

The Australian Dietary Guidelines: What needs to change?

DR JOANNA MCMILLAN

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A close-up photograph of an olive branch with dark green, elongated leaves and clusters of small, light green olives. The background is a soft-focus landscape with more greenery and a hint of a blue sky.

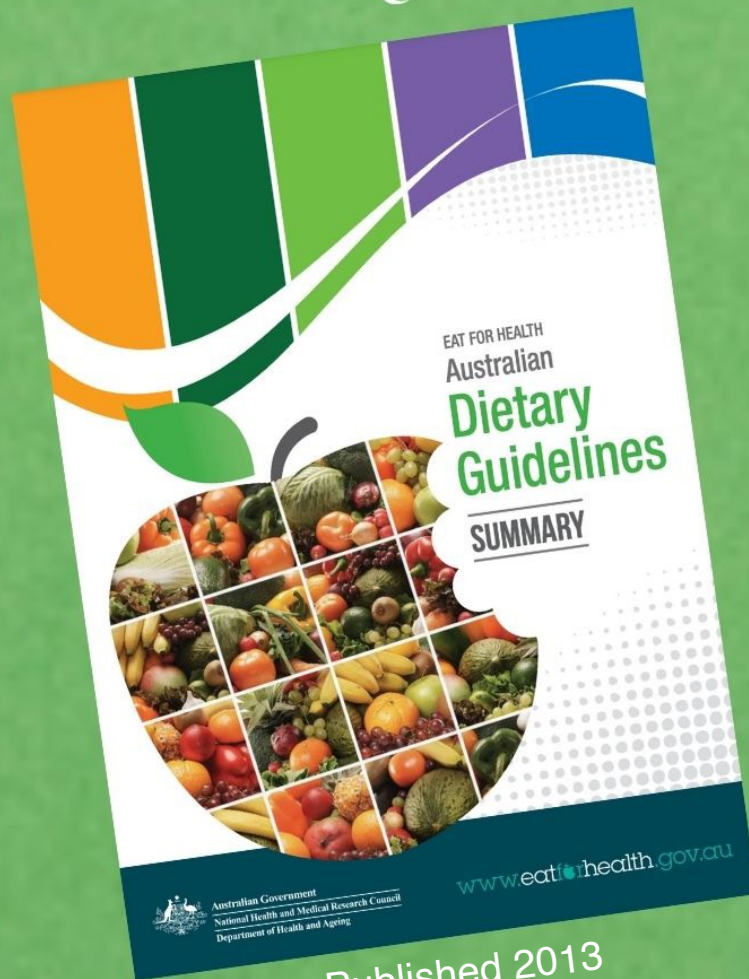
Disclaimer

I've always put my money where my mouth (and the evidence) is...

And so after working as a Consultant for Cobram for over seven years I have recently welcomed the opportunity to join the Board

Cobram
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A small logo consisting of a stylized olive branch with three leaves.

Current ADEs



1. To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs.
2. Enjoy a wide variety of nutritious foods from these five food groups every day:
 - Plenty of vegetables of different types and colours, and legumes/beans
 - Fruit
 - Grain foods, mostly wholegrain and/or high cereal fibre varieties
 - Lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans
 - Milk, yoghurt, cheese and/or their alternatives, mostly reduced fat
3. Limit intake of foods containing saturated fat, added salt, added sugars and alcohol.
4. Encourage support and promote breastfeeding.
5. Care for your food; prepare and store it safely.



Australian Guide to Healthy Eating



Refined vs whole grains?

Starchy & non-starchy veg together – corn a grain?

Do nuts deserve specific mention?

