

The effects of different doses of *Nepeta menthoides* in mice reserpine-induced depression

Sedighe Talebi¹, Batool Rahmati¹, Mohsen Naseri¹, Fatemeh Emadi⁴, Masoumeh Jorjanis

1. Department of Traditional Medicine, School of Medicine, Shahed University, Tehran, Iran.

1. Neurophysiology Research Center, Department of Physiology, School of Medicine, Shahed University, Tehran, Iran (corresponder).

2. Traditional Iranian Medicine, Clinical Trial Research Center, Shahed University, Tehran, Iran.

3. Traditional Iranian Medicine, Clinical Trial Research Center, Shahed University, Tehran, Iran.

4. Department of Nanomedicine and Tissue Engineering, Department of Pharmacology & euroscience Research Center, Shaheed Beheshti Medical University, Tehran, Iran.

Background: *Nepeta Menthoides* is an Iranian native plant with anti-depressant and sedative properties. This study was designed to search the effects of *Nepeta menthoides* aqueous extract pretreatment on reserpine induced depression

Material and Methods: 64 male mice were randomly divided into 8 groups of 8 mice. Control normal saline (10ml/kg), fluoxetine (20 mg/kg), imipramine (10 mg/kg), Reserpine (10 mg/kg normal saline), and treatment groups received different doses of the extracts (50, 100, 200, 400 mg/kg) for 7 days. In the 8th day all of the groups except control normal saline received reserpin (4 mg/kg) and were tested 24 hours later. Tests included forced swimming (FST), tail suspension (TST) and open field test (OFT).

Results: reserpine enhanced immobility time (64.37 ± 5.93) in compared to normal saline (38.25 ± 2.59) while *Nepeta* pretreatment were declined immobility time in a dose dependent manner [25.75 ± 5.90 (100 mg/kg) And 23.5 ± 7.43 (200 mg/kg)]. Also, *Nepeta* reduced immobility time dose dependently in tail suspension test $p < 0.01$. Open field test showed that none of agents did not influence total motility.

Conclusion: Pretreatment with *Nepeta menthoides* could prevent of depression like behavior induced by reserpine better than fluoxetine and imipramine.

Keywords: *Nepeta menthoides*, Depression, Reserpin, Forced swimming, Tail suspension