

ICCN Poster Presentations

Nutrition and cardiovascular disease

The effects of consumption of guava (*psidium guajava*) or papaya (*carica papaya*) on total antioxidant and lipid profile in normal male youth

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This pre and post study was conducted to determine the effects of consumption of guava or papaya (400 g/day) on total antioxidant status and lipid profile (total cholesterol, triglycerides, LDL-cholesterol and HDL-cholesterol) in normal male youth at 'Institut Kemahiran Belia Negara, Hulu Langat, Selangor, Malaysia'. This study was carried out for 9 weeks, which was divided into 3 phases, which were baseline phase (1 week), treatment phase (4 weeks) and control phase (4 weeks). During the treatment phase, respondents were asked to eat approximately 400 g/day guava or papaya. Meanwhile, in control phase, the same respondents were asked to stop taking guava or papaya. Blood samples were collected at the end of each phase for biochemical test. Total antioxidant status, glucose, lipid profile and antioxidant enzymes were determined using Cobas Mira autoanalyzer (Roche). Dietary intake in each phase was studied using 24-hours diet recall. There was a significant increase of total cholesterol, triglyceride and HDL-cholesterol in treatment phase compared to baseline phase and control phase ($p < 0.05$) in guava treatment. There was also a significant increase of total antioxidant status during treatment phase compared to baseline phase and control phase ($p < 0.05$) in guava treatment. There were some reductions of glutathione peroxidase and glutathione reductase but not significant in treatment phase compared to baseline phase and control phase in guava treatment. There was a significant change ($p < 0.01$) of plasma glucose level after four weeks of papaya consumption. There was significant increase ($p < 0.01$) of plasma total cholesterol and triglyceride level after four weeks of papaya consumption, but no significant increase ($p > 0.05$) in plasma HDL-cholesterol and LDL-cholesterol levels. After four weeks of papaya consumption, results showed significant increase ($p < 0.01$) in serum total antioxidant status and glutathione reductase level but showed no significant increase ($p > 0.05$) in blood glutathione peroxidase level. In conclusion, the consumptions of guava and papaya reduces oxidative stress and alter lipid profile. Thus, it could reduce the risk of disease caused by free radical activities and high cholesterol in blood.

Effects of diet modification on cardiovascular risk: results from the leipzig wholesome nutrition study

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In order to support a health-promoting nutritional behaviour according to wholesome nutrition or general dietary recommendations for Europeans a concept for a course-programme was developed. The present study focused on the question of whether there is a long-term effect of this intervention programme on cardiovascular risk profile and other parameters of health status. In a controlled randomized study with an intervention period of 1 year, 3 groups of women (age 35-70 years, $n = 56$) with moderately elevated cardiovascular risk were included. The groups were as follows: control group without intervention, wholesome nutrition/ low-meat diet according to Leitzmann and general dietary recommendations according to the European Atherosclerosis Society/German Society of Nutrition. Subjects with lipid-regulating treatment and diabetes mellitus were excluded. In the study the measurement of anthropometric parameters, blood pressure, blood lipids, inflammatory and other clinical-chemistry parameters, and the evaluation of lifestyle and dietary variables were included. The study demonstrates that diet modification in the intervention groups improved body mass index, waist-to-hip ratio and lipid profiles (total cholesterol:HDL-cholesterol). These changes were linked with an increased consumption of fibre and decreased intake of saturated fat as recorded in 7d dietary diaries. A favourable trend with respect to inflammatory parameters (high-sensitive C-reactive protein, vascular cell adhesion molecules i.e. circulating ICAM-1) and adiponectin was found. Thus, diet modification consistent with recommendations for prevention of atherosclerosis (wholesome diet) is associated with a favourable profile of lipid and inflammatory parameters.