Medical Xpress

Consuming rapeseed oil enriched with omega-3 reduces the risk of cardiovascular disease

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A canola plant. Credit: UGRdivulga

A team of scientists from the University of Granada, along with their collaborators, has shown that consuming canola oil (an improved form of rapeseed, with less than 2 percent erucic acid) enriched with omega-3 reduces the risk of cardiovascular disease.

Researchers have once again confirmed that omega-3 is a potent regulator of cholesterol metabolism. This time, scientists analyzed the plasma from 84 volunteer patients, who presented at least one symptom of metabolic syndrome, after eating different types of oils with varying fatty acid composition.

They found that omega-3 fatty acid reduces the PCSK9 concentration in plasma. PCSK9 is a protein associated with high levels of LDL cholesterol in blood and with other cardiovascular diseases. The consumption of high oleic, omega-3 enriched canola oil not only significantly reduced the concentration of triglycerides, but also resulted in a significant reduction (10 percent) of the PCSK9 protein concentration in plasma, compared to the other dietary treatments.

The protein's mechanism of action is based on the destruction of LDL cholesterol receptors, preventing the uptake of LDL by the cells and increasing their plasma concentrations, resulting in an increased risk of atherosclerosis and other related diseases.

These results, from the Canola Oil Multicentre Trial Intervention (COMIT), represent the first line of scientific evidence on changes in the PCSK9 protein plasma concentration after ingestion of different types of fat from the diet.

"In conclusion, we can state that although the mechanism of action for the consumption of different fatty acids on plasma concentrations of PCSK9 is being investigated, we should not forget the importance of dietary fat in the prevention of the risk of cardiovascular diseases," says

Celia Rodríguez, UGR and CIDAF researcher, and lead author of the study.

More information: Shuaihua Pu et al, Dietary high oleic canola oil supplemented with docosahexaenoic acid attenuates plasma proprotein convertase subtilisin kexin type 9 (PCSK9) levels in participants with cardiovascular disease risk: A randomized control trial, *Vascular Pharmacology* (2016). DOI: 10.1016/j.vph.2016.06.007

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