

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

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

Results: Our findings showed that diabetic-rats treated with essential oils showed lower the serum concentrations of glucose and higher the serum concentration of insulin ($P<0.05$). **Conclusion:** The both essential improved lipid profiles; although in combined form was not observed differences between singly and combined form.

Key words: Glucose, Cinnamon, Insulin, Peppermint