Abstract

Background & Objective: Staphylococcus aureus is an important cause of community and hospital-acquired infections. Caused by methicillin or oxacillin-resistant S. aureus (MRSA) are mainly nosocomial and are increasingly from many countries worldwide. Many attempts have been made by researchers to find new compounds as a substitute for this antibiotic. The aim of this study was to investigate the antimicrobial activity of alcoholic extracts of 20 medical plants species of Golestan province on clinical and standard strains of MRSA and MSSA and comparative and detect the best medical plant.

Materials & Methods: In this study the compounds of the plant were extracted by percolation method and the effect of ethanolic extract of 20 Iranian medical plants against methicillin resistant and methicillin sensitive strains were assessed by disc diffusion method and each test were repeated 3 times and mean inhibition zone were recorded and then, the minimum inhibitory concentration (MIC) of the extracts, that show good inhibition zone in disc diffusion method, was determined by the micro broth dilution method.

Results: The results of antibacterial activity of the ethanolic extracts of 20 plants revealed that, the ethamlic extracts of 8 plants have the best effect on strains and the maximum mean inhibition zone was 22.4 mm and the lowest MIC of plants was 0.01 mg/ml.

Conclusion: The result of this study indicate that, ethanolic extract of Eucalyptus Global, Peganum hermla, Punica granatum, Berberis vulgaris, Tamarixaphylla, Nnigella sativa, Hypericum.perforatum AND, Artemisia. Herbaalba have the best antibacterial effect against MRSA and MSSA. The result obtained from these plants might be considered sufficient for further study.

Key Words: Antibacterial effect, Staphylococcus aureus, Medicinal plant, Ethanolic extract