

Good fats vs bad fats: an insight on the utilization of fats

Abstract

Most people used to say all around fat, fat, fat! If we just eliminated fat from our diets, would all of these weight loss complications be solved? Unluckily, it's not that so easy to resolve this emerging issue. In reality, we need fats as we can claim that healthy life is not possible without them. Fats are major source of energy. Just past few years, fat was a four-letter word as whenever possible we urged to banish fats from our diets. Our current shifting towards low fat food didn't makes us healthier, possibly because we cut back on healthy fat as well as harmful ones.

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Short communication

Fat panic! It isn't a flaw it's a feature. Let us decide what's good for you. Mostly we all revolve around the term fat, fat, and fat! It isn't the first time we all are hearing it. But what actually is it? If we just eliminate fat from our diets, would all of these weight loss complications be solved? Unluckily, it's not that so easy to resolve this emerging issue. In reality, we need fats as we can claim that healthy life is not possible without them by Kathlene.

Fats, major source of energy. Just past few years, fat was a four-letter word as whenever possible we urged to banish fats from our diets. Our current shifting towards low fat food didn't makes us healthier, possibly because we cut back on healthy fat as well as harmful ones. Fats, source of essential fatty acids, keeps our skin soft, provide fat-soluble vitamins, also important source of energizing fuel. It's easy to get confused about good fats vs. bad fats, fat consumption level, problems about higher fat consumption, artery-clogging Trans fats problem, and the role omega-3 fatty acids in heart health.¹

Dietary fat plays significant role in obesity. Fat is calorie-dense, at 9 calories per gram, protein has only 4 calories per gram, and alcohol has 7 calories per gram. Fats lurk in so many foods of normal diet that's why it's easy to overeat fats as cakes, cookies, chocolate, and cheese.² There must be focus on eating "good" fats and avoiding "bad" fats, rather than adopting a low-fat diet. Fats are important part of healthy diet. Newer research shows that healthy fats are necessary and beneficial for health, in comparison to past dietary advice promoting low-fat diets. Fats, building block of cell membranes, the essential covering of each cell, and nerve's surrounding sheaths. It is vital for blood clotting, muscle movement, and infection.³ Some fats are better than others, for long-term health. Good fats contain monounsaturated and polyunsaturated fats. Bad fats contain industrial-made fats. Saturated fats remain somewhere in the mid.¹

Fats have a similar chemical arrangement except the length and shape of the carbon chain along with number of hydrogen atoms linked to the carbon atoms. These slight differences in structure transform into critical differences in form and function.³ Saturated and trans fats increases the cholesterol levels, clog arteries, and increase the risk for heart disease so their consumption should be banned sparingly.

Bad trans fats

A byproduct of hydrogenation then used to transform healthy oils into solids to avoid rancidity. They have no health benefits with zero safe level of consumption. That's why, they have been officially banned in US. Consumption of trans fats increases the harmful LDL cholesterol level in the bloodstream along with reduction in the important HDL cholesterol level.⁴ Trans fats increases insulin resistance, leading to the development of type 2 diabetes.⁵ Even small amounts of trans fats can harm health: Trans-fat consumption of 2% daily, increases the risk of heart disease by 23%.⁶

In-between saturated fats

They are solid at room temperature, obtained from red meat, milk dairy foods, and baked goods. A diet rich in saturated fats can drive up total cholesterol, and tip the balance toward more harmful LDL cholesterol, which prompts blockages to form in arteries in the heart and elsewhere in the body. For that reason, most nutrition experts recommend limiting saturated fat to under 10% of calories a day. Diet having higher level of saturated fats, leads to elevate the level of total cholesterol, and shift the slope of cholesterol level to harmful LDL cholesterol, which stimulate the blockages in arteries in the heart.⁷ That's why, safe consumption level of saturated fat below 10% of calories a day.⁶ Replacement of saturated fat with polyunsaturated fat might indeed lessen the risk of heart disease while its replacement with highly processed carbohydrates might leads to opposite.

