

Anti-nociceptive and anti-inflammatory activities of methanol root extract of *Andropogon gayanus* Kunth (Poaceae) in rodents

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Abstract

Background: *Andropogon gayanus* is widely used in traditional medicine for various ailments such as postpartum pain, bronchitis and oedema.

Objective: This study evaluated the anti-nociceptive and anti-inflammatory activities of methanol root extract of *A. gayanus* in experimental rodents.

Methods: Phytochemical screening tests and acute toxicity studies were carried out. Analgesic activity using acetic acid-induced writhing response and hot plate test in mice, formalin-induced pain and carrageenan-induced paw oedema in rats were evaluated at doses of 250, 500 and 1000 mg/kg of the extract.

Results: Oral median lethal dose was >5000 mg/kg in both mice and rats. The extract significantly ($p<0.01$) decreased the number of writhing movements at all tested doses. It also significantly ($p<0.05$) increased the mean reaction times. A significant ($p<0.05$) decrease in mean pain scores was also observed in both phases of the formalin test at 1000 mg/kg. The extract at 1000 mg/kg significantly ($p<0.05$) reduced the oedema at the 1st hour, while at the 5th hour, all doses tested significantly reduced the oedema.

Conclusion: The methanol root extract of *Andropogon gayanus* possesses antinociceptive and anti-inflammatory activities.

Keywords: *Andropogon gayanus*, Analgesic, Anti-inflammatory, Pain

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