

Screening of some medicinal plants for antidiabetic activity

B. Nickavar*, N. Yousefian

Department of Pharmacognosy, School of Pharmacy, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Background and Aims: Diabetes mellitus is one of the most serious chronic diseases characterized by chronic hyperglycemia. Traditional herbal remedies are still in use by diabetic patients especially in 3rd World Countries. The present work was carried out to investigate the potential antidiabetic effects of some Iranian medicinal plants using an in vitro α -amylase enzyme inhibition assay.

Methods: The ethanol extracts obtained from ten plants (including *Trigonella foenu-graecum*, *Camellia sinensis*, *Urtica dioica*, *Vaccinium arctostaphylos*, *Urtica pilulifera*, *Calendula officinalis*, *Juglans regia*, *Olea europaea*, *Salvia officinalis*, *Arctium lappa*) were tested against α -amylase and inhibitory activity of each extract, expressed as IC50 values, calculated from Log concentration-response curve. As positive control acarbose was used.

Results: Among the tested samples, *Camellia sinensis* (Theaceae) leaf (IC50 = 1.54 mg/ml), *Trigonella foenum-graecum* (Leguminosae) seed (IC50 = 1.87 mg/ml) and leaf (IC50 = 1.92 mg/ml), and *Urtica dioica* (Urticaceae) leaf (IC50 = 1.89 mg/ml) revealed α -amylase inhibitory activities in a concentration-dependent manner.

Conclusions: The ethanolic extracts of *Camellia sinensis*, *Trigonella foenum-graecum* and *Urtica dioica* showed the potent α -amylase inhibition effects.

Keywords: α -Amylase inhibitors; Antidiabetic medicinal plants; Diabetes mellitus