

# **The Effects of MÛGÛKA (*Catha edulis vahl*) on the Behaviour of Rats**

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**INTRODUCTION:** Mûgûka (*Catha edulis vahl*) are 'residue' leaves, which are chewed to elicit a stimulant effect. It is grown in Eastern province (mostly in Mbeere and Embu districts) of Kenya and is very popular with the local residents in this part of the country. It is closely related to miraa (*Catha edulis forsk*), which is reported to be one of the most recklessly abused drugs in Kenya by NACADA (National Agency for the Campaign Against Drug Abuse). Whereas lots of research has been done on miraa, little, if any, research has been done on mûgûka.

**OBJECTIVE:** To determine the effects of mûgûka on the behaviour of Sprague Dawley rats.

**MATERIALS AND METHODS:** Five Sprague Dawley rats were used. The experiment was divided into three phases: Baseline, Normal saline and Mûgûka. Baseline phase established the normal behaviour of the rats before injection of mûgûka plant extract (mûgûka phase). Normal saline was used as a control. We conducted an Open field Test. The behaviours exhibited during a 30-minute trial were recorded for each of the experimental phases. The four behavioural parameters recorded for each experimental phase were line crossings, rearing counts, grooming time and defecation pellets count.

**RESULTS:** The behavioural changes noted after injection of mûgûka plant extract were; the line crossing counts increased but the grooming time, rearing counts and defecation pellet counts decreased. However, none of these changes was statistically significant. Sniffing behaviour was also markedly increased when the mûgûka was administered.

**DISCUSSION:** The results obtained above suggest that there are changes in the behavioural parameters although they are not statistically significant. The sample size probably needs to be increased and serial dose-response measurements for the injected mûgûka plant extract need to be done.

**Keywords:** *Mûgûka (Catha edulis vahl), miraa (Catha edulis forsk), NACADA (National Agency for the Campaign Against Drug Abuse) in Kenya*

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