

ABSTRACT
THE DIFFERENCES OF METABOLIC SYNDROME COMPONENTS ON
TYPE 2 DIABETES PATIENT WITH CORONARY HEART DISEASE
(CHD) AND NON-CHD

Background: The increasing of blood glucose levels or hyperglycemia is one of the characterization of type 2 diabetes which is caused by insulin resistance. Uncontrolled hyperglycemia causes macrovascular complications such as cardiovascular disease and stroke. The components of the metabolic syndrome is associated with the occurrence of type 2 diabetes and coronary heart disease. However, type 2 diabetes patient without metabolic syndrome will not increase the prevalence of CHD compared to those with metabolic syndrome. This study aims to determine differences of the metabolic syndrome components on type 2 diabetes patients within Coronary Heart Disease (CHD) and non CHD.

Methods: The method of this research is a cross-sectional study. Data directly collected from type 2 diabetes outpatients in Endocrinology polyclinic of RSUD Dr. Soetomo from January until August 2016. We divided the samples into two groups: type 2 diabetes patients with CHD group and type 2 diabetes patients non-CHD group. Those groups are being observed focusing on the differences of metabolic syndrome components that includes waist circumference, triglycerides, HDL cholesterol, LDL cholesterol, blood pressure, fasting plasma glucose, and HbA1c. Kolmogorov-Smirnov used to test the data normalities then followed by Independent Sample T-Test or Mann Whitney test to determine the significance of its differences.

Results: Independent sample T-Test of triglycerides, LDL-C and waist circumference has a p -value = 0.776; 0.101; 0.206 respectively ($p > 0,005$). While Independent sample T-test of HDL-C and HbA1c have p -value 0,028 and 0,000 ($p < 0,005$). Mann Whitney test on fasting blood glucose, systolic and diastolic blood pressure has a p -value 0.599; 0.757; 0.584 respectively. ($p > 0.05$).

Conclusions: This research found that there is significant differences of value in HDL-C and HbA1c on type 2 diabetes patients who has coronary heart disease. On the other hand, there are no significant differences of value in triglycerides, LDL-C, fasting blood glucose, waist circumference and blood pressure on type 2 diabetes patient who has coronary heart disease and non-CHD.

Keywords: type 2 diabetes, metabolic syndrome, CHD, NCEP ATP III, lipid profile, fasting blood glucose, HbA1c, waist circumference, blood pressure