

ABSTRACT

Dental caries is one of the most prevalent and expensive illnesses worldwide, which causes tooth decay in adults. It affects more than 90% of the population, regardless of gender, race or age. Miswak or Siwak, are most famous herbal oral hygiene tool for inhibiting the growth of pathogenic bacteria and preventing their colonization in mouth. In this study, *Azadirachta indica* (Neem), *Pongamia pinnata* (sukhchain), *Accacia nilotica* (Kikar), *Moringa oleifera* (Sohanjana), *Salvadora persica* (Peelu), *Cassia fistula* (Amaltas) and *Terminalia arjuna* (Arjuna) were evaluated for their antimicrobial potential against certain human pathogenic bacteria i.e; *Pseudomonas aeruginosa*, *Escherichia coli* and *Staphylococcus aureus*. Ethanolic and aqueous extracts of plants with 5000, 2500, 1250 $\mu\text{g}/\mu\text{l}$ concentration we tested through Disc Diffusion Assay. Results showed that all plant extracts showed antibacterial activity against all tested pathogens but level of effectiveness varied with the type of extract and with concentration of extract. Ethanolic extracts displayed strongest antimicrobial potential as compared to aqueous extracts. Highest antimicrobial activity was observed by *T. arjuna* ethanolic extract with 5000 μg conc. against *Pseudomonas aeruginosa* with an inhibition zone of 16.4 mm. GC-MS analysis was performed for ethanolic extracts of all plant extracts to evaluate the chemical constituents. GC-MS analysis indicated the presence of large number of therapeutically important phytochemicals among all plants but number of chemical compounds varied from plant to plant. So it is concluded that all these herbal plants are rich source of phytochemicals which have many therapeutic properties along with antimicrobial potential.