The Effect of Giving Clitoria Ternatea Flower, Lemon Grass and Lime Beverage on Random Blood Glucose Levels in Diabetes Mellitus *Wistar* Rats

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ABSTRACT

Diabetes mellitus is a metabolic disease characterized by hyperglycemia due to abnormalities in insulin secretion, insulin action, or both. Clitoria ternatea flower beverage contains antioxidant types of flavonoids which can be an alternative functional beverage to control blood glucose levels in the body. The mechanism of flavonoids in lowering blood glucose levels by increasing insulin secretion in the pancreas. This study aims to determine the effect of clitoria ternatea flower beverage on changes in blood glucose levels in diabetes mellitus *wistar* rats. This type of research is *true experimental* with *pretest-posttest* control group design. This study used were 27 male *wistar* strain white rats aged 2-3 months and weighing 200-300 grams which randomly divided into 3 groups, namely group (K-), group (K+), and treatment group (P). The (K+) group was induced by STZ 50 mg/kg and given standard feed. Group (P) was induced by STZ 50 mg/kg and interverned with 1,7 ml/day of clitoria ternatea flower beverage for 14 days. Blood glucose levels were checked by the GOD-PAP method. Data were analyzed using the *Shapiro-Wilk* test, *One Way Anova, Paired T-test*, and *Post Hoc* test. The results showed that there were differences in random blood glucose levels between groups before treatment (p=0,000), there were differences in random blood glucose levels between group after treatment (p=0,000), there were differences in random blood glucose levels before and after treatmet in the treatment group (p=0,019), there was a difference in random blood glucose levels before and after treatment in groups (P) and (K+) (p=0,025). Giving a clitoria ternatea flower beverage can reduce blood glucose levels by as much as 13,14%, but has not yet reached the normal value for random glucose levels.

Keywords: Clitoria Ternatea, Lemon Grass, Lime, Random Blood Glucose Levels, Diabetes Mellitus