

Original Paper

# Analgesic and anti-inflammatory effects of ethanolic extract of *Hyssopus officinalis* in mice

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## Abstract

**Background and Objective:** Finding the pain relieving substances is one of the important aims of biological researches. This study was done to evaluate the antinociceptive, anti-inflammatory effects of *Hyssopus officinalis* extract in mice.

**Methods:** In this experimental study, 100 male adult mice were allocated into 5 experimental groups including control group receiving only normal saline and groups that received extract of *Hyssopus officinalis* at doses of 25, 50 and 75 mg/kg/bw, and positive control group in formalin test received morphine in acute and chronic phase of experiment and positive control group in anti-inflammatory test received dexamethasone. Formalin-induced paw licking was used to determine the antinociceptive activity of *Hyssopus officinalis* extract. The anti-inflammatory activity was determined by Xylene test.

**Results:** In the acute phase of pain (the first 5 minutes), doses of 50 and 75 mg/kg/bw ( $7.75 \pm 2.3$ ,  $8.75 \pm 2.1$ ) of the *Hyssopus officinalis* extract significantly reduced the number of feet raised ( $P < 0.05$ ). Also, in the chronic phase of pain (20 min second), 25, 50 and 75 mg/kg/bw of doses ( $17.25 \pm 2.3$ ,  $11.75 \pm 2.9$ ,  $2.7 \pm 10.75$ ) and morphine significantly reduced the duration of foot lift ( $P < 0.05$ ). The extract of *Hyssopus officinalis* with three doses of 25, 50 and 75 mg/kg/bw ( $13.33 \pm 3.1$ ,  $20 \pm 3.1$ ,  $19.83 \pm 2.8$ ) showed high anti-inflammatory activity against Xylene induced ear edema ( $P < 0.05$ ).

**Conclusion:** This study showed that *Hyssopus officinalis* extract can inhibit pain and inflammation in animal model.

**Keywords:** *Hyssopus officinalis*, Formalin test, Xylene test, Pain, Inflammation, Mice

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