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PROTECTIVE EFFECT OF CALLISTEMON LANCEOLATUS EXTRACT IN ALLOXAN INDUCED DIABETES IN ALBINO WISTAR RATS

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Diabetes mellitus is a group of metabolic disorders affecting carbohydrate, fat, and protein metabolism, characterized by hyperglycaemia resulting from defects in insulin secretion, action or both. It is a major disease affecting more than 10% of the population. In spite of the introduction of hypoglycaemic agents, diabetes and the related complications continue to be a major medical problem. It has been established that chronic hyperglycaemia of diabetes is associated with long-term damage, dysfunction and eventually the failure of organs, especially the eyes, kidneys, nerves, heart, and blood vessels. Many oral hypoglycaemic agents are available along with insulin for the treatment of diabetes mellitus, but these synthetic agents can produce serious side effects and are not suitable for use during pregnancy. Therefore, search for safe and effective agents has continued to be an important area of active research. As diabetes has been treated orally with several medicinal plant parts or their extracts as described in folk medicine, the World Health Organization (WHO) recommended the evaluation of traditional plant treatments for diabetes as they are effective and non-toxic, with less or no side effects, and are considered to be excellent candidates for oral therapy. The present study was designed to investigate the antidiabetic activity of leaves extracts of *Callistemon lanceolatus* in alloxan-induced diabetic Wistar rats by administering graded oral doses (200 and 400 mg/kg body weight) for 21 days. Single oral administration of the extract reduced blood glucose level in glucose loaded as well as alloxan induced diabetic rats. Daily oral treatment with *C. lanceolatus* for 3 weeks resulted in reduced blood glucose, serum cholesterol, and triglycerides and improved HDL cholesterol levels compared to the diabetic control group. The present study enumerates the antidiabetic potential of *callistemon lanceolatus* leaf extract in diabetic rat model.

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