# CORRELATION BETWEEN OBESITY AND LIPID PROFILE IN PATIENTS WITH TYPE 2 DIABETES MELLITUS AT PIRNGADI HOSPITAL, MEDAN, NORTH SUMATERA

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## ABSTRACT

**Background:** Obesity is a condition that is associated with having an excess of body fat, defined by genetic and environmental factors that are difficult to control when dieting.Obesity may cause serious diseases such as dyslipidemia, stroke, and coronary heart disease. Changes in lipid profile in patients with type 2 diabetes mellitus (type 2 DM) include increased total cholesterol, low-density lipoprotein (LDL), and triglyceride, and decreased levels of high-density lipoprotein (HDL). This study aimed to determine the correlation between obesity and lipid profile in patients with type 2 DM.

**Subjects and Method:** This was an analytic observational study with a cross-sectional design.The study was conducted at the Endocrinology and Metabolic Polyclinic, Pirngadi Hospital, Medan, North Sumatera, from December to January 2018. A sample of 15 type 2 DM patients with obesity was selected for this study. The independent variable was obesity. The dependent variable was lipid profile which included total cholesterol, HDL, LDL, and triglyceride. Obesity was measured in body mass index (kg body weight/ $m^2$ body height). Lipid profile was measured by blood serum examination. The data were analyzed by Pearson correlation.

**Results:** Obesity was positively correlated with blood glucose level (r= 0.46; p= 0.082), and it was marginally significant. Obesity was positively correlated with total cholesterol (r= 0.21; p= 0.455), and LDL (r= 0.34; p=0.222), but statistically non-significant. Obesity was negatively correlated with HDL (r= -0.07; p= 0.798) and triglyceride (r=-0.03; p=0.930), but statistically non-significant.

**Conclusion:** Obesity positively correlates with blood glucose level but its correlation with lipid profile is not reliable.

**Keywords:** type 2 DM, obesity, lipid profile

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