



Antidiabetic effects of ethanolic extract of *Ziziphus vulgaris* L. in streptozocin-induced diabetic adult male Wistar rats

Jalal Solati^{1*}, Nastaran Soleimani²

1. Golestan Biology Department, Islamic Azad University- Karaj branch, Karaj, Iran

2. Young Researchers Club, Islamic Azad University- Karaj branch, Karaj, Iran

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Abstract

Introduction: Herbal medicine and medical plants such as *Ziziphus vulgaris* L. are widely used for treatment of diseases such as diabetes mellitus. In the present study, we have investigated effects of alcoholic extracts of *Z. vulgaris* fruit on serum glucose, triglycerides, LDL, HDL and activities of aminotransferase enzymes in streptozocin (STZ)-induced diabetic adult male rats.

Methods: Herbal material was dried, ground and then extracted with ethanol using Soxhlet apparatus. The combined extract was evaporated to dryness and the residue was dissolved in water and used for treatments. Adult male rats were rendered diabetic by a single i.p. injection of STZ (65 mg/kg). Normal and diabetic rats were daily treated with the extract dissolved in 0.5 ml distilled water (0.25, 0.5, 1 and 1.5 g/kg) administered by oral gavage for 2 weeks. After 2 weeks of treatment, blood samples were collected from retro-orbital sinus of rats (Stone method) and serum level of glucose, insulin, triglycerides, LDL, HDL and activity of aminotransferase enzymes were measured using enzymatic methods.

Results: Continuous supplementation of the extract at the doses of 0.5, 1 and 1.5 g/kg in diabetic rats resulted in a significant decrease of fasting blood glucose and triglyceride levels after 14 days compared to the control group. Levels of LDL, HDL and activities of serum aminotransaminase enzymes, alanine aminotransferase (ALT) and aspartate aminotransferase (AST), were not significantly changed in the extract treated group with respect to the control.

Conclusion: Obtained results showed that *Z. vulgaris* contain effective antidiabetic compounds and maybe useful for treatment of diabetes mellitus.

Key words: *Ziziphus vulgaris* L., Diabetes Mellitus, Glucose

*Corresponding author e-mail: solati@kiaau.ac.ir
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