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# Toxic effect evaluation of leaf extract of Khat (*Catha edulis*) on the brain using swiss albino mice

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Khat (*Catha edulis* Vahl. Endl) is an evergreen shrub belonging to the Celastraceae family. The plant is originated from Ethiopia. It also grows in Kenya, Malawi, Uganda, Tanzania, the Arabian Peninsula, Zambia, Zimbabwe and South Africa. These days, khat use has become cosmopolitan, with users now living in Europe and North America as well. The leaves are valued by millions of people, mainly in Africa and the Middle East for its psychostimulatory effects. Although the use of khat is known to be harmful on different systems of the body, still there is insufficient data on the reproductive toxicities of khat. The aim of this study is to evaluate the toxic effects of khat extract on some activities of the brain like learning and memory using swiss albino mice. A total of 24 Swiss albino mice, 6-8 weeks old, were administered orally with a single daily dose of khat extract for 30 days. The animals were divided into four groups. The first group served as controls and was administered with 0.5 ml 3% Tween 80 in water. Groups II-IV were administered 100, 200 and 300 mg/kg khat extract, respectively. The animals were then subjected to Multiple T Maze (MTM) and Morris Water Maze (MWM) task execution. The result showed that administration of crude khat extract at doses used did not have a significant effect on learning ($p<0.01$). Significantly impaired short-term memory. Khat at all doses used did not have any significant effect on long-term memory using both models. The results obtained in this investigation showed that administration khat extract to swiss albino mice could alter formation of short-term memory, without affecting learning and long-term memory.

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