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Antidepressant activity of ethanolic extract, chloroform extract and aqueous extract of *Aloysia Triphylla* L. in the FST and in the TST in male mice

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Background and Aims: The present study was designed to evaluate the antidepressant activity of Aloysia Triphylla L. ethanolic extract, chloroform extract and aqueous extract in the forced swimming test (FST) and in the tail suspension test (TST) in male mice.
Methods: Male NMRI mice (20-30g) were used in this study. Different doses of Aloysia triphylla L. ethanolic extract, chloroform extract and aqueous extract (200, 400 and 600 mg/kg) administered intraperitoneally .Control group received normal saline (10ml/kg) .Mice was individually forced to swim in an open cylindrical container for FST. for TST Mice was suspended on the edge of a table 50 cm above the floor by the adhesive tape placed approximately 1 cm from the tip of the tail; mice was considered to be immobile when it did not show any movement of body and hanged passively .the total duration of immobility was recorded during 10-min period in both test. A decrease in the duration of immobility is indicative of an antidepressant-like effect.
Results: Intraperitoneal (i.p.) administration of different doses of Aloysia Triphylla L. ethanolic extract ($F_{4, 35} = 10.5$, $P=0.000$), chloroform extract and aqueous extract compared to control group significantly and dose- dependently reduced the duration of immobility time.
Conclusions: These results confirm the antidepressant activity of Aloysia Triphylla L. ethanolic extract, chloroform extract and aqueous extract in the FST and TST. It seems flavonoids (especially hesperidin) of Aloysia Triphylla L. by an interaction with Opioid system responsible for their antidepressant activity. However, to better understand this interaction, future studies are needed.

Keywords: Antidepressant; *Aloysia Triphylla* L; Ethanolic extract; Opioid system; Hesperidin; Mice