Goodman Institute
Turning Ideas Into Policy

Extensive research supports the claims that seed oil PUFAs disrupt cellular biochemistry. We can expect to hear far more from Robert F. Kennedy Jr. and other seed oil skeptics over the coming four years.

RFK Jr. May Be Right About Something

In the ongoing debate over public health and a healthy diet, cooking oils have taken center stage. Robert F. Kennedy, Jr. shared a Thanksgiving video, where he carefully lowers a turkey to be fried in beef tallow. This was said to demonstrate how to cook a turkey the Make America Healthy Again (MAHA) way.

It's not a new idea. McDonald's for decades cooked its french fries in beef tallow until, under pressure, it switched to frying with vegetable or seed oils instead. A lot of customers think the older version tasted better. Along with RFK Jr, critics of the conventional wisdom insist these seed oils are unhealthy and should be avoided. But they are now everywhere in restaurants and packaged foods.

The *New York Times* and the *Atlantic* responded to RFK Jr.'s anti-seed oil campaign with beef tallow takedowns defending "healthy" and long recommended polyunsaturated fatty acids (PUFA) in the form of seed or *vegetable oils*. (Supporters have long called them vegetable oils, although critics noted they are actually *seed oils* or *industrial seed oils*, since they are made from processing seeds).

Along with RFK Jr., critics of the conventional wisdom insist seed oils are unhealthy and should be avoided.

"Are Seed Oils Actually Bad for You?: Robert F. Kennedy Jr. and others claim they're harming our health, but the evidence suggests otherwise," headlined the *New York Times*.

"America Stopped Cooking With Tallow for a Reason: Robert F. Kennedy Jr.'s view on fats is about bucking convention, not promoting health," wrote the *Atlantic*.

Clearly Kennedy is addressing a problem. Americans are much heavier than they used to be. There is a long list of culprits. Expanding waistlines and increased type 2 diabetes have been blamed on less-active lifestyles, eating out more (and served larger portions), increased carbohydrates (following the low-fat 1980s federal dietary guidelines—as pictured in the Food Pyramid), increased "ultra" processed food, decreasing nutrient density of the food we eat, and such other suspects as pollution, overuse of antibiotics, pesticides, etc.

Where do cooking oils fit in here?

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The Conventional View

Seed and vegetable oil advocates argue that polyunsaturated fatty acids are a healthy alternative to saturated fats like lard, beef tallow, butter, ghee, and other traditional cooking oils.

For example, according to the American Heart Association:

> Replacing "bad" fats (saturated and trans) with "good" fats (monounsaturated and polyunsaturated) is smart for your heart.
>
> An easy way to do this is to choose nontropical vegetable oils to cook and prepare food. These types of oils are healthier choices than solid fats, which include butter, shortening, lard and stick margarine, and tropical oils, which include palm and coconut oil. Both solid fats and tropical oils have more saturated fat than nontropical liquid fats.
>
> When shopping for healthy oils, choose those with less than 4 grams of saturated fat per tablespoon, and no partially hydrogenated oils or trans fats.
>
> Here are some common cooking oils that contain more of the "better-for-you" fats and less saturated fat:
>
> - Canola
> - Corn
> - Olive
> - Peanut
> - Safflower
> - Soybean
> - Sunflower
> - Vegetable

Yet what sort of evidence supports this point of view?

Writing in the *Journal of the History of Medicine and Allied Sciences*, Ann La Berge notes:

> After 1980, the low-fat approach became an overarching ideology, promoted by physicians, the federal government, the food industry, and the popular health media. Many Americans subscribed to the ideology of low fat, even though there was no clear evidence that it prevented heart disease or promoted weight loss.

Promoting low fat meant promoting margarine over butter. So, margarine from corn, cottonseed, safflower, soy, and sunflower or other seed oils became a staple for many or most families. Nonfat and low-fat milk were recommended, whole milk and cream discouraged. All or most of the coffee creamers (cream substitutes) are water, sugar, and seed (vegetable) oils.

