

Replacing saturated fat with polyunsaturated fat linked with lower risk of heart disease

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People who swap 5% of the calories they consume from saturated fat sources such as red meat and butter with foods containing linoleic acid—the main polyunsaturated fat found in vegetable oil, nuts, and seeds—lowered their risk of coronary heart disease (CHD) events by 9% and their risk of death from CHD by 13%, according to a new study led by Harvard School of Public Health (HSPH) researchers. Substitution of 5% of calories from carbohydrate with linoleic acid was associated with similar reductions in risk of heart disease.

"There has been much confusion and sensational headlines about the role of different types of fat in CHD," said Frank Hu, senior author and professor of nutrition and epidemiology at Harvard School of Public Health. "Randomized clinical trials have shown that replacing saturated fat with polyunsaturated fat reduces total and LDL cholesterol. And our comprehensive meta-analysis provides clear evidence to support the benefits of consuming [polyunsaturated fat](#) as a replacement for saturated fat."

The study appears in the October 28, 2014 print issue of *Circulation*.

The researchers performed a systematic review and meta-analysis of prospective cohort studies to summarize the evidence regarding the link between dietary linoleic acid intake and CHD risk in generally healthy people. They identified 13 published and unpublished cohort studies with a total of 310,602 individuals and 12,479 total CHD events including 5,882 CHD deaths.

Results showed that dietary linoleic acid intake is inversely associated with CHD risk in a dose-response manner—meaning, higher intake of linoleic acid resulted in a lower risk of CHD. Comparing the highest to the lowest level of consumption, dietary linoleic acid was associated with a 15% lower risk of CHD events and a 21% lower risk of CHD deaths. These results were independent of common coronary [heart disease](#) risk factors such as smoking and other dietary factors such as fiber consumption.

In practice, say the authors, these findings support replacing butter, lard, and fat from red meat with liquid plant oils in cooking and at the table. Although not addressed in this analysis, trans fat from partially hydrogenated vegetable oils should be avoided, they add.

More information: "Dietary Linoleic Acid and Risk of Coronary Heart Disease: A Systematic Review and Meta-Analysis of Prospective Cohort Studies," Maryam S. Farvid, An Pan, Qi Sun, Stephanie E. Chiuve, Lyn M. Steffen, Walter C. Willett, Frank B. Hu, *Circulation*, October 28, 2014, DOI: 10.1161.

Provided by Harvard School of Public Health

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