

Bioactivity Profiling of Botswana's Medicinal Ethnobotany With Potential to Mitigate Oxidative Stress

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Abstract : The strong and long history of use of medicinal plants in Botswana to address existing and emerging health threats provides undebatable evidence for their potential as innovative therapeutic tools. The prevalence of emerging health threats, such as COVID-19 and hard-to-treat non-communicable diseases, warrants the scientific community to revisit and exploit ethnopharmacology for its potential as a source of therapeutic tools. Many studies conducted on bioactivity-guided bioassays of ethnobotanical resources have proved a number of health beneficial properties of these plants, such as free radical scavenging, anti-inflammatory, antimicrobial and, most importantly, the capability of medicinal plants to alleviate oxidative stress. In this work, a number of medicinal plants used in Botswana traditional medicine were investigated for both their free radical scavenging capability and total phenolic contents using the Free Radical Scavenging Power (FRSP) and Folin Ciocalteau (FC) method. At 100 micrograms/ml all the studied plants expressed above 90% Scavenging power and expressed total phenolic contents between 5000- 8890 mg/L.GAE. These plants are promising tools for engineering active therapeutic tools against life-threatening diseases of oxidative stress origin.

Keywords : oxidative stress, non-communicable diseases, total phenolics, ethnobotanicals

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