Low-fat packaged foods were encouraged by public health officials as a way for consumers to quickly find alternatives to traditional higher-fat foods. All these were made with seed oils as part of the production process for inexpensive low-fat, shelf-stable packaged foods.

The diet-heart hypothesis (the claim that red meat and saturated fat cause clogged arteries) led the public health establishment to promote reducing fat in foods. As a result, beef, pork, and chicken have been bred to have less saturated fat, and are fed soy and corn so they have more PUFAs (polyunsaturated fatty acids). Rich-in-fat traditional sweets and desserts were replaced by lower-fat, higher-sugar desserts (usually with PUFAs).

Cholesterol is part of the story, too, since higher levels were long considered markers of poor cardiovascular health. Consuming more saturated fat, according to a Mayo Clinic post "tends to raise levels of cholesterol in the blood. Low-density lipoprotein cholesterol (LDL-C) is called 'bad' cholesterol."

Yet these claims about the harms caused by cholesterol lack long-term research support. Early studies were unable to distinguish between types

of cholesterol, or measure other biochemical markers associated with higher cardiovascular risk. Recent research shows "the lowest risk for long- term mortality exists in the wide LDL-C range of 100–189 mg/dL which is much higher than current recommendations.... [Thus] LDL- C appears to be of limited to no predictive value."

Is the Conventional View Making Us Fatter?

In the 1960s, Ancel Keys was the principal scientist arguing that saturated fats were causing a surge of heart attacks. Nutrition researchers like John Yudkin, author of Pure, White, and Deadly, argued instead that added sugar was the culprit. Others argued that heavy smoking was a cause of increased heart disease. (Confounding the debate was the finding that the sugar industry was paying Harvard researchers to blame saturated fat.)

Writing in the *New York Times*, John Tierney reported on the extent of Ancel Keys' influence:

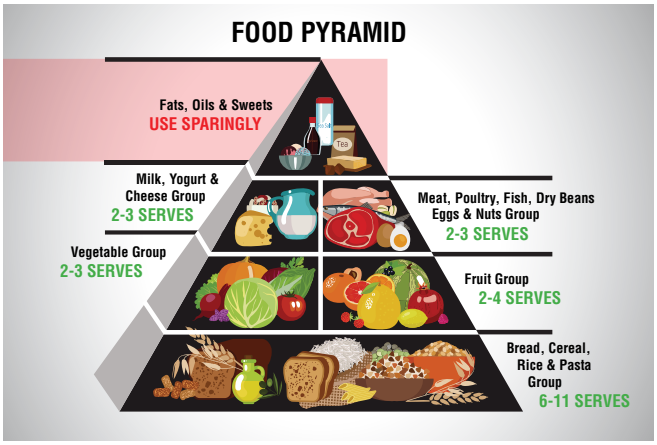
> The evidence that dietary fat correlates with heart disease "does not stand up to critical examination," the American Heart Association concluded in 1957. But three years later the association changed position—not because of new data, Mr. Taubes writes, but because Dr. Keys and an ally were on the committee issuing the new report. It asserted that "the best scientific evidence of the time" warranted a lower-fat diet for people at high risk of heart disease.

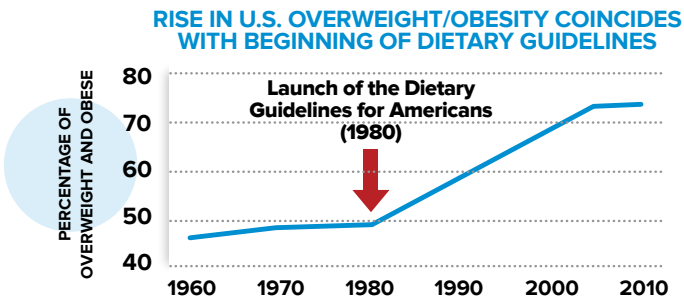
The diet-heart hypothesis won out, following a well-publicized Senate hearing led by Senator George McGovern. It led to the Federal Dietary Guidelines calling for less saturated fat and more carbohydrates in the American diet. The Commission urged Americans to reduce saturated fat in their diet to 10% of calories and daily cholesterol to 300 milligrams. The report called for people to "decrease consumption of meat and increase consumption of poultry and fish."

