

## ***The antinociceptive effect of hydroalcoholic extracts of *Scrophularia striata* Boiss. On mice using hot plate test***

Benyamin Alimohammadi<sup>1</sup>, Hassan Azhdari Zarmehri<sup>2\*</sup>, Marzieh Dolatshahi<sup>3</sup>

1. BSc of Nursing, School of Nursing and Midwifery, Qazvin University of Medical Sciences, Qazvin, Iran

2. Department of Basic Sciences and Neurosciences Research Center, Torbat Heydariyeh University of Medical Sciences, Torbat Heydariyeh, Iran

3- BSc Student of Operating room, Torbat Heydariyeh University of Medical Sciences, Torbat Heydariyeh, Iran

**\*Corresponding Address:** Torbat Heydariyeh University of Medical Sciences, Razi st., North Ferdowsi av., Torbat Heydariyeh, Khorasan razavi, Iran.  
**Email Address:** hasan.azhdari@gmail.com

### ***Abstract***

**Background and Aim:** Pain is a warning factor that appears either acute or chronic in possible dangers. The usage of herbal plants instead of synthetic drugs has been increased in recent years due to slight complications and variety of effective components. The aim of this study is to investigate the effect of hydroalcoholic extract of *Scrophularia striata* Boiss. on the pain induced by hot plate test.

**Methods:** In this study, 40 male mice (approximate weight of 25-30 g) were randomly selected and divided into five groups of 8 included a control group (receiving normal saline) and 4 treatment groups (receiving the extract doses of 150, 300, 600, 900 mg/kg). After 30 minutes of Intraperitoneal injection of different doses of extract in treatment groups and normal saline as solvent in control group, mice were immediately transferred to a special cage and the hot plate test was performed at 15, 30, 60, 90, 120, 180 minutes.

**Results:** Hydroalcoholic extract of *Scrophularia striata* Boiss. Cause short-time analgesia in hot plate test as acute pain evaluation model in mice. As time elapsed, compared to the control group, no significant difference in the analgesic effect was observed.

**Conclusion:** Hydroalcoholic extract of *Scrophularia striata* Boiss has a strong and appropriate antinociceptive effect and can be a good alternative to analgesic drugs. It is recommended to use other pain and inflammation tests and different fractions of extract.

**Keywords:** *Scrophularia striata* Boiss., Hot plate test, Pain relief, Mice