Potential health benefits from the consumption of berry seed oils

Fats together with carbohydrates and proteins are the main nutrients of our diet. In public opinion, a diet rich in fats is not associated with healthy life style, which is a result of their high caloric value and, in the case of saturated fats, also their proven role in the development of cardiovascular disease. It is worth emphasising, however, that apart from saturated fats present in relatively high quantities in animal foodstuffs, there are also unsaturated fats found among others in vegetable oils, the effects of which can be beneficial for us. Among many others, linoleic acid and ?-linolenic acid are the most important unsaturated fatty acids, because they are essential for the body. However, their daily intake is often insufficient, whereas the ?-linolenic acid content in vegetable oils is scanty, which often leads to its deficiency. In contrast, an open question is how an organism can respond to a high dietary content of some specific unsaturated fatty acids. Relatively unknown examples of oils that are rich in essential fatty acids are berry seed oils, such as blackcurrant, strawberry and raspberry seed oil, which were the subject of the studies.

The aim of the studies was to reveal nutritive and health-promoting properties of the aforementioned oils. A key element of the studies was to answer the question whether berry seed oils added to a diet alleviate disturbances related to obesity and cardiovascular disease. Due to unconventional sources of the oils, possible side effects and safety of their consumption were also taken into account. Strawberry and raspberry seed oil, apart from high linoleic acid contents (47-51% of total fatty acids), also contained significant amounts of ?-linolenic acid (29% of total fatty acids), whereas blackcurrant seed oil was rich in linoleic acid (45% of total fatty acids), but also contained ?- and ?-linolenic acids (13% and 16% of total fatty acids, respectively). ?-linolenic acid is extremely rare in foods, but is present in small quantities in female milk, hence is important in infant nutrition.

As a result of experiments performed on laboratory rats it was established that berry seed oils can be valuable sources of essential fatty acids in the diet and can be potentially used in the management of some disorders related to obesity and cardiovascular disease. A potent triglyceride-lowering effect of blackcurrant, strawberry and raspberry seed oil is especially worth emphasising, because it was as efficient as that of some lipid-lowering drugs available on the market. The tested berry seed oils also ameliorated the inflammatory state in the organism and the liver fat content, which are common disorders present in obese subjects. Single doses of the oils did not cause any side effects, however, their prolonged consumption, especially together with an unbalanced died, induced some unfavourable changes in the organism. The consumption of black currant seed oil led to an increased risk of liver injury, whereas in the case of strawberry and raspberry seed oil, some disturbances in the metabolism of intestinal bacteria were noted.

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