

## **An extract from date seeds stimulates endogenous insulin secretion in streptozotocin-induced type I diabetic rats**

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### **ABSTRACT**

**Background:** The efficacy of an extract from date seeds has been tested successfully on the glycemic control of type I diabetes mellitus in rats. A suggestion that date seed extract could stimulate certain cells to differentiate into insulin-secreting cells has been proposed. In order to investigate such a possibility, this study was conducted to measure C-peptide levels in the serum of type 1 diabetic rats treated with date seed extract.

**Methods:** Two hundred rats were divided into 4 groups. Group I served as the control. Group II was given daily ingestions of 10 ml of date seed extract. Groups III and IV were made diabetic by streptozotocin injection and were given daily subcutaneous injections of 3 IU/day of insulin for 8 weeks. Group IV received, in addition, daily ingestions of 10 ml of seed extract. At the end of experiment, blood samples were collected from each rat, and blood glucose and serum C-peptide levels were measured.

**Results:** No significant differences in the means of blood glucose and serum C-peptide levels were observed between groups I (control group) and II (date seed extract-treated control group). Group IV (date seed extract-insulin-treated diabetic group) showed a statistically significant reduction in the mean blood glucose level compared to Group III (insulin-treated diabetic group). The mean serum C-peptide level was significantly higher in group IV compared to group III.

**Conclusion:** Biochemical results suggested an increase in endogenous insulin secretion in the case of type 1 diabetic rats treated with date seed extract, which might be the cause of its hypoglycemic effect.

**Keywords:** Date seed extract; type 1 diabetes; serum C-peptide