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Antibacterial Activity of Terminalia catappa Extract against Pseudomonas aeruginosa Isolated from Different Infections

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Introduction & Aims: Pseudomonas aeruginosa is an important pathogen and produce widespread infections. Increasing of antibiotic usage for P.aeruginosa infections, created antibiotic resistance and subsequently to produce new antibiotics. Medical herbs with anti microbial activity have always been important role in traditional medicine. The purpose of this study was to determine the antibacterial activity of methanolic extract from fruit of Terminalia catappa against P.aeruginosa isolated from different infections and to compare with effects of selected antibiotics in vitro.

Methods: This research is a descriptive analytic study. First, a sample of methanolic extract of the plant fruit was prepared by maceration method. Then its antibacterial activity against 126 isolates of P.aeruginosa from 185 samples of different infection was evaluated by well diffusion and then agar serial dilution method. Also, the MIC (Minimum Inhibitory Concentration) of extract was determined. The effect of selected antibiotics was tested by disk diffusion method.

Results: The frequency distribution tables, diagrams, onava test were used to describe and compare the results. The results demonstrated that the plant extract had been effected against 124 of P.aeruginosa isolated(98.4%).The MIC of the extract for this bacteria was 20 mg/ml, while they were often resistant to selected antibiotics(100% resistant to Ceftazidime and 97.6% resistant to Tobramycin).There was significant difference between the effects of plant and antibiotics on P.aeruginosa ($P<0.001$).

Discussion & Conclusions: This study demonstrates that a methanolic extract of Terminalia catappa is effective on P.aeruginosa isolated from different infection and its effect is even better than that of selective antibiotics. Further investigations will be necessary.

Key words: Terminalia catappa, Methanolic extract, Pseudomonas aeruginosa ,Infection