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## The association between socio-demographic status and the prevalence of diabetes mellitus in a deprived peri-urban population of Ghana

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**Introduction:** There has been growing concern recently about the rising prevalence of diabetes mellitus (DM) a diet related, non-communicable (NCD) and metabolic disease globally. DM has been linked to increasing socioeconomic status (SES) which is invariably associated with changes in both food and eating habits. This relationship is inconsistent among different populations.

**Materials & Methods:** The purpose of this work was to investigate the relationship between socio-demographic status and prevalence of DM in a deprived peri-urban community in Ghana. It was a cross-sectional study of 171 randomly selected adult males and females aged 18-45 years from 90 peri-urban households. It was part of larger study (Lysine Project) that looked at the effect of lysine supplementation on indicators of stress and nutritional status in a peri-urban population in Ghana. Demographic and socioeconomic information were gathered from the household head and fasting blood sugar was also determined. Differences and associations in the various indicators measured were tested for statistical significance using ANOVA, correlation, cross-tabulation and t-test. Logistic regression was used to determine the point estimate (odds ratio) and interval estimate (95% confidence interval) that measures the risk factors (age, sex and BMI). P value $\leq$ 0.05 was considered statistically significant.

**Results:** The mean age among subjects was 32.8 $\pm$ 7.4 years. The average prevalence of diabetes among subjects was 8.2% (6.8% for men and 9.6% for women). In general, the study observed a significant association between fasting blood glucose level and BMI (p=0.047, r=0.152). The results further revealed that there is a positive significant association between age and fasting blood sugar level among respondents (P=0.006, r=0.209). Persons from higher income household were at a higher risk (OR=3.9, CI=1.1-14.0) of becoming diabetic as compared to those from lower income households upon adjusting for household size and marital status.

**Conclusion:** Persons from high income households have an increased risk of becoming overweight and getting diabetes as compared to those from low income households.

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## Effect of diabetes mellitus type 2 on lipid profile and age duration

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Diabetes mellitus is group of metabolic disorder caused by increase in blood glucose level and defects in insulin resistance, insulin action. Certain ethnic and racial group of Asia and Africa has greater risk of diabetes. Insulin deficiency causes higher metabolism of free fatty acid and can cause disorder in lipid metabolism. As compared to non diabetic control group type 2 diabetes mellitus have high triglycerides and low HDL-c levels. There was a sharp increase in the number of patients having >160 mg/dl of triglycerides after 35 years of diabetes mellitus. After the age of 30 years, there is also increase in LDL and TG in female and also in males; and there is slight change in HDL-c level in both the sexes. Diabetic males have significantly higher level of cholesterol, triglycerides, LDL and significantly lower level of HDL cholesterol as compared to that of female diabetics and also the diabetic subjects were on medications (oral hypoglycemic). No other major sex differences were noted. This research will uplift awareness for the need of lipid analysis and must be educated on the risks they face as a result of their condition and necessary steps for its management and also goal is to increase HDL to 40 or above most of our patients with triglyceride levels of <400 mg/dl had a combination of high LDL and a low HDL level, which is the most common pattern of dyslipidemia found in our study.

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