

The effect of fruit *Cassia fistula* aqueous extract on sleeping time and the level of anxiety in mice

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Abstract

Background and Objective: Several investigations have indicated the antinociceptive, anti-inflammatory, antipyretic effects and smooth muscle relaxant activity of *Cassia species*. This study was done to determine the effect of *Cassia fistula* on sleeping time and the level of anxiety in mice.

Materials and Methods: In this experimental study, 80 male albino mice (25-30 g) randomly allocated in 8 groups. For measuring the sleeping time we used the Angle method and animals were divided into three experimentals (250, 500 and 1000 mg/kg) and one control group. For evaluating of anxiety levels, animals randomly were divided into three experimentals and one control group, and elevated plus maze (EPM) model was used. The evaluation of anxiety indices included number and percent of time spent in open arm. Different doses of the aqueous extract of *Cassia fistula* (250, 500, 1000 mg/kg IP) were injected intraperitoneally to the treated groups. Controls were received 10 ml/kg/BW normal saline intraperitoneally in both methods.

Results: The extract of *Cassia fistula* (250, 500 and 1000 mg/kg) significantly increased sleeping time [F (3, 39)=23.19, P<0.05]. Also open time [F (3,39)=15.55, P<0.05] and the number of open arm entries [F (3, 39)=24.21, P<0.05] were significantly in doses (250mg and 500 mg) were significantly more than control group, respectively (P<0.05).

Conclusion: This study showed that the aqueous extract of *Cassia fistula* fruit increase the sleeping time and decreasing level of anxiety in mice.

Keywords: *Cassia fistula*, Sleeping time, Anxiety, Elevated plus maze

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