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# Antimicrobial Activity, Phytochemistry and Toxicity Of Extracts Of Naturally Growing and Cultivated Aloe Turkanensis

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**Abstract :** Aloe turkanensis is one of the widely used medicinal shrub and in Kenya the plant is mainly found in Baringo, Isiolo, Laikipia, Turkana and West Pokot Counties where it is used in ethno-medicine and ethno-veterinary medicine. The Turkana community uses the plant products to manage malaria, wounds, stomach ache, constipation, pain, skin infection, poultry diseases and retained afterbirth in cows. This evaluated the efficacy and safety of the plant obtained from Turkana County, Kenya. Preliminary data on the use of the plant in the county was collected through observation, photographing and interviews. A sample of the whole plant was harvested in Natira sublocation, in ex-Turkana west district in February 2012 after identification by Aloe-working group herbalists who voluntarily provided information on its medicinal uses. Botanical identification was done at Kenya Forest Research Centre in Karura where voucher specimen was deposited. Cold maceration using 70% methanol and distilled water was used for extraction. Bioassays were to determine the effects of the plant extracts on brine shrimp and selected bacterial and fungal cultures. The extracts were tested in-vitro activity against standard cultures of B. cereus (ATCC 11778), S. aureus (ATCC25923), P. aeroginosa (ATCC 27853), E. coli (ATCC 25922) and a human infections clinical isolate of C. albicans. The extracts of Aloe turkanensis inhibited the growth B. cereus (100-200 mg/ml), S. aureus (50-100 mg/ml), P. aeroginosa (200mg/ml), E. coli (400mg/ml) while C. albicans was not affected. The extracts also inhibited the growth of S. aureus and B. cereus with mean diameters of inhibition zones being 19.75±1 mm and 18.5±05 mm reapectively. Phytochemical screening showed the presence of alkaloids, tarpenoids, steroids, quinones, saponins and tannins in the plant extracts. The extract was found to be non-toxic at a concentration of 1000µg/ml with a 100% survival of Brine Shrimp larva. It was concluded that Aloe turkanensis growing the study area has metabolites that inhibit the growth of microorganisms and is however, there is need for further studies to validate the in-vivo bioactivity of the plant and more generate adequate toxicological data.to support conservation, value chain addition of its products and widespread use as a herbal remedy.

**Keywords :** Aloe turkanensis, bioactivity, cultivated, human infections
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