The Nutrition Coalition provides an overview of the guidelines noting that they still influence the diet of one in four Americans.

Science writer Nina Teicholz digs into the details in her influential book The Big Fat Surprise. She makes the case that the government's promoting of carbohydrates and demonizing meat and saturated fat are the major causes of obesity, diabetes, and cardiovascular disease in the US. and around the world.

As I pointed out in an earlier Brief Analysis, the dietary guidelines were encapsulated in the infamous Food Pyramid, whose public appearance coincided with the beginning of the rise in obesity rates in this country.





From "US Dietary Guidelines for Americans - 101." Nutrition Coalition, https://www.nutritioncoalition.us/dietary-guidelines-for-americans-dga-introduction

The Case against Seed Oils

Advocates of seed oils rather than animal fats cite studies that fail to find health problems from seed oils, and instead find that seed oil consumers live longer.

In contrast, seed-oil skeptics say these studies are weak due to "healthy user bias": people who follow media and public health advice (believing PUFA oils are healthy) are likely to have healthier lifestyles, including getting more exercise and avoiding fast and processed foods

The seed oil skeptics also claim the molecular biochemistry of seed oils causes inflammation and disrupts mitochondria function. Professor Martin Grootveld, professor of bio-analytical chemistry explains:

> Sunflower and corn oil are fine as long as you don't subject them to heat, such as frying or cooking. It's a simple chemical fact that something which is thought to be healthy for us is converted into something that is very unhealthy at standard frying temperatures.

Doctor and nutrition researcher Catherine Shanahan echoes this point of view, noting that Professor Grootveld is the author of 200 journal articles.

Brigham Young cell biology and physiology researcher Ben Bikman argues that insulin resistance is the main driver of chronic disease, and that seed oils magnify the damage. He writes:

> Firstly, I believe that linoleic acid (the primary fat in seed oils) is pathogenic and contributes to chronic disease in a variety of ways, mostly via the formation of highly reactive lipid peroxides. This is supported by substantial evidence.... This makes seed oils highly relevant to heart disease, liver damage, cancers, and more. This means that some chronic diseases are impacted directly by seed oils (via their peroxide metabolites) and insulin resistance.

Cooking oils can be saturated, monounsaturated, or polyunsaturated. Current public health authorities warn against saturated fats and recommend polyunsaturated fats (seed oils) as healthy. But according to the National Cancer Institute, seed-oil-created oxygen radicals are:

> A type of unstable molecule that contains oxygen and that easily reacts with other molecules in a cell. A buildup of oxygen radicals in cells may cause damage to DNA, RNA, and proteins, and may cause cell death. An oxygen radical is a free radical. Also called reactive oxygen species.

There has also been a significant increase in adipose-tissue linoleic acid in U.S. adults in the last half century. That increase may stem from seed oils. Stephan J. Guyenet and Susan E. Carlson report that:

> Linoleic acid (LA) is a bioactive fatty acid with diverse effects on human physiology and pathophysiology. LA is a major dietary fatty acid, and also one of the most abundant fatty acids in adipose tissue, where its concentration reflects dietary intake. Over the last half century in the United States, dietary LA intake has greatly increased as dietary fat sources have shifted toward polyunsaturated seed oils such as soybean oil. ... Our results indicate that adipose tissue LA has increased by 136% over the last half century...

Beyond the concern over increased linoleic acid from seed oils in the American diet contributing to cardiovascular disease and mitochondrial dysfunction are new studies on cancer.

An article in *Precision Medicine* reports "two studies have recently come out further raising the alarm about certain oils and cancer—one in prostate cancer and the other in colon."

William J. Aronson, lead author of the prostate study writes, "We believe that the beneficial mix is a high omega-3, low omega-6 fatty acid diet with fish oil capsules." Apparently, this intake resulted in a significant reduction in Ki-67 index, a biomarker for prostate cancer progression, metastasis, and death.

