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Review Article

Vitamins, Minerals and Flavonoids Intake and the Risk of Cardiovascular Diseases

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Abstract:

Diseases of heart and stroke cause most deaths in both sexes of all ethnic groups. For more than 40 years epidemiological studies, experimental studies, and clinical trials have shown that numerous dietary risk factors affect serum lipids, atherogenesis and coronary heart disease (CHD). Substantial interest has recently focused on the hypothesis that the naturally occurring antioxidant vitamins such as vitamin E, vitamin C, and β -carotene may prevent myocardial infarction, progression of coronary heart disease. Substantial laboratory, animal, and human data suggest that oxidation of low-density lipoprotein (LDL) cholesterol is an important step in the pathogenesis of atherosclerotic lesions. Oxidation of LDL cholesterol is important in both the initiation and progression of plaque or increases the risk for plaque rupture. The major lipid-soluble antioxidant vitamins are vitamin E (-tocopherol) and β -carotene, a precursor of vitamin A. The major water-soluble antioxidant vitamin is vitamin C (ascorbic acid). Vitamin E is important in preventing oxidation of LDL cholesterol. β -Carotene prevents oxidation of LDL cholesterol. Vitamin C prevents oxidation of LDL cholesterol and preserves vitamin E and β -carotene levels during oxidative stress. It is increasingly recognized that folate and vitamin B6 may play a role in the prevention of cardiovascular disease. The primary mechanism proposed for their effect on coronary vascular disease (CVD) is a reduction in plasma homocysteine concentration by remethylation of homocysteine back to methionine. Minerals like magnesium, Potassium and calcium and also vitamin D have protective effect in blood pressure. Selenium is an important component of antioxidant defence and flavonoids which are derived from plants have been shown to inhibit platelet aggregation and adhesion, which may be another way they lower the risk of heart disease. In this article the role of micronutrients in prevention of cardiovascular diseases will be reviewed.

Keywords:

[Vitamins](#) . [Minerals](#) . [Flavonoids](#) . [Cardiovascular disease](#)

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