

ABSTRACT

In the present investigation, the crude methanolic extracts of seeds, shoot and leaves of *Acalypha Brachystachya* hornem. were fractionated separately with *n*-hexane, chloroform, ethyl acetate, and *n*-butanol sequentially to obtain various fractions. These fractions were then investigated for phytochemical screening, mineral analysis, antioxidant activity and antimicrobial analysis. When screened for their phyto-constituents they generally found to contain important bioactive substances such as flavonoids, alkaloids, phenols, terpenoids, tannins, saponins and sugars. Then the antioxidant potential of these fractions was assayed with by the four methods, namely, DPPH assay, FRAP assay, total phenolic assay and phosphomolybdenum complex assay. Ethyl acetate soluble fraction of seeds exhibited good antioxidant activity, chloroform soluble fractions of seeds and leaves possessed medium activity while all the remaining fractions showed poor activity. Some plant extracts are also subjected to antimicrobial activity. Results showed that plant extracts have good antimicrobial potential against *Staphylococcus aureus* and *Pseudomonas sp.* Seed and shoot extract of the plant contained high amounts of Na, K, Mg, Fe, Mn etc, which are investigated through mineral analysis.