

Priliminary Phytochemical screening and Anti bacterial activity of leaves of Moringa oleifera Lamk.

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Moringa oleifera is a tree belongs to the family Moringaceae. It is called in Tamil - Murungai, English-Drumstick, and Sinhala - Murunga. Leaf is used in the eye infection as juice and anjanam. The present study was to screen the Phytochemicals and antibacterial activity of the decoction and ethanolic extractleaves of *M.oleifera* against *Staphylococcus aureus* (ATCC 25923), *Pseudomonas aeruginosa* (ATCC 27853), *Escherichia coli* (ATCC 25922) and *Enterococcus faecalis* (ATCC 29212). Fresh leaves were collected from Jaffna and dried under sunshade. 50 g leaves were used to prepare the decoction. Ethanolic extract was prepared using soxhlet apparatus. The solvent was evaporated using rotatory evaporator. Test extracts were chemically tested qualitatively for the presence of alkaloids, saponins, tannins, steroids, flavonoids, glycosides and triterpenoids. The antibacterial activity of the leaf decoction and ethanolic extract was determined by using cut well diffusion method. The Nutrient agar plate was inoculated with 1 ml of the liquid bacterial culture and allowed to dry at 37°C for 15 min. The wells were made on the NA plate with 9 mm in diameter of cork borer and the well was filled with the test extract. Ethanol was used as control. Plates were incubated at 37°C for 24 hrs. The inhibition of growth was observed and the diameters of the zones of inhibition (ZOI) were measured. Replicates were made for the entire procedure. The methanolic extract showed antibacterial activity against all tested gram positive and negative organisms. ZOI was ranged from 12 (\pm 0) mm to 19 (\pm 0) mm. Decoction of leaves showed antibacterial activity against *S. aureus* and *E. faecalis* the ZOI was 11(\pm 0.18) mm. The growth inhibition was highly significant against *P.aeruginosa* and less significant against *E. coli* in ethanol leaf extract. Degree of antibacterial activity of ethanol leaf extract was higher than that of decoction among the bacteria tested. Saponin, Tannin and Cardiac glycoside were present in both leaf extract and decoction. But terpenoid was observed only in ethanol leaf extract. Extraction of bioactive compounds was also depended on the type of solvent used and the method of extraction.

Keywords: Phytochemical screening, Antibacterial activity, Leaves of *Moringa oleifera*

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