Good monounsaturated and polyunsaturated fats

Vegetables, nuts, seeds, and fish are main source of good fats. The main difference from saturated fats, having hydrogen atoms bonded to their carbon chains. They are liquid at room temperature. We can classify them into two broad categories of essential fats: monounsaturated and polyunsaturated fats.

Monounsaturated fats

Mainly found in olive oil, nuts and sesame seeds. During the 1960s, study of Seven Countries revealed that monounsaturated fat could be healthful. The rate of heart diseases was found to be low in people of Greece and other parts of the Mediterranean region despite a high-fat diet.⁸ They didn't prefer saturated animal fat that is main

factor of heart diseases.⁹ It was olive oil, which contains mainly monounsaturated fat. In olive oil and the “Mediterranean diet,” a surge of interest was found as a style of eating considered as a healthy choice (Figure 1).

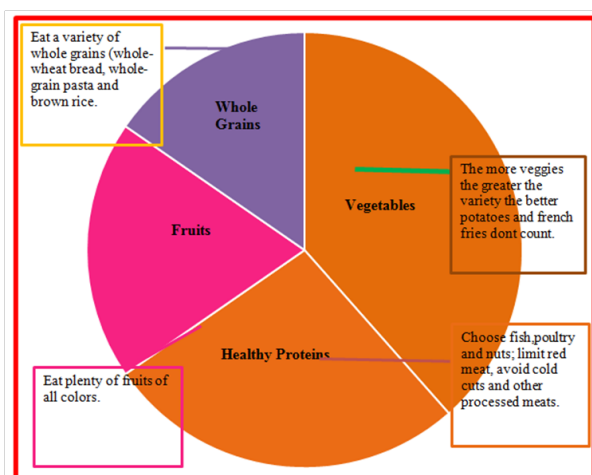


Figure 1 Healthy Eating Plate.

Polyunsaturated fats

Mainly found in sunflower, corn, soybean and fish. Canola oil though not only higher in monosaturated fats as well as main source of polyunsaturated fats. Main type of polyunsaturated fats, omega-3 as body is unable to synthesize it so it must obtained from food.

- A person who consume fish 2-3 times a week will never face deficiency of omega-3 fats. A study by HSPH concluded that the risk of premature death in adults was found to lower having higher blood omega-3 fats. Most people don't eat enough healthful unsaturated fats. The American Heart Association recommended that 8-10 percent of daily calories should come from polyunsaturated fats, and it is also revealed that consumption of up to 15 percent of daily polyunsaturated fat could lower the risk of heart diseases in place of saturated fat.¹
- In an analysis of 60 trials Dutch researchers checked the combined effects of carbohydrates with different fats on blood lipid levels. It was concluded that these fats reduced levels of harmful LDL and enhance protective HDL level in place of carbohydrates consumption.⁹
- Omni Heart trial results suggested that replacement of a carbohydrate-rich diet with unsaturated fat, mainly monounsaturated fats leads to reduction in blood pressure, increases lipid levels, and cardiovascular risk.
- Dietary fat and cholesterol: Fats also plays key role in your cholesterol levels. Cholesterol basically fatty, wax-like constituent is mandatory for proper body functioning. Cholesterol isn't bad, in and of itself. It can cause diverse negative impact on your health when you get too much of it. Fats may be good plus bad types of cholesterol, as with dietary fat.
- HDL cholesterol the “good” kind of cholesterol found in your blood.⁷
- LDL cholesterol the “bad” kind.⁷
- The key is to keep LDL levels low and HDL high, which may protect against heart disease and stroke.¹⁰

- Conversely, high levels of LDL cholesterol can clog arteries with low HDL can be a marker for increased cardiovascular risk.¹
- The biggest impact on your cholesterol levels is the kind of fats you ingest, rather than the extent of cholesterol you eat.⁷ So instead of counting cholesterol, it's essential to focus on replacement of bad fats with good fats.¹⁰
- Insulin resistance could be achieved by consuming corn, sunflower, safflower, and soybean oil rich in omega-6 fat.
- Light processed oils, such as cold-pressed extra virgin olive oil, comprises mainly valuable phytochemicals.
- Further heart benefits could be achieved by using olive oil, opt for “extra virgin,” over regular olive oil.¹¹⁻¹⁷