Emphasis on reduced fat

Oils & margarine lumped together & 'small amounts/outside main plate, similar to discretionary foods

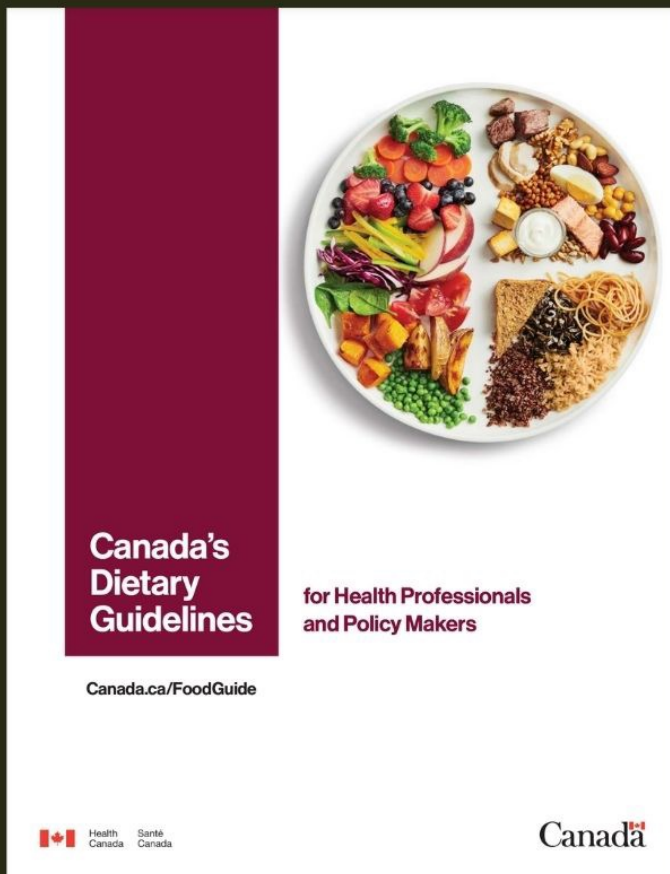
dr. Joanna

Little or no mention made of...

- Sustainability & environmental influences of food choices
- Culinary aspects, traditional dietary patterns & pleasure!
- Limiting food waste
- Chrononutrition – when to eat
- Degree of food processing



Canada's Dietary Guidelines



SECTIONS

1. Foundation for healthy eating
 2. Foods and beverages that undermine healthy eating
 3. Importance of food skills
 4. Implementation of dietary guidelines
- Specific mention of cultural preferences, food traditions, particularly for Indigenous Peoples.
 - Includes the impact of food choices on the environment, including food waste, but does state the complexity of this.

*“Cultural food practices
should be celebrated”*

Canada's Food Guide

Canada's food guide

- Food choices
- Eating habits
- Recipes
- Tips
- Resources

Eat a variety of healthy foods each day

Have plenty of vegetables and fruits

Eat protein foods

Make water your drink of choice

Choose whole grain foods

Item 1 of 3

Play

Healthy eating is more than the foods you eat

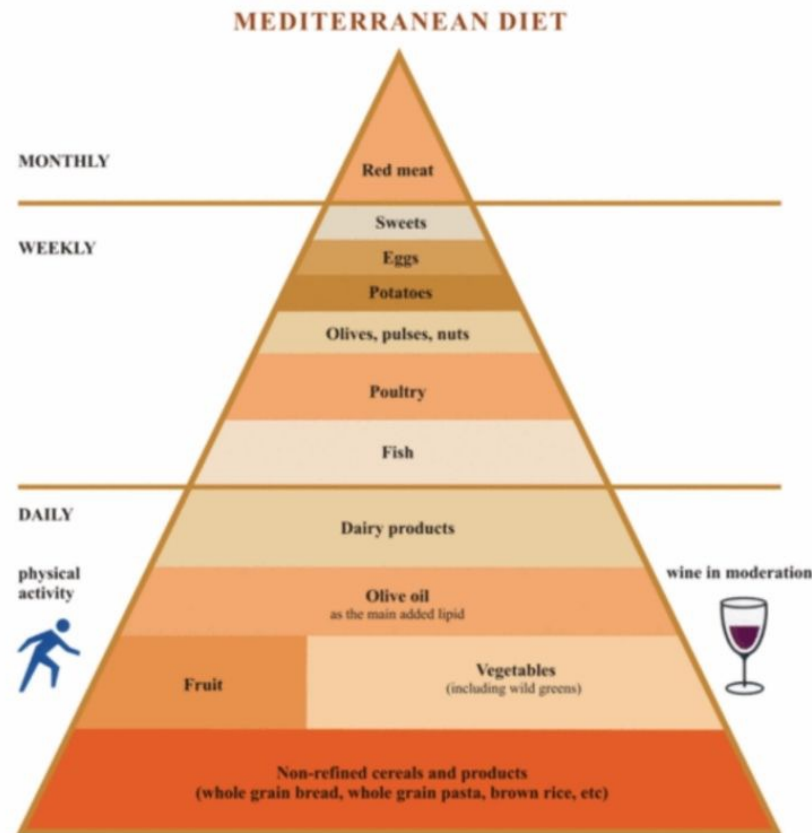
- Be mindful of your eating habits
- Cook more often
- Enjoy your food
- Eat meals with others
- Use food labels
- Limit highly processed foods
- Marketing can influence your food choices

