

Walnut-Supplemented Diet May Help Reduce Cardiovascular Disease Risk

By: *Sci-News*

Eating 30-60 grams (15% of energy) of walnuts every day for two years lowered levels of low-density lipoprotein (LDL, or ‘bad’) cholesterol and reduced the number of total LDL particles in elderly individuals.



“Frequent consumption of nuts, an important component of plant-based diets, is associated with 15% lower total cardiovascular disease (CVD) and 23% lower CVD mortality rates,” said Dr. Emilio Ros, director of the Lipid Clinic at the Endocrinology and Nutrition Service of the Hospital Clínic of Barcelona, and colleagues.

“Small, short-term randomized controlled trials indicate that diets supplemented with nuts have a consistent cholesterol-lowering effect.”

“However, no trials of nut-enriched diets for lipid changes focused on elderly individuals, recruited participants from diverse geographical locations, or lasted two years.”

“Also, there is little information concerning the effects of nuts on lipoprotein subclasses.”

“We hypothesized that incorporating walnuts into the usual diet would improve the lipid profile irrespective of differences in geographical and dietary background.”

The study involved 708 healthy elders (63-79 years of age) participating in the Walnuts and Healthy Aging (WAHA) project, a two-center (Barcelona, Spain and California, USA), two-year,

parallelgroup randomized controlled trial testing the effects of walnut-supplemented diets in healthy elderly individuals.

The researchers evaluated if regular walnut consumption, regardless of a person's diet or where they live, has beneficial effects on lipoproteins.

The participants were randomly divided into two groups: active intervention and control. Those allocated to the intervention group added about a half cup of walnuts to their usual daily diet, while participants in the control group abstained from eating any walnuts.

After two years, participants' cholesterol levels were tested, and the concentration and size of lipoproteins were analyzed by nuclear magnetic resonance spectroscopy.

This advanced test enables physicians to more accurately identify lipoprotein features known to relate to the risk of CVD.

At two years, participants in the walnut group had lower LDL cholesterol levels — by an average of 4.3 mg/dL, and total cholesterol was lowered by an average of 8.5 mg/dL.

Daily consumption of walnuts reduced the number of total LDL particles by 4.3% and small LDL particles by 6.1%. These changes are associated with a lower risk of cardiovascular disease.

Intermediate density lipoprotein (IDL) cholesterol also decreased.

LDL cholesterol changes among the walnut group differed by sex; in men, LDL cholesterol fell by 7.9% and in women by 2.6%.

“While this is not a tremendous decrease in LDL cholesterol, it's important to note that at the start of the study all our participants were quite healthy, free of major non-communicable diseases,” Dr. Ros said.

“However, as expected in an elderly population, close to 50% of participants were being treated for both high blood pressure and hypercholesterolemia.”

“Thanks in part to statin treatment in 32%, the average cholesterol levels of all the people in our study were normal.”

The study was published in the journal *Circulation*.

Sujatha Rajaram *et al.* 2021. Effects of Walnut Consumption for 2 Years on Lipoprotein Subclasses Among Healthy Elders: Findings From the WAHA Randomized Controlled Trial. *Circulation* 144; doi: 10.1161/CIRCULATIONAHA.121.054051