

Association between diabetes mellitus and fasting serum lipid levels along with few selected factors in a rural community in the district of Kandy

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Diabetes mellitus (DM) is a syndrome of chronic hyperglycemia leading to late complications of macro vascular and micro vascular origin. There are 1.5 million deaths every year that can be directly attributed to diabetes. Insulin resistance and type 2 diabetes demonstrate a link with interrelated plasma lipid and lipoprotein abnormalities by increased hepatic secretion and impaired clearance. Therefore, this study was conducted to determine the association between diabetes mellitus and fasting serum lipid levels along with few selected risk factors.

This cross sectional study was carried out using data from an ongoing Non Communicable Diseases (NCD) prevention and control program conducted by the University of Peradeniya. A sample of 168 diagnosed diabetic patients (males=56, females=112) and 402 age and sex matched controls (males=143, females=259) were selected from the database. Cases were defined according to WHO guidelines for diabetes. In females 257 of normal subjects had a mean value of 143.3mg/dl (60.5) for triglyceride and 109 of diagnosed DM subjects had a mean value of 171.9mg/dl (77.1). $P = 0.001$. Also 259 of normal subjects had an average Body Mass Index (BMI) of 24.4kg/m² (4.7) and 112 of diagnosed DM subjects had an average BMI of 25.6 kg/m² (4.7). $P = 0.03$. The mean hip circumference for 259 of normal subjects was 93.4cm (10.2) and for 112 of diagnosed DM subjects was 96.0cm (11.1). $P = 0.031$.

The findings of this study clearly indicate that diabetes mellitus is significantly associated with increased values of serum triglycerides, BMI and hip circumference in females. However DM is not significantly associated with total cholesterol, HDL, LDL, total cholesterol to LDL ratio, high blood pressure, waist circumference or waist hip ratio in both males and females. Serum triglycerides, BMI, hip circumference, duration of smoking and duration of alcohol consumption are not significant in males.