Antidiabetic activity of *Crateva nurvala* stem bark extracts in alloxan-induced diabetic rats

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**ABSTRACT**

Objectives: The aim of this study was to investigate the antidiabetic activity of *Crateva nurvala* stem bark (family: Capparidaceae) extracts in alloxan-induced diabetic albino rats. A comparison was made between the action of different extracts of *C. nurvala* and a known antidiabetic drug, glibenclamide (600 µg/kg b. wt.).

An oral glucose tolerance test (OGTT) was also performed in diabetic rats. **Materials and Methods:** The petroleum ether, chloroform, alcohol, and aqueous extracts of *C. nurvala* stem bark were obtained by simple maceration method and were subjected to standardization by following pharmacognostical and phytochemical screening methods. Dose selection was made on the basis of acute oral toxicity study (50–5000 mg/kg b. wt.) as per Organization for Economic Co-operation and Development (OECD) guidelines. **Results and Conclusions:** *C. nurvala* petroleum ether extract (CNPEE) and ethanolic extract (CNEE) showed significant (P<0.001) antidiabetic activities. In alloxan-induced model, blood glucose level of these extracts on seventh day of study were CNPEE: (126.33±13.03 mg/dl) and CNEE: (126.66±13.012 mg/dl) when compared with diabetic control (413.50±4.752 mg/dl). In OGTT model (glucose loaded rats), CNPEE showed a glucose level of 178.83±3.070 mg/dl after 30 min and 131.66±2.486 mg/dl after 90 min, whereas CNEE showed 173.66±4.224 mg/dl after 30 min and 115.50±3.394 mg/dl after 90 min. These extracts also prevented body weight loss in diabetic rats. The drug has the potential to act as an antidiabetic drug.

**KEY WORDS:** Alloxan, antidiabetic activity, acute toxicity, *Crateva nurvala*, phytochemical