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Evaluation of anxiolytic and sedative effects of 80% ethanolic *Carica papaya* L. (Caricaceae) pulp extract in mice

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Abstract

Anxiety is one of the major public health problems from the psychiatric illnesses, affecting one-eighth of the total population. The present study was undertaken to evaluate the anxiolytic and sedative effects of 80% ethanolic *Carica papaya* (Caricaceae) pulp extract in animal models of anxiety including elevated plus maze, staircase and open field tests, and ketamine-induced sleeping time test for sedation in male mice. Distilled water (control), diazepam 1 mg/kg (a standard drug) and the test groups (50, 100, 200 and 400 mg/kg of extract) were administered 1 h before behavioral tests orally at the volume of 10 ml/kg body weight. Flavonoids, tannins, alkaloids, phlobatannins, phenolic compounds, terpenoids and saponins were found on the preliminary phytochemical analysis. *C. papaya* pulp extract 100 mg/kg significantly increased the percentage of open arm time and entry, and reduced the percentage of entry and time spent in closed arm in elevated plus maze test; reduced the number of rearing in the staircase test; and increased the time spent and entries in the central squares while not affecting the total number of entries into the open field significantly, suggesting anxiolytic activity without altering locomotor activity and sedative effect as it was ruled out by ketamine-induced sleeping time test. Co-administration of ineffective doses of diazepam and *C. papaya* pulp extract showed a synergistic reduction in the number of rearing. The results of this study established a support for the traditional usage of *C. papaya* as anxiolytic medicinal plant.

Biography

I am Zerihun Kebebew and I had done my Msc project in Addis Ababa University at the age of 25 under the title “Evaluation of anxiolytic and sedative effects of 80% ethanolic Carica papaya L. (Caricaceae) pulp extract in mice”. Currently I am working as lecturer of Pharmacology in Mekelle University.