



## ORIGINAL RESEARCH

### Neuropharmacological Activity of Various Fractions Obtained from *Solanum aethiopicum* (Linn.) Fruit in Mice

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#### ABSTRACT

**Background:** *Solanum aethiopicum* (L.), family *Solanaceae*, is known as garden eggs. The fruit is used in the treatment of insomnia, diabetes and constipation.

**Objective:** The aim of this study was to evaluate anxiolytic-like activity of fractions obtained from crude methanol extract of *Solanum aethiopicum* fruit.

**Method:** Acute toxicity testing was conducted according to the OECD guidelines 420 via oral and intraperitoneal routes (ip). n-Hexane (HF), chloroform (CHF), ethyl-acetate (EAF), n-butanol (BF) and residual aqueous fraction (RAF) at doses of 25, 50 and 100 mg/kg ip were experimented using the open field, elevated plus maze, staircase, light dark box and hole-board tests.

#### Results:

Results: In open field test, there was statistically significant increase in frequency of central square entry by EAF 25mg/kg, 50mg/kg and 100mg/kg and RAF 25mg/kg, 50mg/kg and 100mg/kg all at  $p < 0.05$  compared to distilled water (D/W) group. Elevated plus maze test showed statistically significant increases in open arm entry and duration by CHF 25mg/kg, RAF 25mg/kg and 50mg/kg again at  $p < 0.05$ . Also, in the staircase test, statistically significant decrease in frequency of rearing with no effect on step climbing was observed by RAF 25mg/kg ( $p < 0.05$ ) compared to D/W. Light and dark box test produced increased light box entry and duration by EAF 25mg/kg, RAF 25mg/kg and 50mg/kg at  $p < 0.05$ . Furthermore, the hole-board test showed statistically significant increases in number of head dips by EAF 50mg/kg and 100mg/kg as well as RAF 25mg/kg, 50mg/kg and 100 mg/kg at  $p < 0.05$ .

**Conclusion:** The fractions obtained from *Solanum aethiopicum* fruits possesses anxiolytic-like activity.

**Keywords:** Anxiety, Neuropharmacology, Open-field, Fractions, *Solanum aethiopicum*, Mice.