Archives of Pharmacy Practice
Abstract Conference Proceedings
2nd Asia Pacific Pharmacy Education (PharmED) Workshop
ISSN 2045-080X Vol. 3, Issue 1, 2012

CO-003

SCREENING AQUEOUS EXTRACT *OF OCIMUM SANCTUM LINN*. LEAVES FOR ANTI-DIABETIC ACTIVITY IN ALLOXAN INDUCED DIABETIC RATS

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ABSTRACT

Diabetes mellitus is a heterogeneous metabolic disorder of carbohydrate, fat and protein characterized by chronic hyperglycaemia which resulted from loss of glucose homeostasis due to either insulin insufficiency, insulin dysfunction or both. Though different types of oral hypoglycemic agents are available for the management of diabetes mellitus, there is still a growing interest in herbal remedies due to their reduced toxicity and minimal side effects. This study was aimed to screen the aqueous extract of *Ocimum sanctum* (OS) leaves for anti-diabetic activity in alloxan induced diabetic rats. Male *Wistar* rats (100-120 gm) were used for the study. Acute toxicity for plant extract was carried out on normal animals (1g/kg, o.p). The animals were observed for 48 hours for physiological or behavioral changes. Before screening for anti-diabetic activity, the animals were tested for Oral Glucose Tolerance Test (OGTT) (glucose 2 gm/kg, o.p). The diabetes was induced by injecting (100 mg/kg, i.p) of alloxan for 3 consecutive days. The animals were divided into 5 groups (n=6). Group I: Normal control (no alloxan treated). Group II: Diabetic control (vehicle o.p). Group III: Positive control (Glibenclamide 10 mg/kg, o.p). Group IV: Treatment (aqueous extract 200 mg/kg, o.p). Group V: Treatment (aqueous extract 400 mg/kg, o.p). The blood was collected by tail snipping method. The Fasting Blood Glucose (FBG) levels were measured on 0, 2nd, 5th and 8th day of treatment. The results were statistically analyzed by using ANOVA followed by Dunnett's Multiple Comparison Test. Results showed that aqueous extract of OS showed no toxic effect. The extract significantly increased glucose tolerance ($p < 0.01$). Both doses of OS extract has significantly reduced the blood glucose level.