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Although literature reports the therapeutic properties of *Encephalartos ferox*, there are limited pharmacological studies of its fruit**Phakamani Hopewell Tsilo***University of Zululand, South Africa*

This study sought to evaluate the antibacterial, antioxidant, anti-quorum sensing, and in vitro cytotoxic activities of the methanolic *E. ferox* fruit extract. The chemical constituent of the methanolic fruit extract was analysed using gas chromatography-mass spectrometry. Antibacterial activity of the extract was investigated against *Staphylococcus aureus* (ATCC 25923), *Bacillus cereus* (ATCC 10102), *Escherichia coli* (ATCC 25922) and *Pseudomonas aeruginosa* (ATCC 27853) using the broth dilution method. The standard 2,2-diphenyl-1-picrylhydrazyl (DPPH) and 2,2-azinobis (3-ethylbenzothiazoline-6-sulfonic acid) (ABTS) methods were used to evaluate the scavenging activities of the extract. Anti-quorum sensing activity was assessed against biosensor strain *Chromobacterium violaceum* (ATCC 12472). Cytotoxicity in HepG2 cells was investigated using the tetrazolium-based colorimetric (MTT) assay. The extract revealed eight volatile compounds with *cis*-Vaccenic acid (87.06%) and 9-Octadecenoic acid 1, 2, 3-propanetriyl ester (5.21%) as the major components. Antibacterial activity against all tested strains with minimum inhibitory concentration range of 1.56 - 12.5 mg/mL was observed. The DPPH and ABTS assays demonstrated scavenging activities with the median inhibitory concentration (IC50) values of 0.09 mg/mL and 0.003 mg/mL, respectively. The extract also displayed strong anti-quorum sensing activity with 93% inhibition of violacein production at 25 mg/mL. A half maximum inhibitory concentration (IC50) of 5370 µg/mL was computed in HepG2 cells.

Biography

Phakamani Hopewell Tsilo is holding an Honours degree in Microbiology from the University of Zululand. He is currently working on his MSc in Microbiology in the same institution. He has 3 publications in reputable journals.