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According to a new review, vegetarian and vegan diets may require additional omega-3 and vitamin B12 supplementation to reduce factors that increase heart disease risk.

VEGAN DIETS SHORT ON OMEGA-3 AND VITAMIN B12 MAY INCREASE CARDIOVASCULAR RISK

A new review in the *Journal of Agricultural and Food Chemistry* indicates that many vegetarians, especially vegans, may unknowingly be at risk for certain cardiovascular health problems due to inadequate intakes of omega-3 fatty acids and vitamin B12.

The review stated that although meat eaters are known to have a significantly higher combination of cardiovascular risk factors than vegetarians, people following strict vegetarian and vegan diets are not invulnerable to risk. These diets tend to lack several key nutrients, including iron, zinc, vitamin B12, and omega-3 fatty acids.

Meat eaters are known to have a significantly higher incidence of certain cardiovascular risk factors compared with vegetarians, including increased BMI and waist-to-hip ratio, and higher blood pressure, plasma total cholesterol, and triglycerides. However, after reviewing 30 years of studies on vegetarianism, vegetarians and vegans typically have lower concentrations of serum vitamin B12 and omega-3 polyunsaturated fatty acid levels in tissue membrane phospholipids when compared to meat eaters.

Risks associated with low vitamin B12 and omega-3 status include an increase in blood clotting (platelet aggregation) due to increased levels of homocysteine, and decreased levels of 'good' HDL-cholesterol. Low HDL cholesterol and high homocysteine levels may be linked to an increase in cardiovascular and stroke risk.

The authors suggest that vegetarians, especially vegans, could benefit from increased dietary intake of omega-3 fatty acids to improve the balance and ratio of omega-3s to omega-6s. They can also benefit from increased vitamin B12 intake, including use of supplements containing vitamin B12 if necessary. Increasing dietary or supplemental omega-3 and vitamin B12 may reduce clotting tendencies that increase vegetarian and vegans' otherwise low risk of cardiovascular disease.

Duo Li. Chemistry behind Vegetarianism. 2011. J Agric Food Chem 59(3):777-84.