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School of Pharmacy and Pharmaceutical Sciences
Isfahan University of Medical Sciences

Evaluation of antioxidant activity of *Teucrium chamaedrys* and *Satureja hortensis* extracts in isolated rat pancreatic islets

M. Navaei-Nigjeh[1,*], M. Rahimifard[2], Z. Siahpoosh[3], N. Pourkhalili[4], A. Nilli-ahmadabadi[4], M. Baeeri[4], A. Mohammadirad[4], M. Abdollahi[4]

[1]*Faculty of New Sciences & Technologies, University of Tehran, Tehran, Iran*
[2]*Faculty of Science & Agriculture, Payame Noor University of Tehran, Tehran, Iran*
[3]*Pharmaceutical Branch, Islamic Azad University, Tehran, Iran*
[4]*Faculty of Pharmacy, and Pharmaceutical Sciences Research Centre, Tehran University of Medical Sciences, Tehran, Iran*

Background and Aims: Pancreatic islets are known to express low levels of antioxidant enzymes compared to other tissues and are therefore vulnerable to oxidative stress. Enhancing antioxidant defense mechanisms in pancreatic islets help them to cope better with oxidative stress. Therefore, in this present study, the effects of Teucrium chamaedrys (TC) and Satureja hortensis (SH) extracts on the function and level of reactive oxygen species (ROS) in isolated rat pancreatic islets were evaluated.
Methods: After Laparotomy, pancreas were removed and islets were isolated and incubated in RPMI 1640 for 24 hours and then islets were separated and divided into several tubes containing ten in each. Logarithmic doses of TC and SH (0.01, 0.1, 1 and 10 mgml-1) were added to islets separately and incubated for 24 hours and then viability of cells and reactive oxygen species (ROS) were determined using MTT and fluorometeric methods, respectively. Also, static insulin secretion was tested.
Results: By increasing the concentration of SH, a reduction in ROS and an increase in viability of cells and insulin secretion of isolated islets were observed. The same positive effect of TC was observed only at 0.1 mgml-1.
Conclusions: The effective doses of TC and SH extracts on oxidative stress and antioxidant status in isolated islets are observed at doses of 0.1 mgml-1 and 10 mgml-1, respectively.

Keywords: *Teucrium chamaedrys*; *Satureja hortensis*; Oxidative stress; Isolated rat pancreatic islets