

Optimum harvesting season for selected medicinal plants claimed effective in the management of cancer in Malawi

Boniface Mwamutope

Kamuzu College of Health Science, Malawi

Cancer is the leading cause of morbidity and mortality in Malawi and some people use herbal and traditional medicines for its management. The study aimed at assessing the optimum harvesting season of selected medicinal plant species claimed effective in the management of cancer in Karonga district of Malawi. Cross-sectional study was used to identify medicinal plants commonly used for the management of cancer in the district.

Spectrophotometric methods were used to determine total phenolic content (TPC), total flavonoids content (TFC), total alkaloids content (TAC) and antioxidant activity (AA). High Performance Liquid Chromatography Diode Array Detector (HPLC DAD) was used to fingerprint phenolic compounds in the extracts of selected medicinal plant species at different seasons of the year. *Senna singueana*, *Melia azedarach*, *Moringa oleifera* and *Lannea discolor* were commonly used medicinal plant species.

Levels of phytochemicals and AA in the barks of *L. discolor* and leaves of *S. singueana*, *M. azedarach*, and *M. oleifera* were significantly influenced by seasonal variation. Barks of *L. discolor* exhibited high levels of (+)-catechin, rutin, TPC, TFC, TAC and AA during hot-dry season (summer) in the month of October. Leaves

of *S. singueana* showed high levels of sinapic acid, ferulic acid and 2,4 dihydroxybenzoic acid which were predominant phenolic compounds during hot-wet season in the month of January. *Senna singueana*, *M. oleifera* and *M. azedarach* leaves exhibited significant high levels of TPC, TFC, TAC and AA in hot-wet season (rainy).

It is concluded that hot-dry season is optimum for harvesting barks of *L. discolor* while hot-wet season is optimum for harvesting leaves of *S. singueana*, *M. oleifera* and *M. azedarach* for pharmacological use. Further studies of biological activities including tests on cancer cell lines for anticancer activity of the extracts, isolation and characterisation of bioactive compounds responsible for activity are recommended.

Biography

Boniface Mwamutope is currently working in the Department of [Toxicology](#) at Kamuzu College of Health Sciences (KUHES), Malawi. His research interest mainly focusses on [Medicinal plants](#).

bonfacemwamutope@yahoo.com

Received: 25-02-2022; Accepted: 11-03-2022; Published: 18-03-2022