

Abstract

In the current study, *Sesuvium sesuvioides* was evaluated for its pharmacological potential to provide the scientific evidence of its use in traditional herbal remedies. Different organic extracts including chloroform, n-hexane, n-butanol, ethyl acetate, aqueous and methanolic extracts was used for investigation. Significant antibacterial potential was observed by all the extracts against *Bacillus subtilis*. Methanolic and n-hexane extracts inhibit the growth of *Escherichia coli* using well diffusion method. Butanolic extract exhibit significant antifungal potential against *Candida albicans* through well diffusion and disc diffusion. All the extracts of the plant showed good antioxidant activity by using DPPH (1,1-diphenyl 1-2-picrylhydrazyl) free radical scavenging assay even at lower concentrations and the aqueous extracts showed highest percentage of radical scavenging activity (%RSA) which was 91.9 % at 2000 μ g/ml. Good antiinflammatory response was observed by all the extracts with the highest inhibition activity was observed in n- butanol extract 94.1 % at 6h as compared to the standard drug which was 88.2% at 6h using carrageenan paw edema. The extracts also significantly normalize the body weight of the STZ induced diabetic mice. The antidiabetic activity of plant extracts 400mg/kg were significant with % reduction in BGL of chloroform 53.3% and ethyl acetate 54.3% that was more effective as compared to the standard drug Glucophage. There was no oral toxicity of the plant at 2000mg/ml dose. However further research is required to identify and isolate the compound responsible for these tested activities.