THE COMPARATIVE EFFECTS OF PALMOLEIN OIL AND OLIVE OIL ON PLASMA LIPIDS IN HEALTHY YOUNG ADULTS

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A previous study by Ng et al. (1992) observed that dietary palm oil and olive oil had similar hypocholesterolaemic effects in young normocholesterolaemic Malaysian adults. Since Western diets differ from Asian diets in the amount of energy derived from fat, we decided to test this finding by running a similar trial in the context of an Australian diet.

Twenty one male and female volunteers (mean age 27 years), with normal plasma cholesterol values, were fed diets where either palmolein oil or olive oil was the main source of fat. The study was conducted as a five/four-week cross-over trial, with the introductory week of the first five-week-period serving as an adjustment period. Oils were allocated to each individual so that (on average) 57% of their usual fats was replaced with the test oils. Two blood samples were collected at the start, and three samples at the end of each experimental period. Plasma fatty acids and daily diet-record sheets were analysed to check compliance with the diets. Lipids and lipoproteins were measured using the standard methods. Data was analysed by repeated measures ANOVA, and Fisher PLSD.

Plasma total cholesterol, triglyceride, and high-density lipoprotein cholesterol were significantly reduced ($P<0.05$) on both the palmolein and olive oil diets compared with the usual diet. There was no significant difference between the palmolein and olive oil diets. The two experimental diets were low in dietary cholesterol. Under these conditions, the 40% palmitic acid in the palmolein diet did not increase plasma cholesterol. These findings under Australian conditions are consistent with those in the Malaysian study (Ng et al. 1992).

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