



Count: 253

Abstract ID: 205

**Presentation Type:** Poster

## **The effect of intraperitoneal administration of aqueous extract of Melia azedirach leaves on pain in Wistar rats**

**Submission Author:** Alieh Jalali

Alieh Jalali<sup>1</sup>, Masoud Fereidoni<sup>2</sup>, Ali Asadollahi<sup>3</sup>

1. M.sc Student in Biology (Animal Physiology), Rayan Center for Neuroscience and Behavior, Department of Biology, Faculty of Science, Ferdowsi University of Mashhad, Mashhad, Iran
2. Professor, Rayan Center for Neuroscience and Behavior, Department of Biology, Faculty of Science, Ferdowsi University of Mashhad, Mashhad, Iran
3. Assistant Professor, Rayan Center for Neuroscience and Behavior, Department of Biology, Faculty of Science, Ferdowsi University of Mashhad, Mashhad, Iran

**Background and Aim :** The application of herbal plants instead of synthetic drugs has been increasing in the recent years because of their lower side-effects and high varieties of efficient components. One of these herbs, *Melia azedarach* L. belongs to the family of Meliaceae, which is widespread in Mashhad. Various scientific studies have reported the anti-cancer, anti-viral, anti-malarial, anti-fertility and analgesic (visceral pain) activities of this plant. This research aims to investigate the effects of aqueous extract of *Melia azedirach* leaves on thermal and chemical pains.

**Methods :** After the preparation of plant leaves aqueous extract, male Wistar rats (200-250gr) were randomly divided into 3 groups: Control groups, sham groups (i.p. Saline) and 200 mg/kg i.p. dose extract receiving group. In order to evaluate the chemical pain, formalin test was used and to investigate thermal pain, tail flick test was performed.

**Results :** Solvent didn't have any effects on formalin and tail flick tests but the 200 mg/kg dose of *Melia azedirach* leaves extract showed a decreasing effect on pain in the first and second phase of formalin test ( $p < 0/001$ ), but the extract didn't show anti nociceptive effects in thermal pain at tail flick test.

**Conclusion :** The results indicate that aqueous extract of *Melia azedirach* leaves has analgesic properties on the chemical pain of the formalin test and may be due to the presence of flavonoids, glycosides, tannins and steroid and terpenoid components which needs more investigations.

**Keywords :** *Melia azedirach*; Formalin test; Tail flick test; Chemical pain; Thermal pain