

The Implication for Cardiovascular Disease Risk from Vegetable Oils Consumed in South Asian Countries

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Knowledge about the effect of specific dietary fats on subclinical inflammation and cardiovascular disease (CVD) risk are derived from studies conducted on Western population. Little information is available from South Asian countries with regard to this subject. Replacement of partially hydrogenated vegetable oils which are commonly used in the preparation of vanaspati or vegetable ghee in their diets is required. We investigated the following vegetable oils: high oleic oil (O diet), partially hydrogenated oil (T diet) and an unhydrogenated oil (P diet) on indices of serum lipids, lipoproteins and inflammatory markers. This was a randomized, single blinded, crossover study which involved 41 (33 women, 8 men) healthy, normolipidemic subjects. O diet provided 18% E oleic acid, whereas T diet provided 15% E *trans* fatty acids and P diet consisted of 20% E palmitic acid. Each diet period lasted 5-wk with a 7-d wash out. Blood samples were collected before and after the intervention. T diet significantly increased serum high sensitivity C-reactive protein (hsCRP) levels compared to O diet (32%) and P diet (23%) ($P < 0.05$) and decreased interleukin-8 (IL-8) compared to P diet (12%) ($P < 0.05$). Both T and P diets increased total cholesterol: HDL cholesterol compared to O diet ($P < 0.05$), with P diet to a lesser extent compared to T diet ($P < 0.05$). No differences were observed for other markers. *Trans* fatty acids, may exert adverse effects on CVD risk beyond blood lipids by modulating inflammatory markers. Thus, the high oleic palm olein may serve as a suitable alternative for the South Asian population.