Item 2 of 3

Play

<https://food-guide.canada.ca/en/>

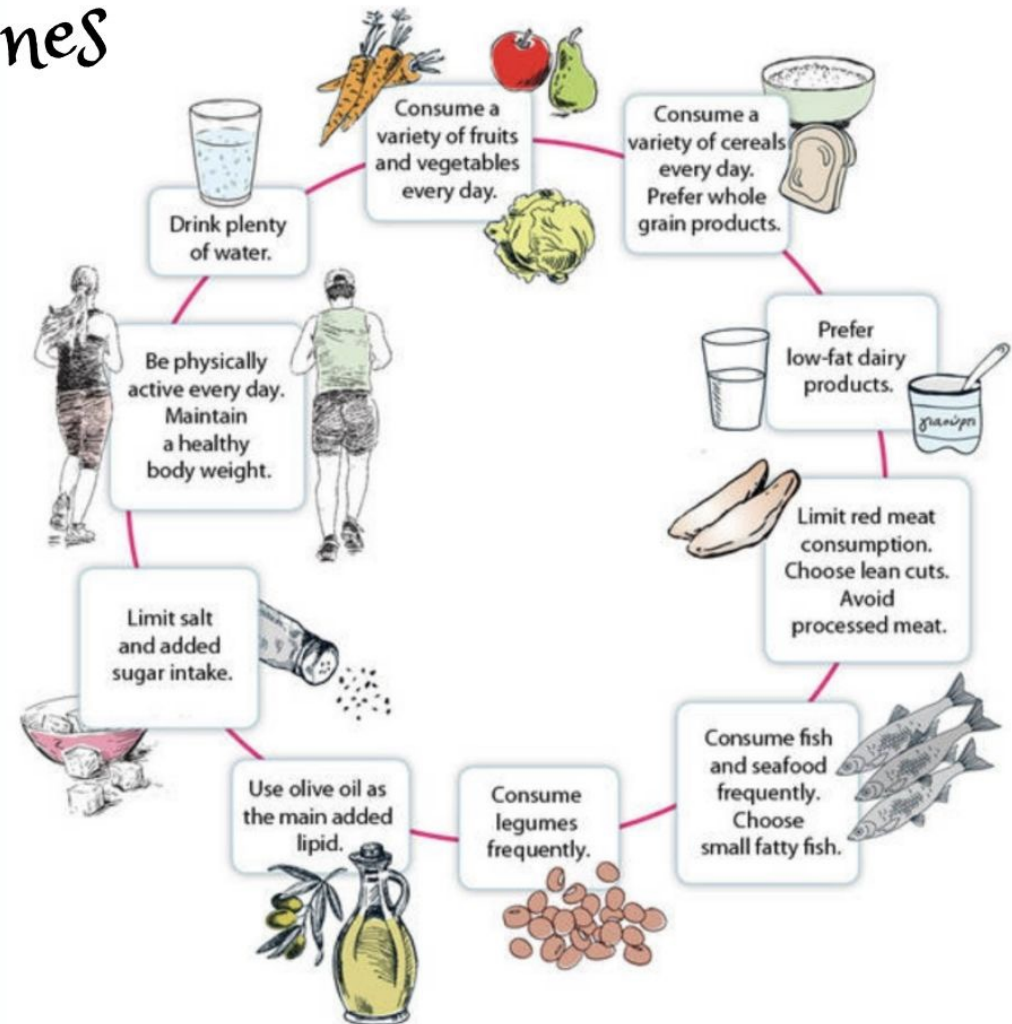
Greek Dietary Guidelines



Also remember to:

