Phytosterols and health: current status and future perspectives

Aims & Scope:

Phytosterols (plant sterols and stanols) are known LDL-cholesterol lowering agents. Consequently, food products containing these plant compounds are widely used as a therapeutic dietary option to reduce plasma cholesterol and cardiovascular risk. The cholesterol-lowering action of dietary phytosterols is thought to occur, at least in part, through competition with dietary and biliary cholesterol for intestinal absorption in mixed micelles. However, recent evidence suggests that phytosterols may regulate other atheroprotective pathways in the enterocytes. In contrast, high levels of circulating plant sterols may be an atherogenic risk factor. Evidence in support of this hypothesis stems mainly from observations in sitosterolemic subjects who hyperabsorb plant sterols and may suffer premature atherosclerosis. Furthermore, other biological actions, such as immunomodulation and antitumorigenic properties, have been ascribed to these plant sterol compounds. On the other hand, a number of studies have reported divergent effects of phytosterols on the central nervous system disorders. It is thus plausible that phytosterols may be beneficial in some diseases when used in moderation but injurious in other diseases, particularly at very high levels.

Keywords: Phytosterols, cholesterol, cardiovascular, intestine, sitosterolemma, immunomodulation, cancer, immunomodulation, central nervous system.

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