ABSTRACT

Royyan Habibi	*Advisor*
NIM. 21482020025	Devi Anggraini Putri, M.Si
S1 Community and Clinical Pharmacy Study Program	NIDN. 0725089301

THE EFFECTIVENESS TEST OF ETHANOL EXTRACT OF SAPODILLA LEAVES (*Manilkara Zapota*) ON REDUCING BLOOD SUGAR LEVELS IN MICE (*Mus musculus*)

ABSTRACT

Diabetes mellitus is a metabolic disease characterized by hyperglycemia that occurs due to abnormalities in insulin secretion, insulin performance, or both. Based on previous studies had reported that sapodilla leaves contain flavonoids that can affect the profile of the pancreatic islands of Langerhans by enlarging their diameter. However, research on sapodilla leaves can lower blood sugar levels had not been reported. The purpose of this study is to determine the effectiveness of sapodilla leaves extract as a blood sugar reducer in alloxan-induced mice.

This study used a true experimental method with a pretest-posttest control group design using 25 mice divided into 5 groups. Negative control group and positive control Metformin 500 mg/kgBB, extract group 500, 750, 1000 mg/kgBB. Mice were adapted for 7 days and fasted for 8 hours before blood sugar check treatment (T0). Alloxan 150 mg/kgBB was given to measure blood sugar on the 3rd day after induction (T1). The test preparation was given 1 time on days 11, 14 and 17 and blood sugar levels were checked on days 14 (T2), 17 (T3), and 20 (T4).

The results showed that all test groups of sapodilla leaves extract with doses of 500, 750, 1000 mg/kgBB had differences in reducing blood sugar levels compared to the negative group ($\alpha < 0,05$) and a dose of 1000 mg/kgBB had no difference with the positive group ($\alpha > 0,05$). Sapodilla leaves extract with the most optimum dose of 1000 mg/kgBB had effectiveness as an antihyperglycemic.

Further research is needed to determine the dose that has the maximum effect as an antihyperglycemic. There is a toxicity test related to 98% ethanol extract of sapodilla leaves.

Keywords: Diabetes Mellitus, Metformin, Sapodilla Leaves, Antihyperglycemic