Antibacterial potential of selected medicinal plant leaf extracts against some pathogens

Muskan Sheikh, Shahnoor Khan, Achal Chole and Sharda Dhadse*

CSIR-National Environmental Engineering Research Institute, Nagpur, Maharashtra 440020, India

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This study investigates the antimicrobial activity of leaf extracts from selected medicinal plants, *Cinnamomum tamala* (bay leaf), *Polyalthia longifolia* (Ashoka), *Cymbopogon citratus* (lemongrass), *Amomum subulatum* (black cardamom), and *Andrographis paniculata* (bhui neem) against pathogenic bacterial strains: *Proteus mirabilis*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Enterococcus faecalis*, and *Escherichia coli*. Using the agar well diffusion assay, different extract concentrations (100–250 µL) were tested for antimicrobial efficacy. Results revealed that *A. subulatum* exhibited the strongest activity against *P. mirabilis* (Zone of inhibition: 20 mm at 150 µL), while *C. citratus* demonstrated remarkable inhibition against *E. coli* (39 mm at 250 µL) and *E. faecalis* (25 mm). *A. paniculata* showed potent activity against *P. aeruginosa* (26 mm at 250 µL), and *P. longifolia* was highly effective against *S. aureus* (30 mm). These findings suggest the potential of these plant extracts as promising natural antimicrobials and support further pharmacological investigations for clinical application in managing bacterial infections.

Keywords: Antibacterial assay, Disc diffusion method, Medicinal plants, Phytochemical constituents, Zone of inhibition

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