

Antistressor Effectiveness of Ingredient of PHYTOCEE®: *Ocimum sanctum*

OBJECTIVE

To analyze the potential of *Ocimum sanctum* (OS) as an effective antidote for noise stress.

MATERIALS AND METHODS

Male Wistar rats (180-220 g) were used in this study. 70% ethanolic extract of OS dissolved in propylene glycol (PG) at 10 g/100 ml was tested in this study. The animals were divided into six groups. Group 1 served as control. Group 2 consisted of noise stressed animals (100 dB, 4 h daily for 15 days). Group 3 consisted of noise stressed + OS treated animals. Group 4 consisted of noise stressed + PG-treated animals. The remaining two groups consisted of control rats pretreated with OS and PG for 15 days to rule out the action of OS and PG in the absence of noise stress. The animals in all groups were sacrificed on 16th day, and various brain biogenic amines viz. dopamine (DA), and 5-hydroxytryptamine (serotonin, 5-HT) were measured by HPLC coupled with electrochemical detection (ECD) in discrete regions of the rat brain.

RESULTS

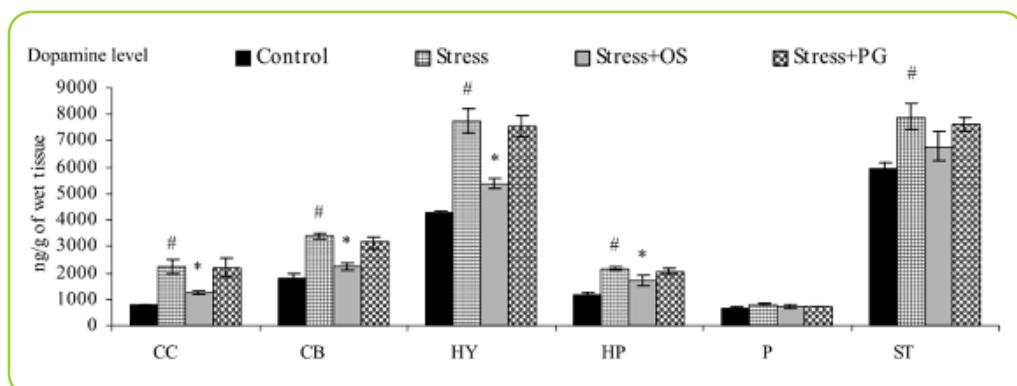


Figure 1. Effect of *Ocimum sanctum* on noise-stress-induced changes in dopamine levels

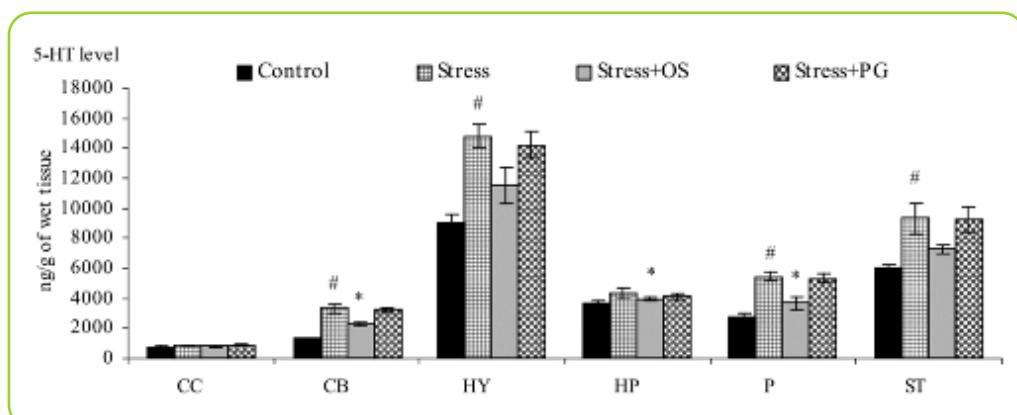


Figure 2. Effect of *Ocimum sanctum* on noise-stress-induced changes in 5-HT levels

5-HT, 5-hydroxytryptamine; CC, Cerebral cortex; CB, Cerebellum; HY, Hypothalamus; HP, Hippocampus; P, Pons; ST, Corpus striatum
#p<0.05 as compared to control; *p<0.05 as compared to stress group

CONCLUSIONS

- Entire brain region shows significant decreases in dopamine and 5-hydroxytryptamine levels in the *Ocimum sanctum* treated group when compared with stress group.
- These findings depicted that *Ocimum sanctum* had a normalizing action on discrete regions of brain and controlled the alteration in neurotransmitter levels due to noise stress.

OUTCOME

Therefore, this study demonstrated that *Ocimum sanctum* was shown to possess antistressor potential.

Reference:

Ravindran R, Rathinasamy SD, Samson J et al. Noise-stress-induced brain neurotransmitter changes and the effect of *Ocimum sanctum* (Linn) treatment in albino rats. J Pharmacol Sci. 2005;98(4):354-60.