Antihyperglycemic, hypolipidemic and antioxidant enzymes effect of Strobilanthes crispus juice in normal and streptozotocin-induced diabetic male and female rats

ABSTRACT

The aim of the present study was to investigate the effect of Strobilanthes crispus juice on glucose, lipid profile, glutathione peroxidase and superoxide dismutase in normal and streptozotocin-induced diabetic male and female albino Sprague-Dawley rats. This study was conducted on normal and streptozotocin-induced diabetic male and female Sprague-Dawley rats fed with basal diet and S. crispus juice with different doses 1.0, 1.5 and 2.0 mL k-1 b.wt. for 30 days. The results showed that significant (p<0.05) decrease in serum glucose levels in male and female diabetic and normal rats with treated S. crispus juice (1.0, 1.5 and 2.0 mL k-1 b.wt.). Cholesterol and triglyceride levels significantly (p<0.05) decreased in diabetic rats treated with 1.0, 1.5 and 2.0 mL k-1 b.wt. of S. crispus juice. Cholesterol, triglyceride and LDL-cholesterol level showed reduction in treated male and female normal rats. HDL-cholesterol showed the increasing but not significant (p<0.05) difference in treated diabetic and normal male and female rats. Glutathione peroxidase and superoxide dismutase activities significantly (p<0.05) increased in treated diabetic and normal male and female rats. In conclusion, S. crispus juice possesses antihyperglycemic, hypolipidemic and antioxidant effect in streptozotocin-induced diabetic rats. Thus, S. crispus juice could be the alternative treatment for lowering glucose, cholesterol and triglyceride for diabetic patients in the future.

Keyword: Strobilanthes crispus juice; Glucose; Lipid profile; Antioxidant