

# **EVALUATION OF ANTIHYPERGLYCEMIC EFFECT OF AQUEOUS EXTRACT OF LEAVES OF *ANNONA SQUAMOSA* IN STREPTOZOTOCIN INDUCED DIABETIC RATS**

## **ABSTRACT**

**AIM** The aim is to evaluate the antihyperglycemic effect of *Annona squamosa* leaf extract in streptozotocin induced diabetic rats by tail venepuncture method.

**METHODS** 24 adult male albino rats weighing 150-200g were selected from central animal house, Madurai Medical College, Madurai. Initially, 24 albino rats were divided into 4 groups of 6 animals each. Group I received normal feed. Group II received Tab. Glibenclamide 1mg/kg orally. Group III and Group IV received *Annona squamosa* leaf extract 300mg/kg and 600mg/kg orally for 14 days. The blood glucose level was monitored on day 1, 7 and 14 by tail vein puncture method. **RESULTS** On day 7 and day 14, there was a significant fall in blood glucose level in the *Annona* treated groups, when compared with the control ( $p < 0.001$ ). The values of Test 2, were comparable with that of standard group. A post hoc analysis was conducted, which showed the statistical difference was more with standard group  $>$  Test group 2  $>$  Test group 1, when compared with the control group. **CONCLUSION** It was observed that *Annona* leaf extract at 300 mg/kg and 600 mg/kg produce statistically significant reduction in blood glucose level in streptozotocin induced diabetic rats when compared with control group. Increased mRNA expression of GLUT4 in peripheral tissues, the insulin releasing property, free radical scavenging property, inhibition of intestinal absorption of glucose and inhibition of PTP1B, might be possible mechanisms for the antihyperglycemic activity of *Annona squamosa*.

**KEY WORDS** *Annona squamosa*, Glibenclamide, antihyperglycemic, tail  
vene puncture.