

Improving Cholesterol Levels: Is a Low-Fat Diet High in Plant-Based Foods Better than a Typical Low-Fat Diet?

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The full report is titled “The Effect of a Plant-Based Diet on Plasma Lipids in Hypercholesterolemic Adults. A Randomized Trial.” It is in the 3 May 2005 issue of *Annals of Internal Medicine* (volume 142, pages 725-733). The authors are C.D. Gardner, A. Coulston, L. Chatterjee, A. Rigby, G. Spiller, and J.W. Farquhar.

What is the problem and what is known about it so far?

Nutritional guidelines in the United States recommend that 25% to 35% of daily calorie intake come from fat, with no more than 10% of daily calorie intake from saturated fat and 300 mg or less of dietary cholesterol per day. People can achieve recommended fat and cholesterol intake while eating high or low amounts of vegetables, fruits, legumes (beans), and whole grains. A diet high in these types of plant-based foods has many health benefits. However, it is uncertain whether this type of low-fat diet results in better cholesterol levels than a typical low-fat diet, which does not contain high amounts of these plant-based foods.

Why did the researchers do this particular study?

To find out whether improvements in cholesterol levels were greater if people ate a low-fat diet high in vegetables, fruits, legumes, and whole grains than if they ate a low-fat diet that did not contain high amounts of these plant-based foods.

Who was studied?

120 adults who were 30 to 65 years of age and had low-density lipoprotein (LDL) cholesterol (“bad” cholesterol) levels of 130 to 190 mg/dL. To qualify for the study, people also had to not be obese, get at least 10% of their daily calories from saturated fat, and be in general good health.

How was the study done?

The researchers randomly assigned study patients to 1 of 2 diets that had identical amounts of total fat, saturated fat, carbohydrate, and cholesterol. However, the first low-fat diet included a number of reduced-fat prepared foods, such as low-fat cheeses, low-fat frozen lasagna, and high-sugar snack foods. The second diet included high amounts of vegetables, fruits, legumes, whole grains, and fruits. Before and after 4 weeks of the study diets, researchers measured levels of total cholesterol, LDL cholesterol (“bad” cholesterol), high-density lipoprotein (HDL) cholesterol (“good” cholesterol), and triglycerides. (Triglycerides are another type of fat in the blood that has been linked to heart disease.)

What did the researchers find?

The 59 adults who ate more vegetables, fruits, legumes, and whole grains had greater improvements in total and LDL cholesterol levels than the 61 who ate less of these foods. Levels of HDL cholesterol and triglycerides were similar in both groups.

What were the limitations of the study?

The study lasted only 4 weeks.

What are the implications of the study?

At least over the short term, greater improvements in LDL and total cholesterol are an additional benefit of diets high in vegetables, fruits, legumes, and whole grains.

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