

## The effect of acute and sub-acute exposure to crude khat (*Catha edulis F*) extract on learning and memory in rodents

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Learning is a process of acquiring new information while memory is retention of the acquired information. The molecular mechanism of learning is due to the increased synaptic strength which is called long term potentiation. Khat (*Catha edulis F.*) is a dense evergreen shrub belonging to the family *celastracea*. Although comparative studies of amphetamine and khat on physiological and psychological behaviours are extensive, little is known about the effect of khat on learning and memory. The aim of this study was to evaluate the effect of acute and sub-acute exposure to crude khat (*Catha edulis F.*) extract on learning and memory in rodents. Crude khat extract obtained using a mixture of chloroform and diethyl ether (1:3) was administered orally in doses of 100, 200, 300 mg/kg and the control group was administered with Tween 80 2% v/v in water as a single dose and repeatedly for fourteen days. Three protocols: Morris water maze (MWM), active avoidance and multiple T-maze (MTM) tasks were used to study learning and memory. Parameters, including escape latency; time spent in the target quadrant; number of avoidances, escapes and nulls; number of wrong decisions and latency to reach the goal box were determined. The results showed that acute and sub-acute administration of khat extract at the doses used did not have a significant effect in the three learning and memory paradigms.

### Biography

Ashenafi Girma Tefera has completed his MSc at the age of 25 years from Addis Ababa University. He is pharmacology lecturer at Samara University and academic dean at Universal University College. He has sent one research paper for publication.

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