Phytosterols as functional food ingredients: linkages to cardiovascular disease and cancer.

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Abstract

PURPOSE OF REVIEW:

To examine experimental evidence that has examined association of phytosterols and the reduction of the risk of cardiovascular disease and cancer.

RECENT FINDINGS:

Phytosterols exist as naturally occurring plant sterols that are present in the nonsaponifiable fraction of plant oils. Phytosterols are plant components that have a chemical structure similar to cholesterol except for the addition of an extra methyl or ethyl group; however, phytosterol absorption in humans is considerably less than that of cholesterol. In fact, phytosterols reduce cholesterol absorption, although the exact mechanism is not known, and thus reduce circulating levels of cholesterol. The efficacy of phytosterols as cholesterol-lowering agents have been shown when incorporated into fat spreads as well as other food matrices. In addition, phytosterols have been combined with other beneficial dietary components including fish and olive oils, psyllium and beta-glucan to enhance their effect on risk factors of cardiovascular disease. Phytosterols appear not only to play an important role in the regulation of cardiovascular disease but also to exhibit anticancer properties. A side effect associated with the consumption of phytosterols is that they reduce the blood levels of carotenoid. Nevertheless, it has been suggested that compensation for this impact on serum carotenoid levels can occur either by increasing the intake of carotenoid-rich foods or by taking supplements containing these carotenoids.

SUMMARY:

Dietary phytosterols appear to play an important role in the regulation of serum cholesterol and to exhibit anticancer properties.