Evaluation of the effect of *Cyperus rotundus* L. in scopolamine-induced learning deficit in mice

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**Background and Aims:** In Iranian traditional practices *C. rotundus* has been used to treat memory and cognition disorders. This study was aimed to evaluate the effect of *C. rotundus* on cholinergic memory deficit in mice.

**Methods:** Cognition was evaluated using the object recognition task. The novel object recognition task was performed in a square wooden open-field box using different shape objects. The test was consisted of three sections: 15 min exploration, first trial for 12 min and second one for 5 min. In the second trial the difference in exploration between a previously seen object and a novel one, was considered as an index of memory performance (recognition index: RI). Memory deficit was induced by scopolamine (0.5 mg/kg) 30 min before injection of plant extract.

**Results:** Rivastigmin at 0.7 mg/kg reversed the scopolamine-induced memory dysfunction in mice (P<0.05). On the contrary, neither the hydroalcoholic extract (200 and 400 mg/kg) nor the polyphenolic extracts (50, 100 and 200 mg/kg) of *C. rotundus* produce significant improvement of learning dysfunction.

**Conclusions:** The fact that rivastigmine reversed the scopolamine-induced memory dysfunction confirms the validity this memory paradigm. Since none of the tested doses of the plant extract change the memory status of the animals, these fractions of the *C. rotundus* do not seem to be having effective ingredient as far as this model of memory is concerned.

**Keywords:** *C. rotundus*; Memory; Scopolamine