

Hypoglycemic Activity studies on Root Extracts of *Sansevieria liberica* Root in Streptozotocin-Induced Diabetic Rats

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Abstract : *Sansevieria liberica* belongs to the family Agavaceae (Ruscaceae or Dracaenaceae). They are widely distributed throughout the tropics. Literature review suggests that in Nigeria, the leaves and roots of *Sansevieria liberica* are used in traditional medicine for the treatment of asthma, abdominal pains, colic, diarrhea, eczema, gonorrhoea, hemorrhoids, hypertension, monorrhagia, piles, sexual weakness, snake bites, and wounds of the foot. In this context, the standardized Methanolic extract of roots of *Sansevieria liberica* is hypothesized for the evaluation of the hypoglycemic activity. Material and Methods: Inbred adult male sprague-Dawley albino rats were used in the experiment. The suspension of standardized Methanol extract (ME) of *Sansevieria liberica* was treated for hypoglycemic activity in oral glucose tolerance test (OGTT) method. The suspension of standardized Methanolic extract (ME) of *Sansevieria liberica* was also treated for hypoglycemic activity in streptozotocin-induced diabetic rats. Results: The Methanolic extract (ME) of *Sansevieria liberica* root (100 mg/kg, 200mg/kg, and 400 mg/kg) showed potential hypoglycemic activity in diabetic rats, and further in OGTT method. Furthermore, Methanolic extract of *Sansevieria liberica* root showed significant ($P < 0.05$) increase in final body weight, total hemoglobin, insulin, albumin and high-density lipoprotein levels, however, decrease in fluid intake, glycosylated hemoglobin, urea, creatinine, total cholesterol, triglyceride and low-density lipoprotein levels. Additionally, it improved oxidative stress in terms of reducing lipid peroxidase and superoxide dismutase, and elevating catalase activity. Conclusions: These findings suggest that the Methanolic extract of *Sansevieria liberica* root was found to be potential hypoglycemic, and would be a promising candidate for the treatment of diabetes.

Keywords : diabetes, *Sansevieria liberica*, hypoglycemic activity, diabetes and metabolism

Conference Title : ICDM 2015 : International Conference on Diabetes and Metabolism

Conference Location : London, United Kingdom

Conference Dates : February 16-17, 2015