

Soy protein lowers 'bad' cholesterol in adults with type 2 diabetes

What is this research about?

Adults with type 2 diabetes are more likely to develop cardiovascular disease (CVD), and having high blood cholesterol levels further increases the risk.

Certain foods can help to lower cholesterol, and soy is one of those foods. Soy contains protein and compounds called 'isoflavones', both of which are thought to contribute to the beneficial effects. However, it is not clear if eating soy can lower cholesterol in adults with type 2 diabetes. This study looked at changes in cholesterol levels after type 2 diabetics consumed either soy protein, which contains isoflavones, or milk protein, which does not contain any isoflavones.

What you need to know:

Soy protein reduced the levels of certain types of cholesterol in adults with type 2 diabetes and therefore may reduce the risk of developing CVD. In this study, soy protein reduced LDL cholesterol and the ratio of apolipoprotein B:apolipoprotein A-I when compared to milk protein.

How can you use this research?

Health professionals can use this research to communicate the benefits of eating soy protein to adults with diet-controlled type 2 diabetes.

Researchers can use this research to further investigate if the cholesterol lowering effect of soy depends on how it is digested in type 2 diabetics.

What did the researchers do?

Alison Duncan, an Associate Professor in the Department of Human Health and Nutritional Sciences, and her team, recruited adults with type 2 diabetes who did not take any diabetic medications or medications that lower cholesterol. The participants were assigned to one of two groups. The first group consumed Soy Protein Isolate (SPI), a powdered form of soy protein, for 57 days and after a 28 day break, consumed Milk Protein Isolate (MPI) for another 57 days. The second group started with MPI and switched to SPI. Blood samples were taken before and after each 57 day treatment to meas-

ure any changes in cholesterol levels. Urine samples were also taken at the end of each treatment to measure the amount of soy isoflavones that were digested.

What did the researchers find?

During the study, there were no differences in weight or body mass index (BMI) among the 29 participants. Calorie and nutrient intake were the same during each treatment, however, saturated fatty acid intake was lower while participants consumed SPI.

Isoflavone content was higher in the urine of participants during the SPI treatment, proving that participants were consuming the soy protein. After consuming SPI, certain types of cholesterol were lower. LDL cholesterol, or 'bad' cholesterol, and the ratio of apolipoprotein B (a protein associated with LDL-cholesterol) to apolipoprotein A-I (a protein associated with HDL-cholesterol) were reduced.

Therefore, this study supports that consuming SPI can lower certain types of cholesterol and reduce the risk of developing CVD in type 2 diabetics. Interestingly, some people digest soy differently, and the cholesterol lowering effect of soy in type 2 diabetics might be related to how soy is digested.

Keywords:

Type 2 diabetes, isoflavones, cholesterol, soy protein, LDL cholesterol.

About the Researchers:

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