

Utilization of grinting grass (*Cynodon dactylon*) -r weeds in Indonesia as an antidiabetic botanical medicine

by Rochmah Kurnijasanti

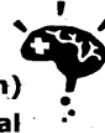
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Utilization of grinting grass (*Cynodon dactylon*) weeds in Indonesia as an antidiabetic botanical medicine

Tacharina, M.R. (Martia Rani), Kurnijasanti, R.¹, Plumeriastuti, H. (Hani)²

¹ Airlangga University, Basic Veterinary Medicine, Surabaya, Indonesia

² Airlangga University, Veterinary Pathology, Surabaya, Indonesia

Introduction

Diabetes mellitus is a chronic, incurable condition that effect 13.7 million people in Indonesia. Research by Riskesdas in 2007 showed that the proportion of the cause of death in group age 45-54 due to diabetes in urban areas rank-2 is 14.7%. One of the Indonesia antidiabetic botanical medicine are Grinting grass (*Cynodon dactylon*). Grinting grass traditionally used to medicated diabetes but the are not many research that investgate the antidiabetic activity of thus grass. The aim of this study is to investigate the antidiabetic activity of the non-polisacharide fraction of Grinting grass (NPF-GG) in streptozotocin induced diabetic mice.

Material & methods

25 male BALB-C mice of two months old were used in this study. Streptozotocin multiple low doses were intraperitoneally administered 40mg/kgBW each day for five days. The mice were divided into five groups: (1) negative control group (K0), treated by solven tween80 and aquades, (2) positive control group (K1), treated by metformin as a standard drug, (3) treated by NPF-GG 250 mg/kgBW (P1), (4) treated by NPF-GG 500 mg/kgBW (P2), and (5) treated by NPF-GG 1000 mg/kgBW (P3). The treatment was conduct for 14 days. Hypoglicemic effect of NPF-GG was determined at 6 and 14 days post treatment. At the end of experiment, all of mice were eutanized and the pancreas was collect by abdominal section for analysis of quantity cells in Langerhans pancreatic islet

Results

The result of this study showed that NPF-GG 250 mg/kgBW was identified as the most effective dose. It lower blood glucose level around 47.1% after 5h of administration. It was more effective than metformin that lower blood glucose level around 59%. from Langerhans pancreatic islet showed that the cell quantity increase at 2133,40±668,64 cells for NPF-GG 250 mg/kgBB, more effective than menformin with 671,20±206,10 cells and negative control group with 776,20±175,17 cells.

Conclusion

These result indicated that non-polisacharide fraction of Grinting grass has high antidiabetic potential along with hypoglicemic effect and increasing cell quantity of Langerhans pancreatic islet. Comparatively NPF-GG was found to be more effective than metformin as a standart antidiabetic drug.

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