

Ethnopharmacological Analysis of Fermented Herbal Concoctions

Authors : Ishmael Ntlhamu

Abstract : In Limpopo Province, the use of herbal concoctions is becoming very popular. These concoctions are claimed to be capable of treating ulcers, diabetes, certain STDs, blood cleansing, and many more types of diseases. The aim of this study was to evaluate the phytochemical composition, evaluate the pharmacological effects and consumption safety in herbal concoctions to treat various kinds of ailments in Limpopo. The concoctions were extracted with 80% acetone. Microorganisms in the concoctions were identified using the Vitek 2 compact system. Qualitative phytochemical analysis was determined using standard chemical tests and thin layer chromatography (TLC). Total polyphenol content was quantified. Antioxidant activity was quantified using 2, 2-diphenyl-1-picrylhydrazyl (DPPH) assay and ferric reducing power. Antimicrobial activities were determined using a broth micro-dilution assay and bioautography. Cell viability assay was used to determine the cytotoxicity. Results showed that concoctions had antioxidant activity. Presence of different phytoconstituents was observed. Isolated microorganisms were identified as *Burkholderia pseudomallei*, *Staphylococcus vitulinus*, *Enterococcus columbae*, *Kocuria kristanae*, *Staphylococcus intermedius*, *Cryptococcus laurenti*. and *Burkholderia pseudomallei* (highly pathogenic). Therefore, phytochemicals prove that the concoctions can heal as the antimicrobial tests also displayed activity. Moreover, the concoctions did not exhibit cytotoxic effects. However, contaminants raise concerns, not only for consumer safety but also the quality of herbal concoctions available as part of the traditional medicinal practice in Limpopo.

Keywords : antimicrobials, concoctions, cytotoxicity, phytochemicals

Conference Title : ICABBBE 2019 : International Conference on Agricultural, Biotechnology, Biological and Biosystems Engineering

Conference Location : Cape Town, South Africa

Conference Dates : November 04-05, 2019