

The Effect of Porang Flour Substitution Biscuit on LDL Levels in Wistar

White Rats Diabetes Mellitus Dyslipidemia

Supervised by Ratih Putri Damayati, S.Gz, M.Si

Tiara Dewi Kusuma Ningrum

Clinical Nutrition Study Program

Departement of Health

ABSTRACT

Diabetes mellitus is a metabolic disease disorder caused by insulin deficiency and impaired insulin function. Diabetes mellitus triggers lipid metabolism disorders. An increase in LDL levels in blood plasma in patients with diabetes mellitus is a sign of complications of diabetes mellitus dyslipidemia. LDL (Low Density Lipoprotein) commonly known as bad cholesterol is the main atherogenic lipoprotein in the management of dyslipidemia in patients with diabetes mellitus. In the purpose of this study wa to determine the effect of giving Porang flour substition biscuits on LDL levels in white rats wistar strains diabetes mellitus dyslipidemia. This type of research is true-experimental with pretest-posttest with control group design. This study used 15 male wistar white rats aged 2-3 months weighing 160-300 grams which were divided into 3 group (K-, K+ and P 1,38 g/day/head). LDL levels were checked by the test strip method (Lipid Pro) for the pretest and spectrophotometric method for the posttest because the pretest blood was difficult to get out of the rat blood. Data analysis used Shapiro Wilk normality test, Levenne Test, One Way ANOVA, Kruskall Wallis, and Paired T-test. The results showed a difference between K- and K+ and P, but there was no difference between K+ and P before the biscuit intervention was given and there was no significant difference between all groups after the biscuit intervention ($p=0,083$). There was a significant group value (K+) and (P) on differences in LDL levels before and after giving biscuit. There are significant differences before and after the treatment groups (K+) and (P). However, the results of the analysis cannot be concluded that there is an effect of giving porang flour substition biscuits on LDL levels of diabetes mellitus dyslipidemia rats because this study uses 2 different types of analytical methods.

Keywords: *Diabetes Mellitus Dyslipidemia, LDL Levels, Porang Flour Biscuit Substitution, Glucomannan.*