

## The effects of swimming exercise and *Nepeta menthoides* on depression like behavior induced by reserpine

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**Background and Objective:** Physical activity has long been associated with mental health. *Nepeta menthoides* is a native Iranian herb recently acknowledged for its anti-depressant properties. This study attempts to determine the effects of swimming exercise and *Nepeta menthoides* on reserpine induced depression in rats.

**Materials and Methods:** Male rats (n=80) were assigned to 8 groups: 1-Saline, 2-Reserpine (0.2 mg/kg, i.p for 14days) 3-Swimming Exercise (30 min swimming sessions 5 days a week) 4-*Nepeta* (200 mg/kg), 5-Reserpine+*Nepeta*, 6-Reserpine+Swimming exercise, 7-Reserpine+*Nepeta*+Swimming exercise, 8-Reserpine+Fluoxetine, Finally, the behavioral tests including sucrose preference, elevated plus maze and open field were performed.

**Results:** Obtained data showed that depressed rats which were treated with *Nepeta*+ Exercise expressed higher preference for sucrose relative to other groups. However, if combined *Nepeta*+Exercise could not significantly antagonize the effect of reserpine on motor activity and time spent in the open arms of elevated plus maze, but mentioned items showed notable improvements in the *Nepeta* group.

**Conclusion:** Combined treatment with *Nepeta*+exercise was able to alleviate anhedonia in depressed rats. Nevertheless, anxiety behaviors were not significantly affected by the mentioned treatment.

Keywords: Depression, Reserpine, Swimming Exercise, *Nepeta menthoides*