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Original Article

Antidepressant effect of *Melissa officinalis* in the forced swimming test

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Abstract:

ABSTRACT

Background: In Iranian and other traditional medicines, an antidepressant effect has been indicated for *Melissa officinalis* (Lamiaceae). However, studies showing its antidepressant effect is lacking. Therefore, the present study was undertaken to examine whether the aqueous extract and essential oil from leaves of *Melissa officinalis* have an antidepressant-like activity in mice.

Materials and Methods: The effect of subchronic administration of different doses of the aqueous extract (25, 75, 150, 300 mg/kg or water; n=9-10) and the essential oil (10, 25, 75, 150, 300 mg/kg or almond oil; n=9-10) on immobility, climbing, and swimming behaviors were evaluated in the forced swimming test. Fluoxetine (20mg/kg) and imipramine (15 mg/kg) were used as reference drugs. Additionally, the effect of both plant preparations on spontaneous activity was examined.

Results: All doses of the aqueous extract, used in this study, produced a significant reduction in immobility along with an increase in climbing behavior which is similar to those which have been observed with imipramine. Essential oil caused a dose-dependent reduction in immobility and an increase in climbing at all studied doses, compared to control group. Only the highest dose (300mg/kg) of essential oil showed a significant increase in swimming behavior. The aqueous extract, but not the essential oil, decreased spontaneous activity in a dose dependent manner.

Conclusion: The results of this study suggests that the *Melissa officinalis* possess an antidepressant-like activity similar to imipramine which may have a potential clinical value for treatment of depression.

Keywords:

Melissa officinalis; Forced swimming test; Antidepressant; Spontaneous activity

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