

Evaluation of anti-depressant effects of *Cuscuta chinensis* in experimental models

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Background and Aims: Depression is an affective disorder with a rapidly growing target population, which greatly influences patients' quality of lives and also imposes considerable financial burdens on governments as well as involved families. There are several options for treatment of depression suggested in Iranian traditional medicine references written by Iranian scholars, most of which depending on plant-derived medications. The one that triggered the core idea of this study is a fairly complex preparation of *Cuscuta* extract which is still used in some rural areas in Iran.

Methods: Force swimming test (FST) and tail suspension test (TST) are used for evaluation of antidepressant effects of the methanolic extract of the arial part of the plant. Open field activity test is used for analyzing the effect of the extract on locomotor activity. Two different strains of mice, Swiss and NMRI, were used in FST and TST tests respectively. Imipramine and fluoxetine are used as positive controls.

Results: Imipramine and fluoxetine (both 32 mg/kg i.p.), as positive controls, showed significant effects in both FST and TST. *Cuscuta chinensis* methanolic extract significantly reduced immobility times in TST (50 mg/kg i.p.) FST (50 and 100 mg/kg i.p.) in FST. The extract had no effect on locomotor activity of the mice.

Conclusions: it has been suggested that the mechanism of the extract the antidepressant activities of is most probably either like TCAs or like SSRIs and SNRIs. We also propose that the extract contain both effective and toxic components; hence the complex preparation procedure mentioned in the traditional resources is possibly due to purifying the active ingredients

Keywords: Iranian traditional medicine; *Cuscuta chinensis*; Anti-depressant