

Effect of Combination of Oatmeal Drink and Chocolate Powder on Fasting Blood Sugar Levels in Wistar Rats (Rattus Novergicus Sp.) Diabetes Mellitus

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ABSTRACT

Diabetes mellitus is characterized when the pancreas cannot produce insulin or the body cannot use insulin effectively. The combination of oatmeal and cocoa powder contains fiber and flavonoids that can be an alternative functional drink to control blood sugar levels in the body. This study aims to determine the effect of a combination of oatmeal and cocoa powder on the fasting blood sugar levels of Wistar rats with diabetes mellitus. This study uses the true-experimental method with a pretest-posttest with a control group design. This study used 27 male Wistar strain rats aged 2–3 months, weighing 150–250 grams. The rats were divided into 5 groups, namely the negative control group (K-) given standard Comfeed AD II feed and drinking water, the positive control group (K+) induced streptozotocin at a dose of 40 mg/kgBB given once and HFD, treatment group one (P1) induced streptozotocin and HFD, treatment group two (P2) was induced by streptozotocin and HFD, a combination of oatmeal drink with chocolate powder at a dose of 10 ml/day, and glimepiride drug at a dose of 1 ml/day, and treatment group three (P3) was induced by streptozotocin and HFD, glimepiride drug at a dose of 1 ml/day. The test results of fasting blood sugar levels of pretest and posttest data show that there is no significant difference between groups before treatment ($p = 0.125$), there is no difference between groups after treatment ($p = 0.543$), there is a significant difference between groups K-, K+ before and after treatment ($p < 0.05$), there is no significant difference between groups P1, P2, P3 before and after treatment ($p > 0.05$), and there is no difference between groups before and after intervention ($p = 0.447$). The conclusion of this study is that there is no effect of giving a combination of oatmeal drinks with chocolate powder on the fasting blood sugar levels of Wistar rats with diabetes mellitus.

Keywords: *Chocolate Powder, Diabetes Mellitus, Fasting Blood Sugar, Glimepiride, Oatmeal*