IN Volvement of the Serotoninergic System in the Antidepressant-like Effect of Ethyl Acetate Fraction of Tabernaemontana Catharinensis in the Forced Swimming Test in Mice.
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Introduction and objective: Tabernaemontana catharinensis shrub, belonging to the family Apocynaceae, has been shown to present several pharmacological effects in studies using ethyl acetate fraction of the plant. This study investigates a possible antidepressant-like activity of ethyl acetate fraction of Tabernaemontana catharinensis (extract) during the forced swimming test in mice. Materials and Methods: animals were treated orally at doses of 50, 125, 250 or 500mg/kg or vehicle. After 54 minutes, the animals were subjected to the open field test and then to the forced swimming test. In a second moment, the animals were treated with vehicle, fluoxetine (5 mg/kg), extract (25 mg/kg) or both. Finally, other animals were pretreated with ketanserin (5 mg/kg, i.p., 5-HT2A/2C receptor antagonist), PCPA (an inhibitor of serotonin synthesis, 100 mg/kg once a day for 4 consecutive days) or vehicle and after 30 minutes animals received the extract. After 60 minutes, the animals were submitted to the forced swimming test. Results and Conclusions: the extract at doses of 250mg/Kg and 500mg/Kg produced a decreased in the immobility time 1h after extract administration when compared with the control group, without changing the locomotor activity in the open field. When the extract was administered with the fluoxetine, both at subeffective doses, post hoc analyses indicated that extract significantly enhanced the antidepressant-like effect of a subeffective dose of fluoxetine. The anti-immobility effect of extract was prevented by pretreatment with ketanserin and PCPA. These compounds completely blocked the antidepressant-like effect of the extract in the forced swimming test. The effects may be dependent upon Tabernaemontana catharinensis compounds, including flavononas, xanthones, flavones and tannins. We hypothesize that these effects are due to interaction with the serotoninergic system. It may be concluded that ethyl acetate fraction of the Tabernaemontana catharinensis produces an antidepressant-like effect in the forced swimming test in mice.

Acknowledgements: PIBIC/FURB, FAPESC.
Key words: Serotoninergic System, Depression, Tabernaemontana catharinensis.