ABSTRACT

Pancreas is one of the important organ of the body, it plays very important role in regulation of body functions. Various herbal medicines were used traditionally for diabetes. In this study we evaluated anti-diabetic activity against various diabetes induced models. Hyperglycemia was induced with streptozotocin, glibenclamide 10mg /kg b.wt. p.o. was used as standard. Roots of Kandelia rheedei, and Leaves of Euphoria lopogona were selected for this study. Plant extracts and its fractions to conduct preliminary phytochemical studies. The methanolic extracts of Kandelia rheedei (MKR) and methanolic extracts of Euphoria lopogona (MEL) were found to be safe and no toxicity was exhibited in mice up to 2 g/kg.

Methanolic extracts of Kandelia rheedei (MKR) and Methanolic extracts of Euphoria lopogona (MEL) exhibited significant anti-diabetic effect against streptozotocin induced toxicity in rats, Selected doses of fractions of MKR and MEL as 100 and 200 mg/kg were used for further studies like anti diabetic activity against streptozotocin and sub acute toxic studies. From these studies it was observed that the fractions EAFKR and EAFEL have highly significant anti diabetic activity (P<0.001).

From these above test doses a study of antioxidant activity using DPPH and Lipid-peroxidation (malondialdehyde) studies were conducted for the supporting study.

The selected active fractions EAFKR and EAFEL were used to conducted adipogenesis and Glucose uptake studies by rat diaphragm shown to enhance the uptake of glucose significantly (p<0.001 and p<0.01) in the peripheral tissues and were found to be more effective than insulin.

Finally the results of all the studies Kandelia rheedei and Euphoria lopogona have showed anti diabetic properties.

Since these plants extracts possess promising protective effect in presence of insulin also and it needs a comprehensive investigation for developing it as a safe and effective herbal antidiabetic drug.