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## Anti-diabetic, anti-hyperlipidemia and antioxidant properties of roots of *Ventilago maderaspatana* Gaertn on Streptozotocin-induced diabetic rats

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The present investigation was aimed to evaluate the traditional claim of *Ventilago maderaspatana* (*V. maderaspatana*) in diabetes. Furthermore, anti-hyperlipidemic and antioxidant properties were evaluated since hyperlipidemia and free radical damage leads to diabetes. Hence, the present study was aimed to evaluate anti-diabetic, anti-hyperlipidemic and antioxidant activity. Anti-diabetic activity was evaluated by oral glucose tolerance test and streptozotocin-induced model. Anti-hyperlipidemic activity was evaluated by estimating lipid levels. In addition, *Ventilago maderaspatana* was also evaluated for antioxidant activity employing catalase, lipid peroxidase and glutathione reductase methods. By soxhlet extraction process alcoholic, hydroalcoholic, chloroform and petroleum ether extracts were obtained. All these extracts except petroleum ether were evaluated for toxicity upto 3000 mg.kg<sup>-1</sup>. In oral glucose tolerance test, chloroform extract did not produce significant glucose lowering effect. Alcoholic and hydroalcoholic extracts of *Ventilago maderaspatana* elicited significant glucose tolerance effect. Hence, VMAE and VMHAE were screened further by streptozotocin induced diabetic model. VMAE and VMHAE significantly lowered blood glucose, triglycerides, total cholesterol, LDL cholesterol, VLDL cholesterol, creatinine, urea and increased HDL cholesterol, serum insulin and liver glycogen levels when compared to standard drug glibenclamide (10 mg.kg<sup>-1</sup>). *V. maderaspatana* also increased catalase levels and decreased lipid peroxidase and glutathione reductase. VMAE and VMHAE elicited significant dose-dependent anti-diabetic, anti-hyperlipidemic and antioxidant activity. VMHAE at 500 mg.kg<sup>-1</sup> induced more significant anti-diabetic activity than VMAE (500 mg.kg<sup>-1</sup>). VMAE at 500 mg.kg<sup>-1</sup> elicited more anti-hyperlipidemic and antioxidant activity compared to VMHAE (500 mg.kg<sup>-1</sup>).

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