Conclusions

Fat is a confusing concept for the public, with both evolving science over time and areas of remaining uncertainty in the scientific literature. The resulting communication challenges are amplified by the complexities of evidence related to isolated nutrients vs. types of foods vs. overall dietary patterns. While each of these types of concepts can inform evidence-based nutrition science, and resulting dietary recommendations, they should not be considered in isolation without considering the overall types and quality of evidence. Indeed, reviewing the entirety of evidence allows the drawing of more valid conclusions regarding the health effects of certain classes of foods relative to other dietary choices.

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Conflicts of interest

The author declares that there is no conflict of interest.

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References

- US Department of Agriculture. U.S.D.o.H.a.H.S., Washington, D.C.: U.S. Government Printing Office. Dietary Guidelines for Americans: 2010, 2010.
- Lichtenstein AH, Appel LJ, Brands M, et al. Diet and lifestyle recommendations revision 2006: a scientific statement from the American Heart Association Nutrition Committee. *Circulation*. 2006;114(1):82-96.
- Chowdhury R, Warnakula S, Kunutsor S, et al. Association of dietary, circulating, and supplement fatty acids with coronary risk: a systematic review and meta-analysis. *Ann Intern Med*. 2014;160(6):398-406.
- Food and Drug Administration. Final determination regarding partially hydrogenated oils. Health and Human Services Federal Register; 2015.
- Mozaffarian D, Benjamin EJ, Go AS, et al. Heart disease and stroke statistics--2015 update: a report from the American Heart Association. *Circulation*. 2015;131(4):e29-322.
- Risérus U, Willett WC, Hu FB. Dietary fats and prevention of type 2 diabetes. *Prog Lipid Res*. 2009;48(1):44-51.
- Siri-Tarino PW, Sun Q, Hu FB, et al. Meta-analysis of prospective cohort studies evaluating the association of saturated fat with cardiovascular disease. *Am J Clin Nutr*. 2010;91(3):535-546.

8. Micha R, Mozaffarian D. Saturated fat and cardiometabolic risk factors, coronary heart disease, stroke, and diabetes: a fresh look at the evidence. *Lipids*. 2010;45(10):893–905.
9. Mensink RP, Zock PL, Kester AD, et al. Effects of dietary fatty acids and carbohydrates on the ratio of serum total to HDL cholesterol and on serum lipids and apolipoproteins: a meta-analysis of 60 controlled trials. *Am J Clin Nutr*. 2003;77(5):1146–1155.
10. Mozaffarian D. Diverging global trends in heart disease and type 2 diabetes: the role of carbohydrates and saturated fats. *Lancet Diabetes Endocrinol*. 2015;3(8):586–588.
11. 2015 Food and Health Survey: consumer attitudes towards food safety, nutrition and health. International Food Information Council Foundation, conducted by Greenwald & Associates of Washington, D.C; 2015.
12. Appel LJ, Sacks FM, Carey VJ, et al. Effects of protein, monounsaturated fat, and carbohydrate intake on blood pressure and serum lipids: results of the OmniHeart randomized trial. *JAMA*. 2005;294(19):2455–2464.
13. Australian Health Survey: Nutrition First Results - Food and Nutrients, 2011–2012. Australian Bureau of Statistics, Canberra; 2014.
14. European Commission. Report from the Commission to the European Parliament and the Council; 2015.
15. Heart and Stroke Foundation of Canada Position Statement: Saturated Fat, Heart Disease, and Stroke; 2015.
16. Mansson HL. Fatty acids in bovine milk fat. *Food Nutr Res*. 2008;1:52–52.
17. Mitchell L. US and EU Consumption Comparison. Published by Economic Research Service, USDA, Washington D.C. (WRS-04-04).