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Acute oral toxicity, Cognitive-Enhancing and Anti-Lipid peroxidation efficacy, and qualitative phytochemistry of the aqueous aerial part extract of *launaea cornuta*

Abstract:

Currently, there is no cure for dementia and associated complications like cognitive impairment, and those available only offer symptomatic relief without altering the course of the disease. The currently utilized armamentaria suffer various drawbacks, such as low- efficacy, adverse effects, unaffordability, and inaccessibility which limit their clinical applications, hence the need for better alternative therapies, especially from natural sources. Despite the longstanding ethno medicinal usage of plants like *Launaea cornuta* to treat cognitive deficits, its pharmacological efficacy and safety have not been validated empirically. Thus, we investigated the acute oral toxicity of the aqueous aerial part extract of *L. cornuta* in Swiss albino mice using the up-and-down procedure described by the Organization for Economic Cooperation and Development guideline number 425. We adopted the Morris water maze technique to determine the cognitive-enhancing effects of the extract in cognitive-impaired mice. After that, we determined the concentration of malondialdehyde in the whole brain of experimental mice involved in the Morris water maze experiment. In this study, the aqueous aerial part extract of *L. cornuta* did not cause any clinical signs of acute oral toxicity in mice at all doses ($LD_{50} > 2000$ mg/Kg BW), depicting its safety. The extract significantly reduced the malondialdehyde concentrations in mice in a dose- dependent fashion, inferring its anti-lipid peroxidation, hence antioxidative stress efficacy. Moreover, the studied extract contained various phytochemicals associated with cognitive enhancement and antioxidant efficacy.

Biography

Mercy Maina has completed her Masters Degree at the age of 29 years from University of Nairobi and Bachelor's Degree from Mount Kenya University School of Pharmacy. She is the director of Cicatriser Pharmaceuticals Limited, a pharmaceuticals service organization.