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Dietary fiber intake and the risk of coronary heart disease

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Deviating from cardio protective traditional diet is said to be a cause for the increased prevalence of coronary heart disease (CHD) morbidity and mortality in Sri Lankan population since dietary fiber has shown to be a protective factor in the prevention of CHD. The aim of this retrospective case-control study was to identify the effect of dietary fiber in relation to risk of CHD.

Fifty two newly diagnosed patients (30 males and 22 females) with electrocardiogram or cardiac enzyme test confirmed myocardial infarction or angiographically confirmed angina who were admitted to National Hospital of Sri Lanka during study period were selected as cases. They were pair matched to controls who were apparently healthy people living in Colombo and Kuliyapitiya areas. The matching criteria included gender, age, socio economic factors, smoking, alcohol intake, and family history. Cases and controls were interviewed to collect data on dietary intake, socio-demographic information and lifestyle characteristics. Dietary intake was assessed using a validated quantitative food - frequency questionnaire supported by a photometric technique. Consumptions of total fiber, soluble fiber and insoluble fiber were assessed using Food Base 2000 computer software modified with the inclusion of Sri Lankan food composition data. Total fiber intake was classified as <20 g, 20-30 g and >30 g and soluble and insoluble fiber intake were classified according to quartiles. Odds ratios (OR) were obtained using binary logistic regression.

There was no significant difference between the cases and controls in the distribution of unmatched characteristics, education level, physical activity level, body mass index, waist circumference, or age at menopause in females. Compared with the middle level of total fiber intake (20 to 30 g/day), OR for CHD risk in the upper and lower levels were 0.36 (95% CI, 0.14 to 0.92) and 2.18 (95% CI, 1.06 to 4.46) respectively and statistically significant. Suggesting higher intake of total fiber was protective. Risk of CHD was higher in the lowest quartile of soluble and insoluble fiber intake when compared with the highest quartile though not statistically significant. These results suggest that the high fiber intake exerts protective effect on the risk of CHD in Sri Lankan population. Deviating from fiber rich traditional diet may partly describe the increasing trend of CHD in Sri Lanka.

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