ABSTRACT

The present research work was executed to explore the ethnopharmacological potential of different parts of two locally found sedges, *Cyperus exaltatus* Retz. and *Scirpus maritimus* L. Ethnopharmacological investigation involved the phytochemistry, including physicochemical features, percentage yield, antioxidant, antimicrobial and anthelmintic activity. Maceration technique was used to obtained the crude extracts of different plant parts in non-polar (n-Hexane, Chloroform) and polar (Ethanol, Distilled water) solvents. The highest percentage yield (3.44%) was found in n-Hexane extract of *C. exaltatus* rhizomes while lowest yield (0.28%) in water extract of *S. maritimus* inflorescence. The physical characteristics recorded the color, texture and odor of crude plant extracts. Secondary metabolites including phenols, saponins, flavonoids, tannins, terpenoids and alkaloids were found constituting the different extracts. Antioxidant activity of crude plant extracts was evaluated using different assays showed the highest phenolic content (420.88 µg/ml) in ethanolic extract of *S. maritimus* inflorescence. The ethanol rhizome extract of *C. exaltatus* disclosed the maximum flavonoid content (163.15 µg/g of Rutin) and total antioxidant activity (260.54 mg/ml) while *C. exaltatus* rhizomes showed maximum percentage of metal chelating activity (91.31%) in chloroform extract. The *C. exaltatus* inflorescence of ethanolic extract showed maximum FRAP values (221.87 mM of Trolox). Highest scavenging activity of DPPH (97.82%) was presented by water extract of *S. maritimus* stem. Antimicrobial activity was done against the bacterial (*Bacillus subtilis, Escherichia coli*) and fungal strains (*Candida albicans, Penicillium commune*). Maximum inhibition zone (18 mm) was observed in water extract of *C. exaltatus* inflorescence against *E. coli* while maximum antifungal activity (19 mm) was shown by ethanolic extract of *C. exaltatus* inflorescence against *C. albicans*. The anthelmintic activity against *Haemonchus contortus* showed the best results in water extract of *S. maritimus* inflorescence. The results thus obtained support the ethnopharmacological potential of these sedges.