Effects of Lavandula officinalis hydroalchoholic extract on mouse reserpine induced depression

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Background and Objective: Lavandula officinalis commonly is known as Ustokhoddus in Iran, recommended for depression disease in Iranian traditional medicine. This study was designed to determine the effects of L. officinalis extract on mouse model of reserpine induced depression.

Materials and Methods: Seventy-two mice were randomly divided into 9 groups: Normal saline, control extract (200mg/kg), reserpine, fluoxetine (10 mg/kg or 20 mg/kg) + reserpine, fluoxetine (10 mg/kg) + extract (200 mg/kg) +reserpine, Three extract pretreated groups (100-200 and 400 mg/kg) + reserpine. Extract and fluoxetine were administrated by gavages daily, for 10 days, 30 min before reserpine (0.5 mg/kg) injection in peritonealy.

Behavioral evaluations were done by forced swimming, tail suspension and open field tests.

Results: Immobility time was enhanced by reserpine (210.37 ± 2.43 in compared with normal saline 109.75 ± 3.13) and the extract decreased it, dose dependently (140.75 ± 5.84 and 110.125 ± 6.46 200 and 400 mg/kg respectively) as the same as fluoxetine, in forced swimming test. Combination of extract and fluoxetine caused reduction of immobility time more effective than each one alone. The results obtained from tail suspension are similar to forced swimming test. On the other hand, while swimming time was decreased by reserpine, extract elevated it, dose dependently as the same as fluoxetine. Total crossed numbers that is equal to total motility in open field test, were not influenced by each one of agents.

Conclusion: L. officinalis hydroalcoholic extract improved the depression like behavior caused by reserpine.

Keywords: Lavandula officinalis, Reserpine, forced swimming test, tail suspension test, open field test.