

EVALUATION OF IN-VITRO ANTIBACTERIAL EFFECT OF LAWSONIA INERMIS L. PLANT AGAINST ACINETOBACTER BAUMANNII AND PSEUDOMONAS AERUGINOSA

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Globally there is a massive increase in the prevalence of Multi Drug Resistant (MDR) strains of *Acinetobacter baumannii* and *Pseudomonas aeruginosa*. Hence it is considered one of the biggest threats in the health care sector in the 21st century. Nosocomial infections known as hospital acquired infections (HAI) are associated with a great deal of morbidity, mortality and increased financial burden. The misappropriations of antimicrobial agents create the emergence of prominent MDR strains. This study has been evaluated to fulfill the gaps by the antimicrobial effects against *Acinetobacter baumannii* (ATCC® 19606™) and *Pseudomonas aeruginosa* (ATCC® 27853™) using the aqueous extracts of flowers, seeds, leaves, bark and root of *Lawsonia inermis* L. plant. The antibacterial activity of the extracts was evaluated using the cylinder plate method, and Gentamycin was used as the positive control while distilled water used as negative control. A series of concentrations was made with all six

plant parts (flowers, seeds, leaves, bark, root and combination). The concentrations used were 250 µg/ml, 500 µg/ml, 750 µg/ml and 1000 µg/ml. Results revealed that all aqueous extractions exhibit marked antibacterial activity zones of inhibition values ranging between 12.94 mm to 19.72 mm and 12.87 mm to 19.66 mm against *A.baumannii* and *P.aeruginosa* respectively. The result is statistically significant (p< 0.05). It is concluded that Aqueous extraction of the flower of *Lawsonia inermis* L. plant showed the highest antibacterial activity while aqueous extraction of combination showed the second highest antibacterial activity against both *Acinetobacter baumannii* (ATCC 19606) and *Pseudomonas aeruginosa* (ATCC 27853) respectively. This is a discovery of novel antibiotic for nosocomial infections in future.

Keywords: *Lawsonia inermis* L., Multi Drug Resistance, Antibacterial Activity