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Dietary fats and cardiovascular health

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Current dietary recommendations in several European countries focus on a more plant-based diet. Fats and oils have an important role in our diet. In a healthy diet between 20 to 40 energy percent is coming from fats and oils. The diet should provide sufficient amounts of the essential fatty acids linoleic acid (C18:2 n-6) and alpha-linolenic acid (C18:3 n-3). Essential fatty acids are always in the cis-configuration. Linoleic acid is an omega-6 unsaturated fatty acid and alpha-linolenic acid is an omega-3 unsaturated fatty acid. In the diet both are mainly coming from plant oils. In theory alpha-linolenic acid can be converted in the human body into the longer chain fatty acids eicosapentaenoic acid (C20:5 n-3) and docosahexaenoic acid (C22:6 n-3). However, in practice humans are not very good in converting alpha-linolenic acid into the longer chain fatty acids. As we do need sufficient amounts of the very long-chain omega-3 fatty acids and we do not convert the essential fatty acid alpha-linolenic acid very well we could also consider these very long-chain fatty acids as essential. The main sources of very long chain omega-3 fatty acids in our diet are fish and fish products.

Besides essential fatty acids have different fatty acids different health effects and there is ongoing debate about the role of saturated fatty acids. A lot of the confusion is coming from the fact that it is not always made clear what is replaced by what while this is crucial for the health effect. Scientific evidence shows that cis-unsaturated fatty acids have beneficial effects on blood cholesterol levels of individuals compared to saturated fatty acids. However, saturated fats have neutral or even beneficial effects when compared with simple sugars. Higher intakes of cis-unsaturated fatty acids are also associated to lower incidence of cardiovascular disease and premature mortality than saturated fatty acids. Thus, (partial) replacement of saturated fatty acids by cis-unsaturated fatty acids leads to beneficial health effects.

Rapeseed oil is a plant oil that mainly consists of mono- and poly unsaturated fatty acids. Prof. Brouwer will provide an overview of health effect of several fatty acids and explain the controversies. She will also discuss the place of rapeseed oil in the diet and compare rapeseed with other dietary fats and oils.

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