Diabetes mellitus is a disease of antiquity with a worrying global prevalence and incidence. It is conventionally managed by insulin and use of oral hypoglycemic drugs besides exercise, diet and physical intervention therapies. Use of insulin and oral hypo and have numerous adverse effects. Medicinal plants have for long been used for treatment of many disease including management of diabetes mellitus. They harbour the pros of affordability and ac was designed to bioscreen aqueous stem bark extracts of potential. The three tested dose levels (50, 100, and 150mg/kg body weight) lowered blood glucose levels significantly. This study has established that the aqueous stem bark extract of effects and can justifiably be used for management of diabetes mellitus.

**Key words:** *Kleinia squarrosa*, stem bark extract, antidiabetic activity, medicinal plants, diabetes mellitus.