



Assessment of Hab-o Shefa on morphine withdrawal syndrome in rats: a behavioral study

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Background: Iranian Traditional Medicine (ITM) has a long history of diagnosis and treatment of different diseases, particularly addiction. Different therapeutic methods have been recommended in this respect.

One of these methods is the replacement of natural narcotics instead of opium. Hab-o Shefa is a natural ITM product that many centuries used as a replacement for opium addiction treatment since centuries ago. In this study, the effect of Hab-o Shefa was investigated on behavioral quantities of morphine withdrawal syndrome.

Methods: A total of 30 rats were divided into three groups of 10 cases each. The experiment was carried out for 8 days for each group. The control group received solely morphine (10 mg/kg/day, i.p.). In the second group, in addition to morphine with the same dosage, methadone was administered by gavage daily (25 mg/kg). The third group in addition to morphine with the same dosage, Hab-o Shefa was administered by gavage daily (2 g/kg). Finally 4 to 24 hours after the last injection of morphine, naloxone was injected (2.5 mg/kg, i.p.) and the desired withdrawal parameters were evaluated.



Results: Considering uncountable parameters, a significant difference was seen comparing methadone and Hab-o Shefa with placebo regarding diarrhea symptoms ($p < 0.05$). Regarding jumping between Hab-o Shefa and placebo and also between methadone and placebo, the difference was also statistically significant ($p < 0.05$).

Conclusion: Hab-o Shefa better controlled the withdrawal symptoms in comparison with placebo and it also better improved the symptoms of diarrhea and salivation compared to methadone.

Hab-o Shefa is a natural compound and *Datura stramonium* is its main component and the other herbs of this combination act as modifiers of its effects. In our previous study the effectiveness of *D. stramonium* seeds extracts in controlling morphine withdrawal symptoms in rats was studied. The efficacy of *D. stramonium* seeds extract was significantly superior to placebo, whereas no significant difference was seen in comparison with methadone. Hab-o Shefa acted better than *D. stramonium* in controlling symptoms such as diarrhea, salivation and ptosis as compared to methadone.

In Our latter complementary study, Hab-o Shefa in controlling withdrawal symptoms of opioids was performed in a randomized, double blind, clinical trial. Hab-o Shefa showed promising results in controlling the objective, subjective and clinical withdrawal symptoms and also in reducing depressive symptoms in comparison to clonidine and placebo. It did not cause any more side effects than the other two groups.