

Effect of Giving Butterfly Pea, Lemongrass, and Lime Drink on Levels Fasting Blood Sugar in Wistar Rats Diabetes mellitus

Adinda Navidhotul Mughis
Study Program of Clinical Nutrition
Majoring of Health

ABSTRACT

Diabetes mellitus (DM) is a condition of pancreatic beta-cell damage caused by reactive oxygen species (ROS). Several attempts can be made to treat DM, including carrying out non-pharmacological therapy by adjusting diet patterns and consuming antioxidants. Lemongrass and lime juice are examples of drinks that contain lots of antioxidants, one of which is flavonoids. This study aims to determine the effect of giving a butterfly pea, lemongrass, and lime drink on fasting blood sugar levels in Wistar rats with diabetes mellitus. This research is of the True Experimental type with the Pretest-Posttest Control Group Design approach. This study used 24 male Wistar rats aged 2-3 months and weighing 200-300 grams. Mice were divided into 3 groups, namely the negative control group (K-), the positive control group (K+), and the treatment group (P). The (K+) group was induced by a single dose of streptozotocin intraperitoneally with a dose of 50 mg/KgBW which was given once. Group (P) was induced by streptozotocin and given butterfly pea, lemongrass, and lime drink at a dose of 1.7 ml/rat/day for 14 days. Data on fasting blood sugar levels were statistically analyzed using the One Way Anova test or Kruskal Wallis and Willcoxon. The test results for fasting blood sugar levels on the pretest and posttest data showed that there were significant differences between groups. The test results for fasting blood sugar levels between the pretest and posttest showed that there were significant differences in the (P) and (K+) groups, and there were no significant differences in the (K-) group. The results of the pretest and post-test differences in fasting blood sugar levels showed a significance value of $P=0.000$ ($p<0.05$) meaning that there was a significant difference between groups. The provision of a butterfly pea, lemongrass, and lime drink has an effect on fasting blood sugar levels in Wistar rats with diabetes mellitus.

Keywords: *Butterfly Pea Lemongrass and Lime Drink, Fasting Blood Sugar Levels, Wistar Rats Diabetes Mellitus, Diabetes Mellitus*