

Single and combined effects of cinnamon and peppermint essential oils on the serum concentration of lipids in diabetic rats

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Background: Medicinal plants and their derivatives have been interested more attentions, because of their antioxidant properties. The present study was conducted to investigate singly and combined effects of cinnamon and peppermint essential oils on the serum concentration of lipids in diabetic rats.

Methods: Diabetes was confirmed by measuring of blood glucose levels three days after the STZ injection. Animals with serum glucose level higher than 250 mg/dl were classified as diabetic. Diabetes was induced by intraperitoneal injection of Streptozotocin (55 mg/kg). Forty, 2.5-month-old male rats (n=10/groups treatment) were i.p. treated with cinnamon and peppermint essential oils and their combinations at rates of 20 mg/kg of body weight for 4 weeks. Treatments were included: control, 20 mg.kg⁻¹ peppermint essential oil (P.mint), 20 mg.kg⁻¹ cinnamon essential oil (Cinnamon), and their combination (10 mg.kg⁻¹ P.mint+ 10 mg.kg⁻¹ Cinnamon). At the end of trial, blood samples were taken for measurement of cholesterol, triglycerides, HDL-C and LDL-C.

Results: Our findings showed that diabetic-rats treated with essential oils showed lower the serum concentrations of cholesterol, triglycerides, or LDL, and higher the serum concentration HDL-C ($P<0.05$).

Conclusion: The both essential improved lipid profiles; although in combined form was achieved better results.

Key words: Antioxidant properties, Cinnamon, Lipid profile, Peppermint