

LIPID PROFILE, FASTING BLOOD SUGAR AND ANTHROPOMETRIC MEASUREMENTS OF DIABETIC PATIENTS

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Diabetes Mellitus (DM) is a metabolic disorder which affects millions of people worldwide. Uncontrolled DM causes micro and macro vascular changes resulting in many complications. Abnormal Lipid profile and obesity show a close relationship with progression of diabetes and controlling these two factors can minimize complications of diabetes. The aim of this study was to assess the association between Fasting Blood Sugar (FBS) and Lipid profile and body fat distribution (using anthropometric measurements) in diabetic patients.

This was observational cross sectional study based on 153 patients diagnosed with DM attending General Hospital, Kalutara. All patients who had done a lipid profile within the past three months were invited to participate. Patients attending the clinic for the first time were excluded. The study population included 112 females and 41 males with a mean age of 56 years. Anthropometric measurements such as height, weight, Waist Circumference (WC) and Hip Circumference (HC) were measured and Body Mass Index (BMI) and Waist to Hip Ratio were calculated. The FBS was assessed by the Glucose Oxidase method. A data extraction sheet was completed with data of the lipid profile (Low Density Lipoprotein Cholesterol (LDLC) levels were calculated by Freidewald' formula). The mean value of each variable was determined. The Pearson correlation test and Spearman correlation test was used to compare the association between variables. A *p*-value of less than 0.05 was considered as statistically significant.

The FBS showed a significant association with all lipid parameters and body circumferences. The mean FBS was 141 mg/dl which is above the value recommended by the World Health Organization (WHO), while the lipid parameters showed that 75% of the study population was at high risk of developing coronary heart disease due to high LDLC values. Mean anthropometric values of the study sample were above normal for BMI and WC but Waist to Hip Ratio was within normal levels according to the recommended values for Sri Lankans. However, when considering values recommended by the WHO, all the values were within the normal range in both sexes. Most diabetic patients (70%) have FBS levels above normal recommended values although they are on drug therapy.

The diabetic population under study does not maintain an optimum body composition as assessed by the BMI and WC which places them at risk of complications due to DM. They should be encouraged to maintain proper glycaemic control, lose body weight and decrease their abdominal obesity in order to minimize these complications.