In vivo analgesic effect of aqueous extract of Tamarindus indica L. fruits.

ABSTRACT

To study the effects of Tamarindus indica L. aqueous fruit extract on the antinociceptive activities in rodent models. Methods: The analgesic effect was evaluated using acetic acid-induced writhing, hot plate and formalin tests. Results: The extract (60–600 mg/kg) significantly (p < 0.05) inhibited the writhing test in a dose-dependent manner with the percentage of analgesia recorded between 51.8 and 74.1%. In addition, the extract also significantly (p < 0.05) increased the latency time in the hot plate test in a dose-dependent manner. Further study showed that the extract elicited inhibitory activity in both the early and late phases of the formalin test. Moreover, pretreatment with 5 mg/kg naloxone, a nonselective opioid receptor antagonist, significantly (p < 0.05) modified the antinociceptive effect of the extract in all tests. Conclusion: The aqueous extract of T. indica possesses potential antinociceptive activity at both the peripheral and central levels, which are mediated via activation of the opioidergic mechanism.

Keyword: Analgesic; Opioid system; Tamarindus indica.