EVALUATION OF THE ANXIOLYTIC EFFECT OF *NEPETA PERSICA* BOISS. IN MICE

M. Rabbani, S.E. Sajjadi & A. Mohammadi. Department of Pharmacology, School of Pharmacy & Pharmaceutical Sciences, Isfahan University of Medical Sciences, Isfahan, Iran.

Interest in alternative medicine and plant-derived medications that could cure anxiety and stress is growing. To find a more suitable alternative to benzodiazepines with fewer side effects, we screened a range of plant extracts that are traditionally thought to be useful in treating anxiety in various parts of Iran (Rabbani *et al.*, 2005). In the current study we report the anxiolytic and sedative effects of *Nepeta persica* in mice.

For preparation of hydroalcoholic extract, air-dried powder of the plant (120 g) was macerated with 360 ml of ethanol and water (8:2) for 48 h. The extract was then shaken, filtered and evaporated as described in details by Harborne (1998). Male NMRI mice (n=6-12/group; 25-30g; Pasture institute, Iran) were used in the elevated plus-maze study as described in details elsewhere (Hogg, 1996). The actions of plant extract on spontaneous locomotor activity were measured automatically by breaking of infrared beams as described in details elsewhere (Rabbani *et al.*, 1995). Statistical analysis was performed using Student t-test with $P<0.05$ regarded as significant. All data are expressed as mean ± S.E.M.

As illustrated in Table 1, hydroalcoholic extract of *N. persica* at 50 mg kg^{-1} significantly increased the percentage of time spent and percentage of arm entries in the open arms *($P < 0.05$). Doses at lower or higher than 50 mg kg^{-1} did not significantly change any of the plus-maze parameters. Total locomotor activity measured in 15 minutes was not significantly changed with the plant extract at 50 mg kg^{-1}.

Table 1. Behavioural parameters recorded in the plus-maze from mice treated with various doses of the *N. persica*.

Treatments (mg kg^{-1})	Open-arm times (%)	Open-arm entries (%)	Closed-arm times (%)	Closed-arm entries (%)
Normal saline	11 ± 3.3	16 ± 4.3	89 ± 3.3	83 ± 4.3
Diazepam (1.5)	40 ± 2.1*	44 ± 3.6*	60 ± 2.1*	55 ± 3.6*
N. persica (25)	13 ± 2.5	17 ± 3.1	87 ± 2.5	82 ± 3.1
N. persica (50)	21 ± 3.8*	27 ± 2.7*	78 ± 3.8	72 ± 2.7
N. persica (100)	20 ± 7.3	19 ± 5.2	80 ± 7.3	80 ± 5.2
N. persica (200)	12 ± 3.9	18 ± 4.5	88 ± 3.9	81 ±4.5
N. persica (400)	9 ± 3.7	18 ± 6.4	91 ± 3.7	81 ± 6.4

The lack of sedative effects at 50 mg kg^{-1} and a significant anxiolytic effects only at this concentration makes the *N. persica* different from the previously tested plant extracts. Further studies are underway to isolate different fractions of this plant extract.

Harborne, J.B. (1998). *Phytochemical methods.* 3rd ed. Chapman & Hall. London, p. 4-7
Hogg, S. (1996). *Pharmacol.Biochem.Behav.* **54,** 21-30
Rabbani, M. *et al.*, (1995). *Pharmacol.Biochem.Behav.* **50,** 9-15
Rabbani, M. *et al.*, (2005). *J.Ethnopharmacol.* **101,** 100-103