- drink plenty of water
- avoid salt and replace it by herbs (e.g oreganon, basil, thyme, etc)

Source: Supreme Scientific Health Council, Hellenic Ministry of Health



Brazilian Dietary Guidelines



FOUR RECOMMENDATIONS AND ONE GOLDEN RULE

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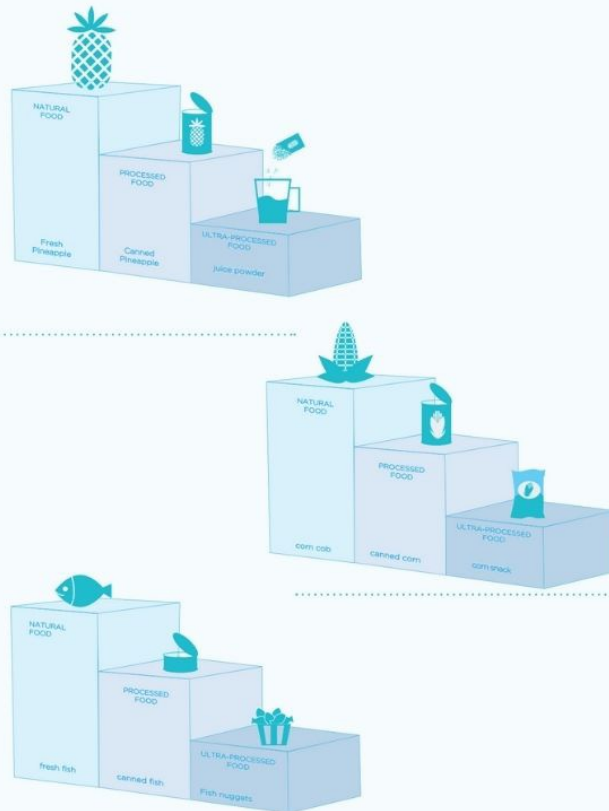
Make natural or minimally processed foods the basis of your diet

Use oils, fats, salt and sugar in small amounts for seasoning and cooking foods and to create culinary preparations

Limit the use of processed foods, consuming them in small amounts as ingredients in culinary preparations or as part of meals based on natural or minimally processed foods

Avoid ultra-processed foods

The golden rule. Always prefer natural or minimally processed foods and freshly made dishes and meals to ultra-processed foods



MODES OF EATING

Eating regularly and carefully

Always when possible, eat daily meals at similar times. Avoid 'snacking' between meals. Eat slowly, with full attention, and enjoy eating without engaging in another activity.

Eating in appropriate environments

Always prefer to eat in clean, comfortable, and quiet places, and where there is no stimulus to consume unlimited amounts of food.

Eating in company

Prefer eating with family, friends, or colleagues. At home, share in acquisition, preparation, cooking, and arrangements before and after eating.

Norwegian Dietary Guidelines



THE NORWEGIAN DIETARY GUIDELINES

1. Enjoy a varied diet with lots of vegetables, fruit and berries, whole-grain foods and fish, and limited amounts of processed meat, red meat, salt and sugar.
2. Maintain a good balance between the amount of energy you obtain through food and drink and the amount of energy you expend through physical activity.
3. Eat at least five portions of vegetables, fruit and berries every day.
4. Eat whole grain foods every day.
5. Eat fish two to three times a week. You can also use fish as a spread on bread.
6. Choose lean meat and lean meat products. Limit the amount of processed meat and red meat.
7. Include low-fat dairy foods in your daily diet.
8. Choose edible oils, liquid margarine and soft margarine spreads instead of hard margarines and butter.
9. Choose foods that are low in salt and limit the use of salt when preparing food and at the table.
10. Avoid foods and drinks that are high in sugar.
11. Choose water as a thirst-quencher.
12. Be physically active for at least 30 minutes each day.

