PHYTOCEE®

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

OBJECTIVE

To evaluate the antidepressant-like activity of fruits of *Emblica offcinalis* using tail suspension and forced swim tests.

MATERIALS AND METHODS

Young male Swiss albino mice weighing 20–25g were used. The two doses (200 and 400 mg/kg) of the *Emblica offcinalis* fruit extract were selected. The animals were divided into 12 groups and each group comprised a minimum of 6–10 mice. The tail suspension test and forced swim test were performed using standardized protocols. Groups for Tail Suspension Test (TST): Group 1 (n=10) Control group: Distilled water was administered orally for 14 consecutive days and 60 min after the administration on 14th day, immobility period was recorded. Groups 2, 3, 4, 5, and 6 (n=10 each) Imipramine (15 mg/kg), fluoxetine (20 mg/kg), phenelzine (20 mg/kg), and aqueous extract (200 and 400 mg/kg) of *E. officinalis*respectively were orally administered for 14 successive days and 60 min after the administration on 14th day, immobility periods were recorded. Groups for Forced Swim Test (FST): Groups for Tail Suspension Test (TST): Groups 7, 8, 9, 10, 11, and 12 (n=10 each) These were same as groups 1–6, except the immobility periods were recorded using FST.

RESULTS

Table 1 Effects of the aqueous extract of *E. officinalis*, fluoxetine, imipramine, phenelzine on immobility period of mice using Tail Suspension Test.

Group No.	Treatment for 14 days p.o.	Dose (kg^{-1})	Immobility Period (seconds) Mean ± SEM	*P* values
1.	Vehicle (Distilled Water)	10 mL	177.5 ± 5.28	
2.	Imipramine	15 mg	112.9 ± 6.86[a]	<0.0001
3.	Fluoxetine	20 mg	106.2 ± 6.48[a]	<0.0001
4.	Phenelzine	20 mg	117.2 ± 3.84[a]	<0.0001
5.	Aqueous extract	200 mg	121.3 ± 9.16[a]	<0.0001
6.	Aqueous extract	400 mg	143.9 ± 9.34[a]	0.0058

n = 10 in each group; Data was analyzed by one-way ANOVA followed by Dunnett's *t*-test.
$F(5, 53) = 14.559$; $P < 0.001$.
*P values as compared with vehicle treated group.

Table 2 Effects of the aqueous extract of *E. officinalis*, fluoxetine, imipramine, phenelzine on immobility period of mice using Forced Swim Test (FST)

Group No.	Treatment for 14 days p.o.	Dose (kg^{-1})	Immobility Period (seconds) Mean ± SEM	*P* values
7.	Vehicle (Distilled Water)	10 mL	161 ± 7.58	
8.	Imipramine	15 mg	105.3 ± 5.53[a]	<0.0001
9.	Fluoxetine	20 mg	89.6 ± 4.33[a]	<0.0001
10.	Phenelzine	20 mg	106 ± 4.7[a]	<0.0001
11.	Aqueous extract	200 mg	128.22 ± 10.2[a]	0.0189
12.	Aqueous extract	400 mg	139.4 ± 11.27	0.1292

n = 10 in each group; Data was analyzed by one-way ANOVA followed by Dunnett's *t*-test.
$F(5, 52) = 11.780$; $P < 0.001$.
[a]*P* values as compared with vehicle treated group.

CONCLUSIONS

200 mg/kg fruit extract of *Emblica offcinalis,* significantly decreased immobility period in both tail suspension and forced swim tests.

OUTCOME

Hence, fruit extract of *Emblica offcinalis* possess antidepressant-like activity.

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.