



Nutritional Interventions to Manage Hyperlipidemia



According to the American Heart Association (AHA), risk factors for CVD are divided into two distinct categories: modifiable and non-modifiable. Non

modifiable risk factors are those that cannot be controlled, including age, sex, and family history. Modifiable risk factors include smoking, obesity, poor diet, high blood pressure, hyperlipidemia, diabetes, and physical inactivity.

Blood lipids reference range

Triglyceride < 150 mg/dL is desirable. Total cholesterol < 200 mg/dL is preferable. In high-risk individuals, LDL levels < 100 mg/dL are recommended. These recommendations are relaxed to 130 mg/dL in moderate-risk individuals. Optimal HDL values are > 50 mg/dL. Since 1961, the AHA has recommended reduction in saturated fat to reduce the incidence of CVD. Scientific evidence is also clear that intake of trans-fats increases LDL cholesterol and triglyceride and reduces HDL cholesterol.

Lifestyle modifications, exercise, and weight reduction, are first line interventions for hyperlipidemia. Nutraceutical supplements

can also provide some benefit in the control of blood lipids.

Red yeast rice might be dangerous

There is some evidence that another popular cholesterol-lowering supplement, red yeast rice, can help lower your LDL cholesterol. However, the Food and Drug Administration has warned that red yeast rice products could contain a naturally occurring form of the prescription medication known as lovastatin. Lovastatin in red yeast rice products is potentially dangerous because the amount and quality of lovastatin in a particular product are not-determinable.

Medications might be necessary

Sometimes, despite making healthy lifestyle choices, taking supplements and using other cholesterol-lowering products, we still need help lowering our cholesterol levels. If our doctor prescribes medication to reduce our cholesterol, we should take it as directed while continuing to focus on a healthy lifestyle. Also, remember to supplement with Coenzyme Q10 which, as an important component of mitochondria, allows for the improved energy conversion, since cholesterol-lowering drugs inhibit one of the key steps in coenzyme Q10 synthesis. These drugs have been associated with a reduction in serum and muscle tissue coenzyme Q10 levels and may play a role in statin-induced myopathy.



Fish oil(OmegaRich): Fish oil supplements include a mixture of EPA and DHA, both with anti-inflammatory effects researched in relation to dyslipidemia. These supplements, shown to reduce high triglyceride level in, do not significantly affect patient cholesterol levels. The American Heart Association recommends daily supplementation with 2 to 4g of EPA/DHA for patients with elevated triglyceride levels.



Garlic extract-Allicin(Garlic guard): Research interest in garlic primarily due to its impact on lipid levels results from one of the organosulfur compounds, allicin. Allicin can lower total and LDL cholesterol by inhibiting the enzymes responsible for cholesterol synthesis. Allicin appears to reduce total and/or LDL cholesterol by 10 to 15%. Garlic is also believed to reduce oxidative stress and LDL oxidation to produce its anti-thrombotic effects.



Dietary fibers(Green Barley): Studies found intakes of 9 to 16.5 g/day of a variety of soluble fiber produced net reductions in serum total LDL cholesterol levels from 6-12%. Soluble fibers bind with bile acids in the small intestine, resulting in and reducing the rate of bile acid recycling. The loss of bile acids in the stool stimulates the liver to increase cholesterol uptake from the circulation to replenish the bile acid supply. As a result, concentrations of serum total and LDL cholesterol are reduced, while HDL cholesterol and triglycerides are generally unaffected. Fiber may also indirectly inhibit the hepatic synthesis of cholesterol. Certain soluble fibers belonging to a class of compounds called oligosaccharides are fermented into short-chain fatty acids (SCFAs). When SCFAs enter the circulatory system, they may inhibit the liver from producing cholesterol and consequently have direct hypocholesteremic effects.



Polyphenols(Fiberry): Polyphenols are family of substances of vegetable origin whose main feature is the presence of multiple phenolic groups with an antioxidant effect. Polyphenols extracted from red grape have been shown to reduce circulating levels of LDL. The green tea catechins as well as those present in different amounts, in all tea varieties, have a recognized cholesterol-lowering activity, attributed to the up-regulation of the hepatic LDL-C receptor.