

Possible Mechanism of Action of Antidepressant-like Activity of Ingredient of PHYTOCEE® : *Emblica officinalis*

OBJECTIVE

To study the probable mechanism of action of antidepressant-like activity of fruits of *Emblica officinalis*.

MATERIALS AND METHODS

Young male Swiss albino mice weighing 20–25g were used. The two doses (200 and 400 mg/kg) of the *Emblica officinalis* fruit extract were selected. The animals were divided into 5 groups. Groups for estimation of monoamine oxidase (MAO)-A: Groups 1, 2, 3, 4, and 5 (n=7 each) Distilled water, Imipramine (15 mg/kg), Fluoxetine (20 mg/kg), Phenelzine (20 mg/kg), and aqueous extract (200 mg/kg) of *E. officinalis*, respectively were administered orally for 14 consecutive days and 60 min after the administration on 14th day, the animals were sacrificed under light ether anesthesia, and immediately brain samples were collected and analyzed for MAO-A.

RESULTS

Effects of the aqueous extract of *E. officinalis*, fluoxetine, imipramine, phenelzine on MAO-A activity in mouse whole brain.

Treatment for 14 days p.o.	Dose (kg ⁻¹)	MAO activity (nmol/mg protein) (Mean ± S.E.M.)	P values
Vehicle treated	10 mL	86.63 ± 8.08	
Imipramine	15 mg	52.60 ± 4.09 ^a	0.0027
Fluoxetine	20 mg	51.28 ± 3.42 ^a	0.0017
Phenelzine	20 mg	49.82 ± 5.86 ^a	0.0031
Aqueous extract	200 mg	53.55 ± 4.17 ^a	0.0034

n = 7 in each group;

Data was analyzed by one-way ANOVA followed by Dunnett's t-test; p<0.001 as compared with vehicle treated group

CONCLUSIONS

This study findings demonstrated that 200 mg/kg fruit extract of *Emblica officinalis*, showed significant reduction of MAO-A levels.

OUTCOME

Hence, *Emblica officinalis* was demonstrated to possess antidepressant like activity probably by inhibition of MAO-A levels.

Reference:

Dhingra D, Joshi P, Gupta A et al. Possible involvement of monoaminergic neurotransmission in antidepressant-like activity of *Emblica officinalis* fruits in mice. CNS Neurosci Ther. 2012 May;18(5):419-25.