

# Eating more plant protein and dairy instead of red meat may improve heart health

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Eating more protein from plant sources or dairy while reducing red meat consumption could help people live longer, according to two preliminary studies presented at the American Heart Association's Epidemiology and Prevention | Lifestyle and Cardiometabolic Health Scientific Sessions 2020.

## **Higher percentage of calories from plant protein in the diet is tied to lower risk of death (Abstract P510)**

In a study of more than 37,000 Americans with an average age of 50, those who ate the most plant [protein](#) were 27% less likely to die of any cause and 29% less likely to die of [coronary heart disease](#), compared to people who ate the least amount of plant protein.

Keeping the number of calories the participants ate consistent, the researchers were able to estimate the amount of plant protein compared to animal protein people in the study ate and compare it to the risk of dying. They found that:

- Replacing 5% of daily calories from total animal protein with the equivalent number of calories of plant protein was linked to a nearly 50% decrease in the risk of dying of any cause including coronary heart disease; and
- Replacing 2% of daily calories from processed meat protein with an equivalent number of calories from plant protein was associated with a 32% lower risk of death.

The researchers noted, "It isn't enough just to avoid [red meat](#)—it's also

about what you choose to eat in place of red meat. Healthy plant proteins like nuts, legumes and whole grains contain more than just protein—they include other beneficial nutrients such as healthy fats, antioxidant vitamins, minerals and phytochemicals (compounds derived from [plants](#) ), which have been associated with lower risk of chronic diseases such as diabetes, [cardiovascular disease](#) and some cancers," said lead study author Zhilei Shan, M.D., Ph.D., postdoctoral research fellow in the department of nutrition at Harvard T.H. Chan School of Public Health in Boston.

The dietary data for the study was derived from eight National Health and Nutrition Examination Survey cycles from 1999-2014, and cause of death was identified through the National Death Index.

Strengths of the study include its nationally representative sample and gathering of health data over an extended period of time. However, the dietary information was assessed only when participants started the study, so the findings did not account for diet changes people made later.

Co-authors are Danielle E. Haslam, Ph.D.; Colin D. Rehm, Ph.D.; Mingyang Song, M.D, Sc.D.; Frank B. Hu, M.D, Ph.D.; Fang Fang Zhang, M.D, Ph.D.; and Shilpa N. Bhupathiraju, Ph.D. Author disclosures are in the abstract. The study was supported by the National Institutes of Health.

## **Diet substitutions for red meat linked to lower heart disease risk (Abstract P512)**

Substituting one serving per day of red or processed red meat with foods, such as nuts, legumes, whole grains or dairy, was associated with up to a 47% lower risk of having coronary heart disease in men.

In addition, replacing one daily serving of any type of red meat with an equivalent amount of nuts—without increasing the number of calories a person ate—was linked to a 17% lower risk of dying of a heart attack. And, replacing one serving of red meat with whole grains resulted in a 48% lower risk of dying of heart attack in men.

"On average, Americans eat approximately 3.5 servings of red meat each week, and about one-third have red meat daily. Our findings suggest that even partial replacement of red meat with healthy, plant-based sources of protein could substantially reduce rates of coronary heart disease in the United States," said lead study author Laila Al-Shaar, Ph.D., a postdoctoral research fellow in the Harvard T.H. Chan School of Public Health's Cardiovascular Epidemiology Program.

Beginning in 1986, and for up to 26 years, 43,259 participants in Harvard's Health Professionals Follow-up Study, who are all male, completed a questionnaire about their diet every four years through 2010. The study accounted for multiple medical and dietary risk factors.

The study's strengths included its long follow-up period, substantial number of coronary [heart](#) disease cases that helped strengthen the findings, and detailed data on diet and other risk factors. Study limitations include the observational nature of the study, the study population of mostly white male health professionals—making it unclear if the findings would apply to a more diverse population, and the fact that the research noted people's food consumption and health outcomes, rather than actively testing different nutritional options.

The American Heart Association recommends dietary patterns that emphasize fruits, vegetables, whole grains, low-fat dairy products, poultry, fish and nuts—and limits processed red meat and sugary drinks. Many dietary patterns could work within this broad framework. Eating more [plant protein](#) -in place of red meat, especially processed red [meat](#),

appears to be a good strategy for a healthier diet and better health," said Eduardo Sanchez, M.D., M.P.H., FAAFP, the chief medical officer for prevention at the American Heart Association.

Provided by American Heart Association

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