An article in *Missouri Medicine* concludes:

> Over the last 100 years, the intake of the omega-6 fat linoleic acid in the United States has more than doubled. This is primarily due to the increased consumption of omega-6 rich seed oils, such as soybean, corn, and safflower oil, the latter two having an omega-6/3 ratio of approximately 60:1 and 77:1, respectively. Additionally, since the 1950s, there has been an approximate 2.5-fold increase in linoleic acid stored in adipose tissue in the United States. The increase in the omega-6/3 ratio has paralleled the rise in numerous autoimmune, inflammatory, and allergic diseases. Omega-3s are utilized by the body to resolve and lower inflammation, whereas omega-6 polyunsaturated fatty acids are primarily used for increasing inflammation.

Further research on seed oil consumption and the rise of chronic disease should be supported (and reported).

The other study:

> ...examines how processed foods are likely hindering the body's natural healing processes. This study emphasizes the urgent need to reevaluate the components of the Western diet, which typically consists of excessive consumption of added sugars, saturated fats, ultra-processed foods, chemicals and inflammatory seed oils.

Further research on seed oil consumption and the rise of chronic disease should be supported (and reported). At the least, medical and public health advice to reduce meat and saturated fat in the diet, and instead cook with seed oils, should be supported with robust evidence, or discontinued.

Extensive research supports the claims that seed oil PUFAs disrupt cellular biochemistry, especially mitochondrial function. Once used for industrial lubrication, seed oils were rebranded as less-expensive cooking oils. Later, after the federal dietary guidelines were enacted, seed oils were advocated as healthy and became a key ingredient in highly processed foods. Their use allowed the food industry to reduce saturated fats, which, again, public health officials said caused cardiovascular disease.

Decades later public health advocates, nutritionists, and research scientists still disagree on which fats are healthy and which deadly. We can expect to hear far more from Robert F. Kennedy Jr. and other seed oil skeptics over the coming four years.

Articles For and Against Vegetable/Seed Oils

For vegetable/seed oils:

Sarah Ballantyne, "Myth: Vegetable Oils Are Bad for You," Nutrivore.com, n.d.

T.H. Chan School of Public Health, Harvard University, "Scientists Debunk Claims of Seed Oil Health Risks, "June 22, 2024.

Sara Youngblood Gregory, "The Pros and Cons of Seed Oils, and How to Incorporate Them in Your Diet," Mayo Clinic, July 9, 2024.

David Landsel, "The Negative Seed Oil Hype Is All Wrong, Experts Say—the Problem Is American 'Overconsumption'," New York Post, Nov. 16, 2024.

Yasmin Tayag, "America Stopped Cooking With Tallow for a Reason: Robert F. Kennedy Jr.'s View on Fats Is about Bucking Convention, Not Promoting Health," Atlantic, Dec. 2, 2024.

Laura Williamson, "There's No Reason to Avoid Seed Oils and Plenty of Reasons to Eat Them," American Heart Association, August 20, 2024.

Against vegetable/seed oils:

Cleveland Clinic, "Seed Oils: Are They Actually Toxic?" October 4, 2023.

James J. DiNicolantonio and James H. O'Keefe, "Omega-6 Vegetable Oils as a Driver of Coronary Heart Disease: The Oxidized Linoleic Acid Hypothesis," Open Heart, September 25, 2018.

Nick Norwitz, "Seed Oils: Sinister or Overhyped?," Nicholas's Substack, December 11, 2024.

Nutrition Coalition, "The Scientific Evidence on Saturated Fats," September 20, 2024.

Catherine Shanahan, "French Fries are the Least Healthy Fast Food, But Not Tallow Fries, DrCate.com, July 31, 2022.

Catherine Shanahan, "Seed Oil Toxicity: Trend or Truth?," DrCate.com, May 25, 2024.

Nina Teicholz, "How Seed Oils Took Over Our Diet and What It Means for Our Health," Washington Examiner, December 12, 2024.

Sheramy Tsai, "RFK Jr.'s Food Fight: Can He Change America's Diet?," Epoch Health, December 10, 2024.

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