EAT Lancet Report



	Macronutrient intake grams per day (possible range)	Caloric intake kcal per day
 Whole grains Rice, wheat, corn and other	232	811
 Tubers or starchy vegetables Potatoes and cassava	50 (0–100)	39
 Vegetables All vegetables	300 (200–600)	78
 Fruits All fruits	200 (100–300)	126
 Dairy foods Whole milk or equivalents	250 (0–500)	153
Protein sources		
 Beef, lamb and pork	14 (0–28)	30
Chicken and other poultry	29 (0–58)	62
Eggs	13 (0–25)	19
Fish	28 (0–100)	40
 Legumes	75 (0–100)	284
Nuts	50 (0–75)	291
Added fats		
Unsaturated oils	40 (20–80)	354
Saturated oils	11.8 (0–11.8)	96
Added sugars		
All sugars	31 (0–31)	120



Australian Guide to Healthy Eating

Enjoy a wide variety of nutritious foods from these five food groups every day.
Drink plenty of water.



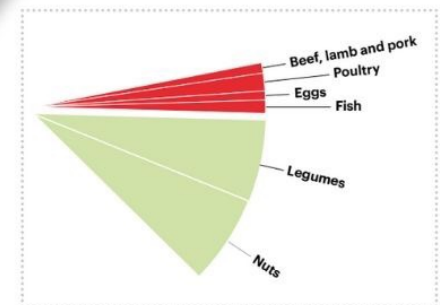
Use small amounts



Only sometimes and in small amounts



EAT Lancet Report



Unsaturated oils ADEs vs EAT Lancet

14g-28g

15ml

versus

20g-80g



There's more to oils & fats

CRITICAL REVIEWS IN FOOD SCIENCE AND NUTRITION
<https://doi.org/10.1080/10408398.2021.1882382>



REVIEW

 Check for updates

How should we judge edible oils and fats? An umbrella review of the health effects of nutrient and bioactive components found in edible oils and fats

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ABSTRACT

Dietary guidelines for many Western countries base their edible oil and fat recommendations solely on saturated fatty acid content. This study aims to demonstrate which nutritional and bioactive components make up commonly consumed edible oils and fats; and explore the health effects and strength of evidence for key nutritional and bioactive components of edible oils. An umbrella review was conducted in several stages. Food composition databases of Australia and the United States of America, and studies were examined to profile nutrient and bioactive content of edible oils and fats. PUBMED and Cochrane databases were searched for umbrella reviews, systematic literature reviews of randomized controlled trials or cohort studies, individual randomized controlled trials, and individual cohort studies to examine the effect of the nutrient or bioactive on high-burden chronic diseases (cardiovascular disease, type 2 diabetes mellitus, obesity, cancer, mental illness, cognitive impairment). Substantial systematic literature review evidence was identified for fatty acid categories, tocopherols, biophenols, and phytosterols. Insufficient evidence was identified for squalene. The evidence supports high mono- and polyunsaturated fatty acid compositions, total biophenol content, phytosterols, and possibly high α -tocopherol content as having beneficial effects on high-burden health comes. Future dietary guidelines should use a more sophisticated approach to judge edible oils beyond saturated fatty acid content.

KEYWORDS

Guideline; nutrition policy; fatty acids; tocopherols; polyphenols; phytosterols; squalene; plant oils; fats

Fatty acids
Micronutrients
Phytosterols
Biophenols
Squalene

Nutritional components of edible fats & oils

	tocopherols	Fatty acids	phytosterols	biophenols	squalene
EVOO	moderate	high MUFA/low PUFA/ low SFA	moderate	high	high
Palm oil	low-moderate*	mod MUFA/low PUFA/high SFA	N/A	N/A	low
Soybean oil	high*	high PUFA/mod MUFA/low SFA	moderate	low	low
Sunflower oil	high*	high PUFA/mod MUFA/low SFA	moderate	low	low
Coconut oil	low	Mod MUFA/low PUFA/high SFA	low	low-mod	low
Rice bran oil	Moderate*	Mod MUFA/mod PUFA/mod SFA	high	N/A	low

*likely added vit E



Conclusions

"The results show that edible oils and fats contain chemical properties which affect human health well beyond their SFA content; therefore, the findings demand dietary guidelines reconsider how edible oils and fats are judged. The total fatty acid composition, biophenols, and phytosterols all have well established favorable associations on chronic disease outcomes. There is further emerging evidence that dietary tocopherols and squalene may have beneficial effects on risk of chronic disease."

