Hello CUW-SOP students!

This month’s wellness email is focused on Body: nutrition. Not everything that comes out of the ground is a “vegetable” although they’re commonly categorized that way. The following table loosely organizes some common plant matter products. Starchy foods are generally less nutrient dense than “green leafy” or cruciferous vegetables, which are also higher in fiber and water content, making them generally more filling and less calorie dense.

Dietary cholesterol was originally thought to be a primary driver of heart disease, but this hypothesis has fallen out of favor, and appears to have little impact on blood lipids.

Saturated fats are so named because all of the carbon-carbon bonds in the aliphatic chain are single bonds to either another carbon or a hydrogen, making them relatively flat. These are solid at room temperature (butter, coconut and palm oil, bacon and duck fat, etc). Saturated fats are stable at high temperatures and unlikely to oxidize because of their lack of double bonds.

Note: hydrogenated or partially hydrogenated oils are solid at room temperature but are **not saturated fats** (margarine, Crisco, and most fats used in commercial/industrial/bakery products). These start as polyunsaturated fats and are subjected to high temperature and heat to selectively add back hydrogen atoms across double bonds, making them solid at room temperature, like butter. However, this process results in trans-fats which cannot be metabolized by humans. The US FDA requires trans fats to be listed on food labels, and has strict maximum amounts that can be added to foods.

The health effects of saturated fats - the role of whole foods and dietary patterns
https://pubmed.ncbi.nlm.nih.gov/32087567/

Bottom line: discussing the merits and pitfalls of individual nutrients (macro and micro) is good, but when we make dinner, we aren't measuring X grams of protein, Y grams of fat, and Z grams of carb. Instead, we are making *food* and so we should talk about nutrition in terms of food and not in terms of the biochemical components which make them up. The Dietary Guidelines for Americans for 2020-2025 state that the consideration of *dietary patterns* and *whole foods* is a more appropriate way to evaluate the health of foods.

Saturated Fat: Part of a Healthy Diet
https://pubmed.ncbi.nlm.nih.gov/30084105/

Bottom line: rates of saturated fat intake have dropped sharply over the past 40 years, yet the rates of obesity and metabolic disease continue to rise "paradoxically" to the current US dietary guidelines' postulation that they would have decreased with decreased saturated fat intake.

> "Numerous meta-analyses and systematic reviews of both the historical and current literature reveals that the diet-heart hypothesis was not, and still is not, supported by the evidence."

However, the newest iteration of the 2020-2025 Dietary Guidelines for Americas continues to support limiting saturated fat and emphasizes the use of inexpensive vegetable/seed oils.

Saturated Fats and Health: A Reassessment and Proposal for Food-Based Recommendations: JACC State-of-the-Art

Unsaturated fats contain double bonds between carbon atoms in the aliphatic chain, have fewer hydrogen bonds, and have a more “kinked” appearance, making them typically liquid at room temperature. There are two types of unsaturated fatty acids: monounsaturated (MUFA) (one double bond: olive oil, avocado oil) and polyunsaturated (PUFA) (vegetable/seed oils).

Polyunsaturated fats in the modern western diet are mostly produced from canola, cottonseed, corn, soybean, sunflower, safflower, and grapeseed… seeds! They are now ubiquitous in all restaurant, fast food, and packaged/processed foods, not to mention commonly used for household cooking and baking.

Omega 3 and omega 6 fatty acids are special kinds of PUFA’s which cannot be synthesized by the body and must be acquired in the diet. Wild caught salmon, free range eggs, many raw nuts and seeds, and grass fed butter are all excellent sources of these essential fatty acids.

See below for one American physician’s compilation of studies summarizing this topic.
https://drcate.com/pufa-project/#-2 (oer)3 (odn)-1 2-4 (u)-8u[S, s)-1 (o)-10 (yu2 (g)12 4 (ki)-e)6 (r)5 (o)2 (s)1 (is)]TJ0 Tc

Diets higher in animal and plant protein are associated with lower adiposity and do not appear to impair kidney function in US adults.