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## Abstract

The aim of this study was to test *Carissa opaca* for its claimed traditional medicinal application. This plant from Apocynaceae family had been used for years by local hakims. Leaf and stem samples were collected, dried and shade dried before grinding. In 95% ethanol, Ethanolic extracts were prepared for both stem and leaf samples. After sonication and filtration both extracts were allowed to dry and subsequently, freeze dried to convert the viscous extract mixture into a powder form for convenient handling. The extracts were tested for their phenolic content and total phenolic content estimation was done by interpretation of absorbance obtained from UV spectrophotometer at 760nm. Characterization of extracts for bioactive compounds was done using <sup>1</sup>H NMR spectrophotometric analysis. Multiplicity and chemical shifts of peaks from spectra were analyzed through software values were compared with databases in literature for the identification of maximum metabolites present in both stem and leaf extracts separately. Stem and leaf extracts were tested for biological activities. Antibacterial activity was done using *Escherichia coli*, *Staphylococcus aureus*, *Bacillus subtilis* and MRSA. Anticancer activity was performed using HeLa cell lines (cervical cancer) and antioxidant activity was performed in reference to DPPH radical scavenging activities. Stem and leaf extracts were potent for antibacterial activities for all bacteria except *Bacillus subtilis*. Stem extract was more potent than leaf extract for showing anticancer activity and antioxidant activity.