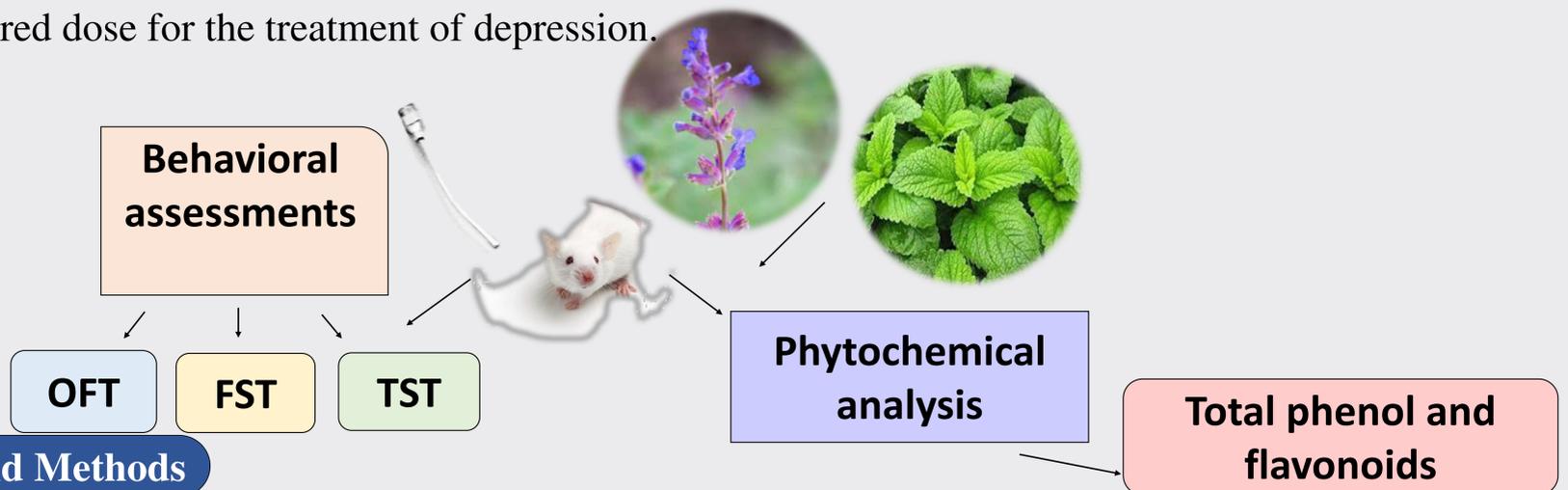


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02590164**Dose response effects of *Nepeta menthoides* and *Melissa officinalis* aqueous extracts on depressive-like behavior in mice**

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[\\*s.talebi@shahed.ac.ir](mailto:s.talebi@shahed.ac.ir)**Introduction**

In Persian medicine, various doses of *Nepeta menthoides* Boiss. & Buhse and *Melissa officinalis* are widely prescribed for those patients suffering from depression taking into account their active components and main phenolic compounds. The present study thus aimed to evaluate different dose response effects of *N. menthoides* (NM) and *M. officinalis* (MO) aqueous extracts on depressive-like behavior in mice and find the desired dose for the treatment of depression.

**Material and Methods**

To measure the influence of various dose response effects, mice received single dose of normal saline (10 ml/kg), fluoxetine (20 mg/kg), imipramine (10 mg/kg) and NM (100–300–600–1200 mg/kg) and MO (350–550–750–950 mg/kg) orally. Open field, tail suspension and forced swim tests were implemented to assess the behavioral changes 1 hr after getting drugs. Besides, high-performance liquid chromatography (HPLC) analysis was implemented to assess the rosmarinic acid contents in the samples of NM and MO and total phenol and flavonoid contents were measured.

**Results**

The findings indicated that therapeutic effects of doses of 100 mg/kg NM and 550 mg/kg MO are better than the saline control group and like FLX and IMP ( $p < 0.05$ ). Furthermore, HPLC showed that rosmarinic acid contents in MO and NM were  $6.42 \pm 1.1$  and  $11.03 \pm 2.16$  mg/g of dried extract, respectively. Total flavonoid and phenolic contents of MO were higher than NM.

**Discussion and Conclusion**

In summary, data showed that *N. menthoides* and *M. officinalis* can prevent depressive-like behavior in mice and probably rosmarinic acid contents are one of the prime factors of this manner. This study can provide valuable information for further researches on supplementary clinical investigations about these two plants applications for depression treatment.

**Keywords**Dose response effects, *Nepeta menthoides*, *Melissa officinalis*, Depression, Persian medicine