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The Prevalence of Hyperlipidemia and Association of Dietary Habits with Lipid Profile Parameters in Final Year Undergraduates of University of Sri Jayewardenepura

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Background: Hyperlipidemia is becoming a burden to the adult population of the world especially, in middle income and low-income countries like Sri Lanka. Mainly undergraduates of all universities badly practice unhealthy dietary patterns and the risk for having hyperlipidemia can be increased with time.

Objective: To determine the association of dietary habits with lipid profile parameters of final year undergraduates of the University of Sri Jayewardenepura

Methods: A cross-sectional study was carried out among 71 final year undergraduates aged 24-27 years from the University of Sri Jayewardenepura. Socio-demographic characteristics and dietary data of all participants were collected, using a self-administered questionnaire. Total cholesterol, triglyceride and high-density lipoprotein (HDL) levels of all participants were analyzed by MISPA VIVA semi-automated analyzer after taking 3 mL of 12-hour fasting blood sample. Low-density lipoprotein (LDL) levels were calculated by the Friedwald equation. Dietary fat and cholesterol were calculated using Nutrisurvey software. Data analysis was done using the Pearson correlation. The cut-off levels published in the 3rd report of National Cholesterol Education Programme (NCEP) were used to interpret the lipid profile parameters.

Results: There were 47 of females and 24 of males in the study population. The prevalence of hyperlipidemia was 19.71%. The percentages of subjects with hypercholesterolemia, hypertriglyceridemia, low HDL level and high LDL level in the population were 5.63%, 2.81%, 61.97% and 19.71% respectively. There were statistically significant associations of dietary fat with total serum cholesterol ($r = 0.59$, $p = 0.001$), triglyceride ($r = 0.33$, $p = 0.005$), LDL ($r = 0.54$ $p = 0.001$), very low-density lipoprotein (VLDL) ($r = 0.33$, $p = 0.004$) and total cholesterol/HDL ($r = 0.32$, $p = 0.006$). There were statistically significant associations of dietary cholesterol with total serum cholesterol ($r = 0.73$ $p = 0.001$), triglyceride ($r = 0.30$, $p = 0.002$), LDL ($r = 0.68$, $p = 0.001$),VLDL ($r = 0.40$, $p = 0.001$) and total cholesterol/HDL ($r = 0.40$, $p = 0.001$).

Conclusions: A significant proportion of final year undergraduates had hyperlipidemia. The dietary habits of final year university students have a significant effect on lipid profile parameters.

Keywords: *Cholesterol, Hypercholesterolemia, Hyperlipidemia, Hypertriglyceridemia, Triglyceride*