions and lemon for flavor when cooking
Vegetables	Starchy vegetables predominate over lower calorie vegetables Low/under consumption	Always try incorporating vegetables at lunch and dinner, often as main dish Aim for $\geq 2$ servings/day 1 serving/day should be consumed raw, adequately dressed with extra-virgin olive oil and vinegar, preferably in salads
Fruits	Low/under consumption Fruit products with added sugars	Serve fresh raw fruits as the usual dessert with the exception of feasts and celebrations Aim for $\geq 3$ servings/day of fresh fruits Vary and temporarily
Whole grains: Bread	White refined flour Refined and processed cereals Sugary breakfast cereals Pizza rich in flour and cheese Sliced bread; includes butter and sugar; higher calorie form of bread	Switch to whole grain bread, pasta, rice and flour Try making homemade pizza with olive oil, less cheese and topped with fresh vegetables to create a Mediterranean-style pizza Try drizzling toast with extra virgin olive oil for breakfast or a snack
Legumes	Low/under consumption High sodium in canned products	Consume $\geq 3$ servings/week any variety of legumes such as any variety of beans, lentils, chickpeas, peas
Seafood: Fish	Low/under consumption Lack of variety Expensive	Aim for $\geq 1$ servings/week white fish (cod, flounder, tilapia), $\geq 2$ servings/week fatty fish (tuna, salmon, sardines) and occasional shellfish (oysters, clams, squid, shrimp) Wild-caught, farm-raised, fresh, frozen, or canned fish or seafood are all acceptable options
Meat: Poultry	Red meat consumed regularly; beef, pork, processed meats (cold cuts, sausages, hot dogs, hamburgers, etc.) Large portions/Daily consumption	Preferably choose lean poultry, chicken and turkey Moderate portion sizes (3–4 oz.) Save red meat for occasional consumption; 1–3 servings/month

Table 2. Cont.

Mediterranean Diet	Western Diet	Incorporating the Mediterranean Diet
Dairy: yogurt and cheese	Various and abundant amounts of dairy products: milk, processed cheese, cream cheese, ice cream, milkshakes	Regular or fat-free natural yogurt (add nuts and fruit for flavor), but never use yogurt to replace fresh fruit as dessert Avoid the excessive consumption of ice-cream prevailing in the US. Occasional consumption of cheese, both fresh and cured cheeses in small portions
Nuts and olives	Butter, margarine, ketchup, mayonnaise dips, cream sauces, dressings Processed prepackaged snacks	Primary source of fat should be extra-virgin olive oil and olives Consume a handful of raw nuts a day, or $\geq 3$ servings/week, as a healthy replacement for processed snacks Consume olives as a snack or in salads Walnuts, almonds, hazelnuts, pistachios, etc.
Homemade baked goods	Industrial store-bought baked goods (cakes, cookies, pies, brownies, donuts) Creamy and sugary desserts (candy, pudding, syrups)	Rather than buying baked goods, occasionally bake at home using olive oil instead of butter Consume baked goods and high fat dairy products occasionally
Wine	Beer, liquor, sugar sweetened drinks (soft drinks, sports drinks, juices, flavored water) Heavy/binge drinking	Replace beer or liquors with wine, preferably red wine, no more than 2 glasses (10 oz./day for men and 1 glass (5 oz.)/day for women Consume always with a meal Replace soda and juices with water

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# QUESTION #1

- Is a changing atmosphere and consumer demands enough to combat issues such as companies profiting from our sicknesses are the individuals telling us how to be healthy?

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## QUESTION #2

- "We, as a society, are on the edge of a great precipice: we can fall to sickness, poverty, and degradation, or we can embrace health, longevity, and bounty. And all it takes is the courage to change."
- What parts of this closing statement do you agree or not agree with?
- Can we do this without a WFPB diet or is a WFPB diet the answer?