

Kale Juice Improves Coronary Artery Disease Risk Factors in Hypercholesterolemic Men¹

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Objective To evaluate the effect of 3-month kale (*Brassica oleracea acephala*) juice supplementation on coronary artery disease risk factors among hypercholesterolemic men. **Methods** Thirty-two men with hypercholesterolemia (> 200 mg/dL) were recruited after annual health examinations among the faculty and staff at university. The subjects consumed 150 mL of kale juice per day for a 12-week intervention period. Dietary and anthropometric assessments were performed and blood samples were collected to evaluate biochemical profiles before and after supplementation. **Results** Serum concentrations of HDL-cholesterol, and HDL- to LDL-cholesterol ratio were significantly increased by 27% ($P<0.0001$) and 52% ($P<0.0001$), respectively. The LDL-cholesterol concentration and the atherogenic index were significantly reduced by 10% ($P=0.0007$) and 24.2% ($P<0.0001$), respectively without affecting body mass index, waist and hip circumferences, or nutrient intakes after three months of supplementation. While there was no difference in the concentration of malondialdehyde, significant increase in glutathione peroxidase activity ($P=0.0005$) were accompanied by a significant increase in the serum selenium level ($P=0.0132$). It was also found that the responses of these risk factors to kale juice administration were dependent on smoking status. **Conclusion** Regular meals supplementation with kale juice can favorably influence serum lipid profiles and antioxidant systems, and hence contribute to reduce the risks of coronary artery disease in male subjects with hyperlipidemia.

Key words: Kale juice; Hyperlipidemia; Coronary artery disease; Lipid profile; Antioxidant system

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