

ANTI-DIABETOGENIC EFFECT OF DRUMSTICK (*Moringa oleifera*) SEEDS ON DIABETIC RAT MODEL

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Executive Summary

Moringa oleifera (Moringaceae) is a medicinal plant rich in biologically active compounds. The aim of the present study was to investigate the effect of *Moringa oleifera* seed (MOS) powder for antidiabetic activities in rat following administration at a dose level of 100mg/kg and 200 mg/kg of body weight/day. In this study, total number of rats were 100 and divided into four groups each containing 5 rats for five trials. First group was normal control (A), Second group was diabetic control (B), third group was diabetic with MOS treated 100 mg/kg body weight (C) and fourth group MOS treated 200 mg/kg (D) body weight. After 18 hours of starvation, body weights and blood glucose level were measured after acclimatization of rats. Then alloxan injection was injected at the dose rate of 100mg/kg body weight intraperitoneally to each rat to induce diabetes in groups B, C and D. All the group of rats were reared under normal diet and water *ad libitum* from day 1-10, on 10th day blood glucose level and the body weights were measured for the first time to ensure diabetic induction. Then all the rats of that groups were kept for more 21 days for the treatment of hyperglycemia. During that period on Day 0, 7, 14 and 21st the body weight and blood glucose level were measured. After 3 weeks of treatment the blood glucose level significantly ($P<0.001$) reduced in the MOS treated groups C and D compared to B from 270.33 ± 1.21 mg/dl to 147.50 ± 0.60 mg/dl and 130.71 ± 0.60 mg/dl respectively. On the other hand, the average body weight was increased significantly ($P<0.001$) from 165.33 ± 1.40 gm to 216.50 ± 0.83 gm and 220.50 ± 0.83 gm in group C and D respectively. From our findings it is concluded that the MOS consumption could be beneficial in the diabetes mellitus rat model over glucose values and can be used as anti-diabetogenic agent in food.

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