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ANTIMICROBIAL ACTIVITY OF *MORINGA OLEIFERA* AND *TERMINALIA ARJUNA* LEAF EXTRACTS AGAINST FUNGAL PATHOGENS

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Medicinal plants are rich sources of biologically active compounds to combat various diseases. The present study evaluated antifungal activity of aqueous extracts in phosphate buffered saline (PBS, pH 7.2), potassium phosphate buffer (PPB, pH 7.0), sodium phosphate buffer (SPB, pH 7.0) and sodium acetate buffer (SAB, pH 5.2) and in organic solvents (ethanol, hexane, dichloro methane, butanol, and methanol) with different polarity from the plants, *Moringa oleifera* and *Terminalia arjuna*, selected on the basis of their use in traditional medicine. The leaf extracts were analyzed qualitatively and quantitively for phytochemicals and found having flavonoids, phenols, tannins, steroids, glycosides, alkaloids saponins etc. The antimicrobial activity was evaluated based on the zone of inhibition, in agar well diffusion assay against three fungi (*A. niger, T. rubrum and Fusarium sp*.). Maximum antimicrobial activity was observed in extracts with PBS for M. oleifera against *A. niger* (30±0.05 mm) followed by T.rubrum (27±0.03 mm) whereas *T. arjuna* extract showed maximum activity against *A. niger* (30±0.05 mm). Similarly, antimicrobial activity in organic solvents showed dichloro methane extract of M. oleifera with maximum activity against *A. niger* (15±0.03mm) and *T. arjuna* extract against *A. niger* (13±0.04 mm). The plant extracts least activity against *Fusarium sp*. Minimum inhibitory concentration (MIC) for M.oleifera showed an overall highest activity in PBS buffer @ 24.35±0.02 mg/ml against *A. niger* and dichloro methane extract against *A.niger* (MIC 56.26±0.05 mg/ml) whereas *T. arjuna* extract registered maximum activity against *A. niger* with MIC 45±0.05 mg/ml in PBS buffer and 83±0.43 mg/ml in dichloro methane , respectively. These extracts proved to be having fungicidal effects, supporting their traditional use.

BIOGRAPHY

Shikha Khandelwal obtained BSc (2005) degree from MDS University, Ajmer and MSc in Biotechnology (Gold Medalist, 2007) from Rajasthan agricultural University, Bikaner. She joined IBI Biosolutions Pvt. Ltd. (2007) Panchkula, for one year project based on "Biotech Industrial Training Programme 2007-08" organized by Biotech Consortium India Limited, where she worked on various aspects of Bioinformatics tools and techniques including 'In silico drug designing, Programming Language (PERL) and comparative sequence analysis'.

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