Negative factors in edible fats & oils

Table 2 Secondary products of fat alteration

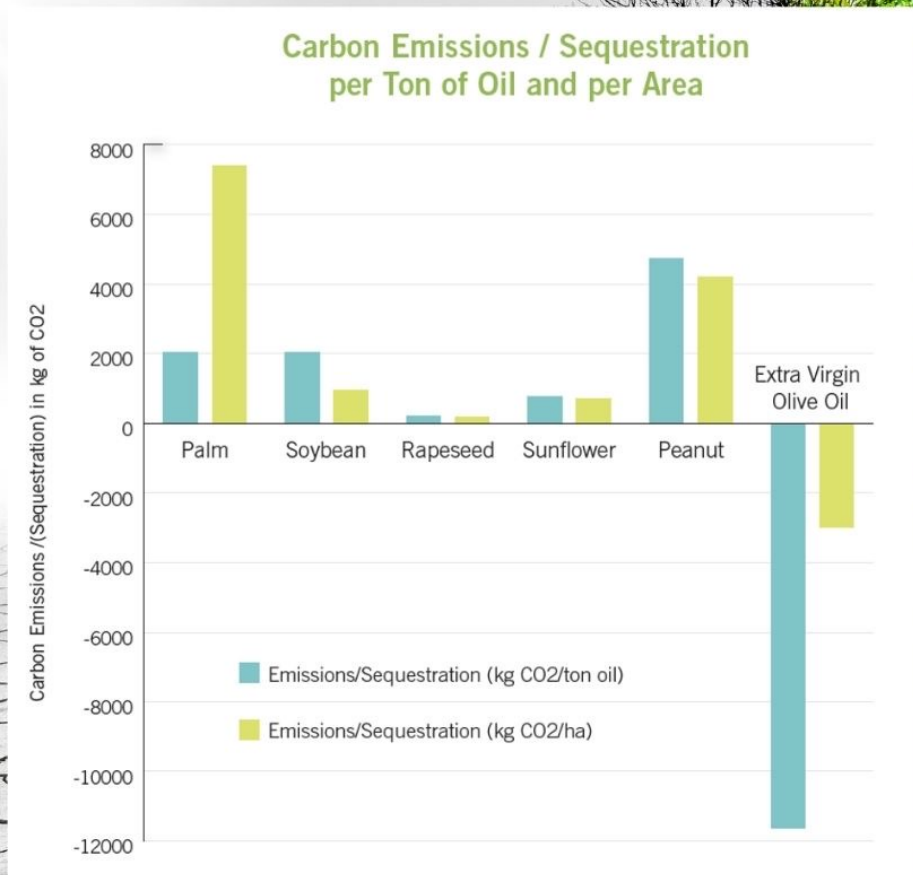
Type of oil	Total TFA (%) ¹		Stigmastadienes (mg/kg)	
	Median	STD	Median	STD
Canola oil	0.48	0.14	40.78	15.51
Sunflower oil	0.28	0.09	10.69	5.84
Vegetable oil	0.58	0.14	62.57	127.00
Rice Bran oil	1.04	0.40	341.12	101.15
Coconut oil	0.03	0.02	<0.05	0.00
Grapeseed oil	0.88	0.09	138.27	71.18
Peanut oil	0.84	0.18	191.16	95.93
Olive oil	0.16	0.05	11.31	5.97
EVOO	0.02	0.00	<0.05	0.00

Review

A comprehensive nutrient and chemical composition analysis of the main cooking oils consumed in Australia

Florencia de Alzaa ^{1,*}, Claudia Guillaume ¹ and Leandro Ravetti ¹

Edible oils & climate change



1. Perennial crop (vs. replanting annually)
2. Efficient use of water & fertiliser
3. Biodiversity - both of the land & in diet



Whole foods vs nutrients – dairy foods

Dairy Foods and Dairy Fats: New Perspectives on Pathways Implicated in Cardiometabolic Health

