

Intervention of Cocoa Powder Against Changes in HDL and LDL Levels in Diabetes Mellitus White Mice

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Diabetes Mellitus (DM) can provide consequences for other diseases by causing damage to the body due to the formation of reactive oxygen species (ROS) and oxidative stress which will then affect the decrease in HDL levels and increase LDL levels. Antioxidants contained in cocoa powder can help overcome the formation of ROS and oxidative stress. The purpose of this study was to give cocoa powder to HDL and LDL levels of Type 2 Diabetes Mellitus. The type of research used was True Experiment with the design of the pretest-posttest with control group with randomization. The sample used was Sprague Dawley mice with male sex aged 2-3 months, weighing 200-300 grams. The samples are then grouped into 5 groups: control (-), control (+), P1, P2, and P3. Cocoa powder is a dose of 0.4 gr for P1, a dose of 0.8 gr for P2 and a dose of 1.4 gr for P3. HDL and LDL levels were examined by the Cholesterol Oxidase Diaminase Peroxidase Aminoantipyrin (CHOD-PAP) method. Test to see the differences between groups and the Paired T-Tests to see the differences between groups. HDL P1 levels ($p = 0.545$), P2 ($p = 0.057$), and P3 ($p = 0.075$) showed no difference before and after the intervention. The LDL before and after intervention at P1 ($p = 0.065$), P2 ($p = 0.184$), and P3 ($p = 0.571$) also showed no difference. The intervention of cocoa powder cannot increase HDL levels and reduce LDL levels.

Keywords: Cocoa Powder, HDL Levels, LDL Levels, Oxidative Stress and ROS