

**ANTIBACTERIAL POTENTIAL OF *Azadirachta indica* AND  
*Curcuma longa* EXTRACTS AGAINST SOME SELECTED  
MULTIDRUG-RESISTANT BACTERIA**

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The emergence of multidrug-resistant bacteria has become a major global challenge to public health. Therefore, attention has been paid to explore alternative antimicrobial agents to overcome this challenge. This study aimed to compare the antibacterial efficacy of neem leaf (*Azadirachta indica*) and turmeric rhizome (*Curcuma longa*) extracts against selected multidrug-resistant bacteria; *Acinetobacter* species, *Coliform* species, Methicillin-resistant *Staphylococcus aureus* (MRSA), and *Pseudomonas aeruginosa*. The antibacterial efficacy of neem and turmeric was evaluated by performing disk diffusion and broth dilution methods. The plant extracts were prepared using the maceration method using 95% ethanol. The organisms were inoculated onto Muller Hinton agar plates with 0.5% McFarland turbidity standard for the selected microorganisms. Ciprofloxacin and Gentamicin discs were used as controls and applied along the plant extracts on the agar plates, which were then incubated at 37 °C for 24 hrs. The procedure was repeated three times to obtain the mean inhibition zone for each strain in the disc diffusion method. The minimum inhibitory concentration (MIC) of neem against MRSA was determined by the broth dilution method. An antibiotic sensitivity test was performed for control organisms in conjunction with these methods. Inhibition zones both in disc ( $\pm 8$  mm) and well diffusion ( $\pm 9$  mm) indicated a significant antibacterial activity of neem extract against MRSA. However, neem extract exhibited a MIC and minimum bacterial concentration of 20 mg/mL against MRSA, while turmeric showed no significant inhibitory activity. Other selected multidrug-resistant bacteria showed no significant inhibitory zones for both plant extracts. The results indicated that neem leaf extract has a significant antimicrobial effect against selected multidrug-resistant MRSA, whereas turmeric extract shows no significant effect on the aforementioned microorganisms. Further studies should focus on the impacts of neem extract concentration on its antimicrobial efficacy as it may serve as an effective alternative anti-microbial agent against multidrug-resistant MRSA.

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