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The antibacterial evaluation of honey and *Moringa* (*Moringa oleifera*) leaf extract against bacteria isolated from inanimate surfaces of a hospital

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Statement of Problem: Healthcare facilities today harms too frequently and often fails to deliver its potential benefits because pathogenic microorganisms are readily present on fomites surfaces, thereby increasing the spread of nosocomial infections. The aim of this study was to investigate the types of microorganisms associated with selected fomites surfaces of the female and male wards of the FUTA Health Centre, Akure, Ondo state of Nigeria.

Methodology: A total of 28 samples were collected from the bed linens, bed rails, bedside cabinets, door knobs, chairs, floor, wall and sink faucets from the male and female wards using sterile swab sticks moistened with normal saline and cultured on different selected media. The antibacterial efficacy of ethanol extract of *Moringa oleifera* (Lam) leaf and pure honey were investigated *in vitro* against the isolated bacteria using the agar well diffusion technique at different concentrations.

Findings: The bacteria isolated were *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Klebsiella pneumonia*e, *Bacillus cereus, Staphylococcus epidermidis, Micrococcus* spp., *Enterococcus* spp., and *Escherichia coli* in descending order of prevalence. All the bacterial isolates were successfully inhibited by *Moringa oleifera* at all concentrations. The zone of inhibition increased with increase in the concentration of the leaf extract. All the bacteria isolates were inhibited by pure honey at 100% concentration with the highest zone of inhibition of 20.5 mm recorded for *Staphylococcus aureus*. At 75% concentration, *Staphylococcus aureus*, *Enterococcus* spp., and *Klebsiella pneumonia*e were the only bacteria inhibited. At 25% and 50% concentrations, no bacterium was inhibited. This result showed that *Moringa oleifera* leaf extract and pure honey exhibited a dose-dependent effect on the bacterial isolates and that inanimate surface of hospital environment houses varieties of bacteria may be responsible for nosocomial infections.

Biography

Omoya F Oluyemi is a Senior Lecturer and Researcher. She has her expertise in Environmental Health and Bio-control. She has researched on several infections that are caused mainly by poverty and environmental hazards, investigating *in vitro* effect of different plants extracts and honey on the etiologic agents.

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