



ORIGINAL RESEARCH

Antimicrobial Activity of Commonly Used Medicated Soaps on Multi-Drug Resistant *Staphylococcus aureus* and *Escherichia coli* in Maiduguri, Nigeria

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ABSTRACT

Background: The spread of antibiotic resistant infections in both hospital and community settings is a global public health problem. Proper hand washing with soaps has been described as a simple means of preventing disease transmission.

Objectives: The antimicrobial activities of six commonly used medicated soaps - Safeguard[®], Dettol[®], Crusader[®], Septol[®], Tetmosol[®] and Sabulun salo (Local black soap) against multi-drug resistant pathogenic *Staphylococcus aureus* and *Escherichia coli* isolates were investigated in Maiduguri metropolis.

Methods: Two isolates each of *Staphylococcus aureus* and *Escherichia coli* were collected from laboratory unit of the University of Maiduguri Teaching Hospital and confirmed using standard microbiological procedures. Antibiotic susceptibility testing was determined using standard disc assay method. The effectiveness of the soaps against these organisms was determined using agar well diffusion and broth dilution methods.

Results: The *E. coli* and *S. aureus* isolates were multi-drug resistant to the tested antimicrobials. Only one of the *S. aureus* isolates was susceptible to Safeguard[®], Dettol[®], Tetmosol[®] and Sabulun salo, while the other three isolates were resistant using the agar well diffusion method. Dettol[®], Tetmosol[®] and Sabulun salo had the highest activity against all the isolates. One of the *S. aureus* isolates exhibited the highest susceptibility at MIC 1.56mg/ml and MBC 3.175mg/ml of the soaps' concentrations.

Conclusion: This study showed that Dettol[®], Tetmosol[®] and Sabulun salo are the most effective soaps against antibiotic resistant bacteria and thus can be used to control the spread of pathogenic microorganisms in hospitals and communities through proper hand hygiene.

Keywords: Medicated soaps, MDR, *Staphylococcus aureus*, *Escherichia coli*, MIC, MBC