

Essential oils of *Myrtus communis* L. produce a non-sedating anxiolytic effect in mice model of anxiety

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The myrtle shrub (*Myrtus communis* L., Myrtaceae) is rich in essential oils that are used in Ethiopian traditional medicine for treatment of a variety of ailments, including anxiety. Anxiety is a common disorder that attacks many people in society and often accompanied by physiological sensations such as tachycardia, chest pain, shortness of breath, insensitivity. The present study was undertaken to evaluate the anxiolytic effect of the essential oil of *M. communis* using different models of anxiety. Swiss Albino mice of either sex were randomly divided into five groups. Group I (control) was administered Tween 80 (5%, v/v) in distilled water. Group II (positive control) was given diazepam (0.5 mg/kg, orally), suspended in the vehicle. Group III-VI (test groups) were given the essential oil at doses of 50, 100, 200 and 400 mg/kg, respectively. Animals were then subjected to anxiety models, including elevated plus maze (EPM), stair case and open field, and parameters, among others, percentage of time spent in each arm and arm entries, number of steps climbed and number of rears, and number of crossings were measured. In EPM studies, the extract at both 100 mg/kg ($p < 0.01$) and 200 mg/kg ($p < 0.05$) produced a significant increase in percentage of open arm time as compared to controls. In the staircase setting, significant reduction of rearing was observed in mice treated with the essential oil at 100 mg/kg ($p < 0.01$) and 200 mg/kg ($p < 0.05$) compared to controls. However, at doses of 50 mg/kg and 400 mg/kg no detectable changes were noted on the measured parameters in both EPM and stair case models. The total number of entries into open field was comparable in all groups. The essential oil of *M. communis* showed better anxiolytic activity at 100 mg/kg compared to the standard drug. The possible mechanism by which the oil showed the activity could be through GABA-related mechanism. Thus, the present work holds up the traditional use of the plant for anxiety.

Biography

Eyob Hailu had done his M.Sc. project in Addis Ababa University at the age of 25 under the title "Essential oils of *Myrtus communis* L. produce a non-sedating anxiolytic effect in mice model of anxiety". He had participated and presented his research work in International Brain Research Organization (IBRO) Neuroscience Course and the 10th International Conference of the Society of Neuroscientists of Africa (SONA), attended IBRO alumnus School in Fes, Morocco and also XX world congress of psychiatric genetics, Hamburg, Germany. Currently he is working as Lecturer of Pharmacology in Debre Berhan University.

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