Canola-type rapeseed oil reduces the level of fibrinogen, a cause of thrombosis and inflammation

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According to research on fatty acids conducted at the universities of Helsinki and Tampere, the consumption of canola-type rapeseed oil decreases the level of fibrinogen detrimental to health in the body. The increased fibrinogen level, caused by an imbalance in essential fats in one's diet, decreases when saturated fatty acids are replaced with rapeseed oil. The research results were published in the journal *Prostaglandins, Leukotrienes and Essential Fatty Acids*.

A complex state of balance, the haemostatic balance, prevails in the bloodstream. One player in this balancing act is fibrinogen, the single most important blood coagulation factor. A high level of fibrinogen promotes the creation of thrombosis and maintains inflammation within the body. An increase in the fibrinogen level is closely linked with, for example, cardiovascular disease, strokes, diabetes, Alzheimer's disease and dementia.

The new research demonstrates for the first time that an increase in the fibrinogen level of the blood is largely caused by the lack of omega-3-alpha-linolenic acid in the diet. When there is too little of this beneficial fatty acid found in one's diet, an imbalance between fatty acids in the body is created. When the omega-3-alpha-linolenic acid level is too low, the body starts to manufacture more harmful omega-6-arachidonic acid out of the omega-6-linoleic acid, creating hormone-like compounds that cause thrombosis and inflammation.

According to the researchers, the fat composition of rapeseed oil is optimal with regard to fatty acids essential to the body and consequently is well-suited to reduce the fibrinogen levels in the blood.

Levels of fibrinogen and cholesterol reduced

In all 42 research subjects, many of whom with high levels of fibrinogen and cholesterol, participated in the research. The study subjects replaced one-fourth of the food fat (margarine, cheese, butter) they used to rapeseed oil. The oil used was canola-quality spring turnip rape oil. They took about a tablespoon of oil a day, for example, mixed with a salad. The rapeseed oil dose doubled the intake of omega-3-alpha-linolenic acid during the experiment period of six weeks. Due to the regime, all higher-than-average fibrinogen levels decreased by approximately 30 per cent.

The research shows that controlling fibrinogen and cholesterol by changing the fat consumed is a point of departure in the prevention of diseases as well as from the perspective of successful individual medical treatment. According to Into Laakso, Ph.D. from the Faculty of Pharmacy at the University of Helsinki, harmful effects of fats in, for example, elderly people could be easily rectified by switching one-fourth of fats to rapeseed oil. Laakso also recommends that, in addition to cholesterol, healthcare centres should measure patients' fibrinogen levels.

Provided by University of Helsinki