



## CNS Depressant effects and muscle relaxant activity of *Galphimia glauca* leaf methanol extract

Baba Shankar Rao Garige<sup>1</sup>, Srisailam Keshetti<sup>2\*</sup>,  
Uma Maheshwara Rao Vattikuti<sup>3</sup>

<sup>1</sup>Department of Pharmacognosy and Phytochemistry, School of Pharmacy, Anurag Group of Institutions, Hyderabad, 501301, Telangana State, India.

<sup>2</sup>University College of Pharmaceutical Sciences, Satavahana University, Karimnagar, 505002, Telangana State, India.

<sup>3</sup> Department of Pharmacy, C.M.R Group of Institutions, Hyderabad, 501401, Telangana State, India.

**Abstract : Objective:** This study assesses the depressant effects and muscle relaxant activity of *G. glauca* leaf methanol extract.

**Methods:** The leaf extract was administered in Swiss albino mice for one day to study depressant and muscle relaxant activity employing models like Sodium pentobarbital induced sleep test, Hole-board test, Open field test, Pentylenetetrazole induced convulsions, Picrotoxin induced convulsions, Grip strengthening test and Rota rod test.

**Results:** The LD<sub>50</sub> of the leaf extract was found to be > 2000 mg/kg b.w. Mice treated with leaf methanol extract at 100, 200 and 400 mg/kg, b.w doses prolonged the sleeping time induced by sodium pentobarbital (40 mg/kg, b.w, i.p.). The leaf methanol extract at 400 mg/kg dose showed a significant ( $P \leq 0.001$ ) sedative effect in the hole-board test and decreased spontaneous activity in mice and also delayed the onset of seizures induced by Pentylenetetrazole (90 mg/kg b.w, i.p) and Picrotoxin (10 mg/kg, b.w, i.p). The leaf extract showed significant ( $P \leq 0.001$ ) effect on the ambulatory behaviour of mice in open field test. The leaf methanol extract also showed significant ( $P \leq 0.05$ ) effects on muscle coordination in Grip strengthening and Rota rod test in mice ( $P \leq 0.01$ ).

**Conclusion:** The results conclude that the *Galphimia glauca* leaf methanol extract has significant depressant and muscle relaxant effects compared to standard drugs.

**Keywords :** *Galphimia glauca*, Methanol extract, Convulsions, Rota rod test, Grip strength test.