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ABSTRACT

Low-fat and nonfat dairy products have been promoted as part of a healthy dietary pattern by both US dietary guidelines and professional organizations for several decades. The basis for this recommendation stems in part from the putative negative cardiometabolic effects associated with saturated fat consumption. However, as nutrition research has shifted from a single nutrient to a whole-food/dietary pattern approach, the role of dairy foods and dairy fat in the diet–disease relationship is being reexamined. Most observational and experimental evidence does not support a detrimental relationship between full-fat dairy intake and cardiometabolic health, including risks of cardiovascular disease and type 2 diabetes. Indeed, an expanded understanding of the dairy food matrix and the bioactive properties of dairy fats and other constituents suggests a neutral or potentially beneficial role in cardiometabolic health. To consider how consuming dairy foods, including full-fat dairy, is associated with cardiometabolic health, this review provides an innovative perspective on mechanisms that link dairy consumption to 3 main biological systems at the core of metabolic health, the gastrointestinal, hepatic, and vascular systems. *Adv Nutr* 2020;11:266–279.

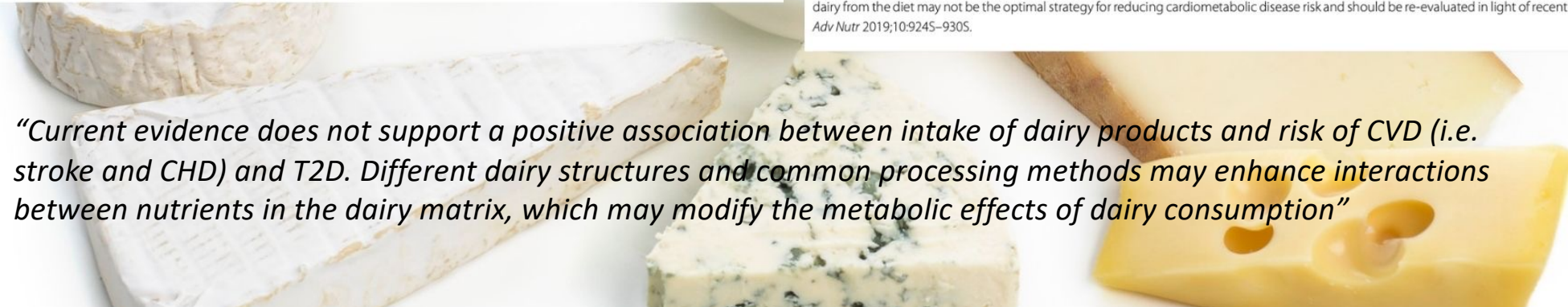
Effects of Full-Fat and Fermented Dairy Products on Cardiometabolic Disease: Food Is More Than the Sum of Its Parts

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ABSTRACT

Current dietary recommendations to limit consumption of saturated fat are largely based on early nutrition studies demonstrating a direct link between dietary saturated fat, elevated blood cholesterol levels, and increased risk of cardiovascular disease. As full-fat dairy products are rich in saturated fat, these dietary guidelines recommend consumption of fat-free or low-fat dairy products in place of full-fat dairy. However, dairy products vary greatly in both their nutrient content and their bioactive ingredients, and research increasingly highlights the importance of focusing on whole foods (i.e., the food matrix) as opposed to single nutrients, such as saturated fat. In fact, the weight of evidence from recent large and well-controlled studies, systematic reviews, and meta-analyses of both observational studies and randomized controlled trials indicates that full-fat dairy products, particularly yogurt and cheese, do not exert the detrimental effects on insulin sensitivity, blood lipid profile, and blood pressure as previously predicted on the basis of their sodium and saturated fat contents; they do not increase cardiometabolic disease risk and may in fact protect against cardiovascular disease and type 2 diabetes. Although more research is warranted to adjust for possible confounding factors and to better understand the mechanisms of action of dairy products on health outcomes, it becomes increasingly clear that the recommendation to restrict dietary saturated fat to reduce risk of cardiometabolic disease is getting outdated. Therefore, the suggestion to restrict or eliminate full-fat dairy from the diet may not be the optimal strategy for reducing cardiometabolic disease risk and should be re-evaluated in light of recent evidence. *Adv Nutr* 2019;10:924S–930S.









