Cholesterol, coconuts, and diet on Polynesian atolls: a natural experiment: the Pukapuka and Tokelau island studies.

Prior IA, Davidson F, Salmon CF, Czochanska Z.

Two populations of Polynesians living on atolls near the equator provide an opportunity to investigate the relative effects of saturated fat and dietary cholesterol in determining serum cholesterol levels. The habitual diets of the toll dwellers from both Pukapuka and Tokelau are high in saturated fat but low in dietary cholesterol and sucrose. Coconut is the chief source of energy for both groups. Tokelauans obtain a much higher percentage of energy from coconut than the Pukapukans, 63% compared with 34%, so their intake of saturated fat is higher. The serum cholesterol levels are 35 to 40 mg higher in Tokelauans than in Pukapukans. These major differences in serum cholesterol levels are considered to be due to the higher saturated fat intake of the Tokelauans. Analysis of a variety of food samples, and human fat biopsies show a high lauric (12:0) and myristic (14:0) content. Vascular disease is uncommon in both populations and there is no evidence of the high saturated fat intake having a harmful effect in these populations.

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