

Higher consumption of unsaturated fats linked with lower mortality

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Credit: Lynn Greyling/public domain

Consuming higher amounts of unsaturated fats was associated with lower mortality, according to a study from Harvard T.H. Chan School of Public Health. In a large study population followed for more than three decades, researchers found that higher consumption of saturated and trans fats was linked with higher mortality compared with the same



number of calories from carbohydrates. Most importantly, replacing saturated fats with unsaturated fats conferred substantial health benefits. This study provides further support for the 2015-2020 Dietary Guidelines for Americans that emphasize the types of fat rather than total amount of fat in the diet.

The study is the most detailed and powerful examination to date on how dietary fats impact health. It suggests that replacing saturated fats like butter, lard, and fat in red meat with unsaturated fats from plant-based foods—like olive oil, canola oil, and soybean oil—can confer substantial health benefits and should continue to be a key message in dietary recommendations.

The study will be published online July 5, 2016 in *JAMA Internal Medicine*.

"There has been widespread confusion in the biomedical community and the general public in the last couple of years about the health effects of specific types of fat in the diet," said Dong Wang, a doctoral candidate, SD '16, in the Departments of Nutrition and Epidemiology at Harvard Chan School and lead author of the study. "This study documents important benefits of unsaturated fats, especially when they replace saturated and trans fats."

The study included 126,233 participants from two large long-term studies—the Nurses' Health Study and the Health Professionals Follow-Up Study—who answered survey questions every 2-4 years about their diet, lifestyle, and health for up to 32 years. During the follow-up, 33,304 deaths were documented. Researchers from Harvard Chan School and Brigham and Women's Hospital examined the relationship between types of fats in the participants' diets and overall deaths among the group during the study period, as well as deaths due to cardiovascular disease (CVD), cancer, neurodegenerative disease, and respiratory



disease.

Different types of dietary fat had different associations with mortality, the researchers found. Trans fats—on their way to being largely phased out of food—had the most significant adverse impact on health. Every 2% higher intake of trans fat was associated with a 16% higher chance of premature death during the study period. Higher consumption of saturated fats was also linked with greater mortality risk. When compared with the same number of calories from carbohydrate, every 5% increase in saturated fat intake was associated with an 8% higher risk of overall mortality.

Conversely, intake of high amounts of unsaturated fats—both polyunsaturated and monounsaturated—was associated with between 11% and 19% lower overall mortality compared with the same number of calories from carbohydrates. Among the polyunsaturated fats, both omega-6, found in most plant oils, and omega-3 fatty acids, found in fish and soy and canola oils, were associated with lower risk of premature death.

The health effects of specific types of fats depended on what people were replacing them with, the researchers found. For example, people who replaced saturated fats with unsaturated fats—especially polyunsaturated fats—had significantly lower risk of death overall during the study period, as well as lower risk of death from CVD, cancer, neurodegenerative disease, and respiratory disease, compared with those who maintained high intakes of saturated fats. The findings for cardiovascular disease are consistent with many earlier studies showing reduced total and LDL ("bad") cholesterol when unsaturated fats replace trans or saturated fats.

People who replaced saturated fats with carbohydrates had only slightly lower mortality risk. In addition, replacing total fat with carbohydrates



was associated with modestly higher mortality. This was not surprising, the authors said, because carbohydrates in the American diet tend to be primarily refined starch and sugar, which have a similar influence on mortality risk as saturated fats.

"Our study shows the importance of eliminating trans fat and replacing saturated fat with unsaturated fats, including both omega-6 and omega-3 polyunsaturated fatty acids. In practice, this can be achieved by replacing animal fats with a variety of liquid vegetable oils," said senior author Frank Hu, professor of nutrition and epidemiology at Harvard Chan School and professor of medicine at Harvard Medical School.

More information: "Specific Dietary Fats in Relation to Total and Cause-Specific Mortality," Dong D. Wang, Yanping Li, Stephanie E. Chiuve, Meir J. Stampfer, JoAnn E. Manson, Eric B. Rimm, Walter C. Willett, and Frank B. Hu, *JAMA Internal Medicine*, online July 5, 2016, DOI: 10.1001/jamainternmed.2016.2417

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