



***Trigonella emodi*: A potential herb with antibacterial and antifungal activity**

Aashiq Hussain Bhat¹, Khalid Bashir Dar¹, Showkat Ahmad Ganie^{1,2}

¹Department of Clinical Biochemistry, University of Kashmir, 190006.

²Department of Biochemistry, University of Kashmir, 190006.

ABSTRACT

The indiscriminate use of commercial antimicrobial drugs have led to the emergence of various multiple drug resistant (MDR) strains of pathogenic microbes, creating global health problems. Medicinal plants represent the vast untapped source for exploration of natural antimicrobial agents. The current study was performed with the aim to evaluate the antibacterial and antifungal potential of aqueous and methanolic extracts of *Trigonella emodi*, a traditionally used medicinal plant. Agar well diffusion method was used to perform antibacterial and antifungal assays. Bacterial strains employed for the study include *Staphylococcus aureus*; *Bacillus subtilis* *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *Proteus vulgaris* and *Escherichia coli* and the fungal strains employed include *Penicillium Chrysogenum*, *Aspergillus fumigatus*, *Candida albicans* and *Saccharomyces cerevisiae*. Methanolic extract was found to be more potent against the test pathogens. Among bacterial strains the most susceptible were *Bacillus subtilis*, *Klebsiella pneumoniae* and *Pseudomonas aeruginosa* and among fungal strains the most susceptible were *Candida albicans* and *Penicillium chrysogenum*. The highest antibacterial activity was shown by the methanolic extract against *Bacillus subtilis* (20mm) and the highest antifungal activity was exhibited by same extract against *Candida albicans* (24mm). The plant has promising potential to be used as a candidate for obtaining futuristic antimicrobial agents to combat bacterial and fungal infections.

Keywords: *Antimicrobial resistance, Antibacterial and antifungal activity, phytochemicals.*