

## **Abstract**

**Objective:** Plants from ancient time use to cure several diseases and many of these medicinal plants show anti-diabetic activity. *Capparis spinosa* L. belongs to the Capparidaceae family and was reported to have many pharmacological activities such as cytotoxic, anti-diabetic, anti-inflammatory, antimutagenic, antioxidant effect and many others. It has very active chemical groups such as alkaloids, phenolic, flavonoids, tannins and many other minerals. Phenol compounds in plants have antioxidant activity and ability to scavenger free radicals, because that these secondary metabolites have beneficial effects to human health. Flower bud pickles of that traditionally are used as food by diabetic patient to anti-diabetic effects. The aim of this study is to evaluate the effect of *C.spinosa* alcoholic extract on cellular Viability of rat pancreatic islets.

**Material and Method:** In this experimental study, following laparotomy, pancreases of rats were removed and the islets isolated and incubated in vitro for 24 hours. Logarithmic doses of plant materials were added to the islets and incubated for an additional 24 hours after which the viability of the cells and production of reactive oxygen species were measured.

**Results:** The *C.spinosa* bud alcoholic extract markedly increased survival of the islet cells. This effect increased by increasing the doses of extract and greatest effects were observed in doses  $10^3$  and  $10^4$  (P valu<0.001)  $\mu\text{g/ml}$ . at a dose of  $10^3 \mu\text{g mL}^{-1}$  (p<0.01) and dose of  $10^4 \mu\text{g mL}^{-1}$  (P valu<0.001) a remarkable reduction was observed in ROS production which decreased to 37% of that of the control in dose  $10^3 \mu\text{g mL}^{-1}$  and 72% in dose  $10^4 \mu\text{g mL}^{-1}$  observed.

**Conclusion:** Based on these results, we suggest that, because one of the reasons for diabetes is damage the pancreases islet cells, *C.spinosa* can evaluate for use in diabetes prophylaxis and treatment.

**Keywords:** Islets, *Capparis spinosa* L. , Extract, viability