

Antimicrobial, Antioxidant Activities and Phytochemical Screening of Five Species from Acacia Used in Sudanese Ethnomedicine

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Abstract : The present study was designed to investigate antimicrobial, and antioxidant activities of five species from Acacia (Acacia albidia, Acacia mellifera, Acacia nubica, Acacia seyal var. seyal and Acacia tortilis). Phytochemical study was piloted to detect the bioactive compounds, which have been responsible from the biological activities. The ethanol, chloroform and acetone plant extracts were seasoned against standard bacteria strains of gram +ve bacteria Staphylococcus aureus (ATCC 25923), Gram -ve bacteria Pseudomonas aeruginosa (ATCC 27853) and standard fungi Candida albicans (ATCC 90028), using cup-plate method. The antioxidant activities were conducted via DPPH radical scavenging and metal chelating assays. Prospective activity against the five species was observed in acetone extract. Ethanol extract showed highest activities against Staphylococcus aureus, and Candida albicans. Potential antioxidant activity was presented by ethanol. Chlorophorm and acetone extracts via DPPH, the radical scavenging activities were found to be 91 ± 0.03 , 88 ± 0.01 and 85 ± 0.04 respectively. The results of phytochemical screening showed that all extracts of studied plant contain flavonoids, saponins, terpenoids, steroids, alkaloids, phenols and tannins. This study gives rise to antioxidant, antimicrobial properties of studied plant, and showed interesting correlation with the phytochemical constituents and biological activities.

Keywords : antimicrobial, antioxidant, Acacia albidia, Acacia mellifera, Acacia nubica, Acacia seyal var. seyal, Acacia tortilis

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