

**Evaluation of Antimicrobial Activity and Toxicity of Crude Extracts from  
Selected Kenyan Medicinal Plants**

**Lilian Cherotich Ngeny**

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## ABSTRACT

The world health organization (WHO) estimates that 80% of population in Africa relies on traditional remedies for their healthcare, with very few studies carried out to establish the therapeutic effects of these remedies. From literature search, four medicinal plants; *Asparagus racemosus* (Willd.) (Asparagaceae/Liliaceae), *Ekebergia capensis* Sparrm. (Meliaceae), *Fuerstia africana* T.C.E. Fries (Labiateae) and *Hagenia abyssinica* (Bruce) J.F.Gmel (Rosaceae) were investigated with the overall aim of determining their antimicrobial activity and toxicities. Plants were collected and extracted with organic and aqueous solvents. Antimicrobial activity was determined using the disc diffusion assay technique. Cytotoxicity studies using Vero E6 cell lines and acute toxicity in mice was also determined. In the results, hexane and dichloromethane extracts of leaves *H. abyssinica* at 1000 µg/disc, had significant antibacterial activity against *Staphylococcus aureus* and methicillin resistant *S. aureus* (MRSA). These extracts also displayed low minimum inhibitory concentrations (MIC) ranging from 1.95 µg/disc to 31.25 µg/disc. However, the plants studied had weak antifungal activity. Hexane and dichloromethane extracts of leaves of *H. abyssinica* were found to be cytotoxic with IC<sub>50</sub> of 8 µg/ml. These extracts were tested for acute toxicity and found to be safe at 5000 mg/bwt. The results of the study support the medicinal use of these plants and indicate that useful compounds from *H. abyssinica* can be isolated for further exploitation.