

# Eating almonds and dark chocolate lowers bad cholesterol

November 29 2017

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Credit: American Heart Association

Eating nearly one-third a cup of almonds a day—either alone or combined with almost one-quarter cup of dark chocolate and 2 1/3 tablespoons of cocoa a day—may reduce a risk factor for coronary heart disease, according to a new study.

The study, published Wednesday in the *Journal of the American Heart Association*, found that combining raw [almonds](#), [dark chocolate](#) and cocoa significantly reduced the number of low-density lipoprotein, or

LDL, particles in the blood of overweight and obese people. LDL is often called "bad cholesterol" because of the role it plays in clogging arteries. The study received funding from the Hershey Company and the Almond Board of California

As was the case in past studies, the key lies in how much you eat, said the study's lead author Penny Kris-Etherton, Ph.D., a Penn State University distinguished professor of nutrition.

"It's important to put this into context: The message is not that people should go out and eat a lot of [chocolate](#) and almonds to lower their LDL," she said. "People are allowed to have about 270 discretionary calories a day, and when foods like almonds, dark chocolate and cocoa are consumed together as a discretionary [food](#), they confer health benefits unlike other discretionary foods such as frosted donuts."

Past studies have shown health benefits from eating moderate amounts of almonds, dark chocolate and unsweetened cocoa. The new study sought to see whether combining those three foods had a positive effect on the heart health of overweight and obese individuals.

Researchers studied 31 participants ages 30 to 70. For one month, participants didn't eat any of the foods in the study. In the next one-month period, participants ate 42.5 grams of almonds a day; in the third period, they ate 43 grams of dark chocolate combined with 18 grams of cocoa powder; in a fourth period, they ate all three foods.

The study showed almonds eaten alone lowered LDL cholesterol by 7 percent compared with the period when participants didn't eat any of the study foods. Combining almonds with dark chocolate and cocoa also reduced small, dense LDL particles that are a risk factor for cardiovascular disease, Kris-Etherton said.

Alice H. Lichtenstein, D.Sc., Gershoff professor at Tufts University and director of the school's Cardiovascular Nutrition Laboratory, said it's important to note that participants ate the almonds in place of dairy fat as part of a healthy diet.

"This was a very well controlled study that demonstrated replacing saturated fat coming from dairy fat (butter and cheese) with unsaturated fat coming from nuts (almonds) had a positive effect on plasma lipid concentrations," said Lichtenstein, who wasn't involved in the study.

Kris-Etherton agreed that when it comes to fats, almonds are a much better choice than butter and cheese.

"That's clearly an important message here," she said. "Almonds can be part of a healthy diet."

Eating dark chocolate and cocoa alone didn't appear to have a major effect on heart health, she said. "Chocolate doesn't increase cholesterol levels, but it doesn't decrease cholesterol levels either."

Still, cocoa—a major ingredient in chocolate—may prove to be the next frontier in health research, according to Kris-Etherton. A 2014 study published in *The American Journal of Clinical Nutrition* showed eating cocoa flavanols was associated with reduced age-related cognitive dysfunction. Researchers at Brigham and Women's Hospital in Boston are [currently studying](#) 18,000 American men and women to see if daily supplements of [cocoa flavanols](#) reduce the risk of heart disease, stroke and cancer.

"Cocoa is a plant food with a lot of bioactive components," Kris-Etherton said. "There might be benefits we don't even know about ... and it's delicious even without sugar. I would love to see healthy ways to eat [cocoa](#) becoming mainstream."

**More information:** D. Mastroiacovo et al. Cocoa flavanol consumption improves cognitive function, blood pressure control, and metabolic profile in elderly subjects: the Cocoa, Cognition, and Aging (CoCoA) Study—a randomized controlled trial, *American Journal of Clinical Nutrition* (2014). [DOI: 10.3945/ajcn.114.092189](https://doi.org/10.3945/ajcn.114.092189)

Provided by American Heart Association

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