

# Effect of Hydroalcoholic Extract of *Rosmarinus officinalis* L. Leaf on Anxiety in Mice.

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## Abstract

In today's stressful world, psychopathy (especially anxiety) is receiving increased importance. Most of the drugs used to treat this disease have several side effects. Medicinal plants derived from natural products have fewer side effects and can be used in the treatment of this disease. The aim of this study was to evaluate the effect of the hydroalcoholic extract of *Rosmarinus officinalis* L. on anxiety in mice. In this experimental study, 50 male mice were randomly divided into 5 groups. To evaluate anxiety, the Elevated Plus Maze test was performed. The control group received normal saline, the positive control group received diazepam (1 mg/kg) as intraperitoneal injection, and the experimental groups received doses of 100, 200, and 400 mg/kg body weight of rosemary extract. The data were analyzed using SPSS 15 and ANOVA statistical tests. The results show that rosemary extract dose-dependently increases the mice spending time and the entries number of mice in plus maze open arms (indicating less stress). This effect at a dose of 400 mg/kg was similar to diazepam, which, in comparison to the control group, was statistically significant ( $P < .01$ ), while the evaluation of locomotor activity in treated groups, compared with the control groups, showed no significant difference ( $P > .05$ ). On the other hand, the rosemary extract, similar to the standard drug diazepam, showed an anti-anxiety effect. This effect is probably due to the presence of flavonoids in this plant and their antioxidant property.

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## KEYWORDS:

*Rosmarinus officinalis*; anxiolytic; mice