

***Intervention of Cocoa Powder to Changes Triglyceride Levels in White Rat
Diabetes Mellitus Type 2***

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ABSTRACT

Dyslipidemia in DM type 2 is characterized by increase high triglyceride levels and decrease in high-density lipoprotein (HDL) cholesterol. Patients with diabetes show qualitative abnormalities for all lipoproteins and increase oxidative stress. Flavonoid antioxidants in cocoa powder are higher when compared to green tea, red grapes and blueberry which are 316.29 mg/l and have high ORAC (Oxygen Radical Absorbance Capacity) values (80,933) so that cocoa powder has the highest ability to counteract or stop damage organs due to free radicals and reduce triglyceride levels in DM type 2 patients. This study aims to determine the effect of cacao powder on changes in triglyceride levels in white rats (Sprague dawley) type 2 diabetes mellitus. This type of study was true-experimental with pretest-posttest with control group design. Samples were 15 Sprague dawley male rats aged 2-3 months with a weight of 200-300 grams, given cocoa powder with a dose of 0.4 gram/day, 0.8 gram/day and 1.2 gram/day for 14 days. Triglyceride levels were examined by the GPO-PAP method. The results of data analysis with One Way Anova Triglyceride levels before treatment ($p = 0.563$) and after treatment ($p = 0.484$), Paired T-Test results of the five groups before and after the intervention were negative control values ($p = 0.375$), positive controls ($p = 0.353$), treatment 1 ($p = 0.375$), treatment 2 ($p = 0.809$) and treatment 3 ($p = 0.296$). Kriuskall Wallis test results is ($p: 0.408$). Intervention of cocoa powder for 2 weeks can reduce highest tryglyceride levels by 67,93% in treatment group 3. But statistical tests showed no significant differences between between groups or before and after interveticion.

Keywords : *Cocoa Powder, Diabetes Mellitus, Dyslipidemia, Flavonoids, Triglycerides.*