“Current evidence does not support a positive association between intake of dairy products and risk of CVD (i.e. stroke and CHD) and T2D. Different dairy structures and common processing methods may enhance interactions between nutrients in the dairy matrix, which may modify the metabolic effects of dairy consumption”



Review

Phenolic Compounds in Honey and Their Associated Health Benefits: A Review

Danila Ciansiosi ¹, Tamara Yulieth Forbes-Hernández ¹, Sadia Afrin ¹,
Massimiliano Gasparrini ¹, Patricia Reboredo-Rodriguez ^{1,2}, Piera Pia Manna ¹,
Jiaojiao Zhang ¹, Leire Bravo Lamas ³, Susana Martínez Flórez ³, Pablo Agudo Toyos ³,
José Luis Quiles ⁴, Francesca Giampieri ^{1,*} and Maurizio Battino ^{1,*}

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Abstract: Honey is a natural substance appreciated for its therapeutic abilities since ancient times. Its content in flavonoids and phenolic acids plays a key role on human health, thanks to the high antioxidant and anti-inflammatory properties that they exert. Honey possesses antimicrobial capacity and anticancer activity against different types of tumors, acting on different molecular pathways that are involved on cellular proliferation. In addition, an antidiabetic activity has also been highlighted, with the reduction of glucose, fructosamine, and glycosylated hemoglobin serum concentration. Honey exerts also a protective effect in the cardiovascular system, where it mainly prevents the oxidation of low-density lipoproteins, in the nervous system, in the respiratory system against asthma and bacterial infections, and in the gastrointestinal system. A beneficial effect of honey can also be demonstrated in athletes. The purpose of this review is to summarize and update the current information regarding the role of honey in health and diseases.

Degree of processing



Food and Agriculture
Organization of the
United Nations

Ultra-processed foods, diet quality, and health using the NOVA classification system

Prepared by

Carlos Augusto Monteiro
Geoffrey Cannon
Mark Lawrence
Maria Laura da Costa Louzada
and
Priscila Pereira Machado

Food and Agriculture Organization of the United Nations
Rome, 2019

GROUP 1: UNPROCESSED OR MINIMALLY PROCESSED FOODS

e.g. fresh, squeezed, chilled, frozen, or dried fruit, vegetables, wholegrains, legumes, starchy veg, mushrooms, meat, seafood, eggs, milk, yoghurt – states also honey & oil – EVOO?

GROUP 2: PROCESSED CULINARY INGREDIENTS

e.g. Crushed 'vegetable' oils, butter, lard, honey (extracted?), but also sugar & molasses from cane & beet?, salt is here!

GROUP 3: PROCESSED FOODS

e.g. canned or bottle vegetables in brine, salted or sugared nuts & seeds, salted, cured, dried or smoked meats & fish, canned fish, fruit in syrup, freshly made unpackaged bread & cheeses

GROUP 4: ULTRA-PROCESSED FOODS

e.g. soft drinks, packaged snacks, confectionery, ice-cream, mass-produced packaged breads & buns, margarines & spreads, cookies, pastries, cakes, breakfast cereals, instant sauces, energy drinks & drinks, fruit yoghurts, slimming & health shakes & powders, instant soups, noodles, many pre-prepared ready-to-eat products

Chrononutrition



nutrients



Review

Food Timing, Circadian Rhythm and Chrononutrition: A Systematic Review of Time-Restricted Eating's Effects on Human Health

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Abstract: Introduction: Recent observations have shown that lengthening the daily eating period may contribute to the onset of chronic diseases. Time-restricted eating (TRE) is a diet that especially limits this daily food window. It could represent a dietary approach that is likely to improve health markers. The aim of this study was to review how time-restricted eating affects human health. Method: Five general databases and six nutrition journals were screened to identify all studies published between January 2014 and September 2020 evaluating the effects of TRE on human populations. Results: Among 494 articles collected, 23 were finally included for analysis. The overall adherence rate to TRE was 80%, with a 20% unintentional reduction in caloric intake. TRE induced an average weight loss of 3% and a loss of fat mass. This fat loss was also observed without any caloric restriction. Interestingly, TRE produced beneficial metabolic effects independently of weight loss, suggesting an intrinsic effect based on the realignment of feeding and the circadian clock. Conclusions: TRE is a simple and well-tolerated diet that generates many beneficial health effects based on chrononutrition principles. More rigorous studies are needed, however, to confirm those effects, to understand their mechanisms and to assess their applicability to human health.



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