

Antibacterial Activity of Leaf Juice and Extracts of *Moringa oleifera* Lam. against Some Human Pathogenic Bacteria

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ABSTRACT

The antibacterial activity of leaf juice and extracts of Moringa oleifera Lam., belonging to the family Moringaceae, was determined in vitro, using disc diffusion and minimum inhibitory concentration (MIC) determination method against human pathogenic bacteria. The fresh leaf juice (10 µl disc⁻¹), powder from fresh leaf juice, cold water extract of fresh leaf, each of 1175 µg disc⁻¹, displayed a potential antibacterial activity against all the tested four Gram-negative bacteria: Shigella shinga, Pseudomonas aeruginosa, Shigella sonnei and Pseudomonas spp. and six Gram-positive bacteria: Staphylococcus aureus, Bacillus cereus, Streptococcus-B- haemolytica, Bacillus subtilis, Sarcina lutea and Bacillus megaterium. However, ethanol extract (1175 µg disc⁻¹) of fresh leaves exhibited inhibitory effect against all the tested Gram-negative bacteria and Gram-positive bacteria except in S. aureus and Streptococcus-B- haemolytica. The zones of inhibition for fresh leaf juice was 15.23 to 25.2 mm, powder from fresh leaf juice was 29.25 to 42.3 mm, ethanol extract of fresh leaves was 16.25 to 21.5 mm and cold water extract of fresh leaves was 7.75 to 27.5 mm and MIC values were recorded as 1.25 to 2.5 µl disc⁻¹, 229 to 458 µg ml⁻¹, 458 to 916 µg ml⁻¹ and 29.87 to 58.75 mg ml⁻¹, respectively. The consequences of this investigation suggest that the extracts and juice of M. oleifera Lam. can be used to discover antibacterial agent for developing new pharmaceuticals to control studied human pathogenic bacteria responsible for severe illness.

Key words: *Moringa oleifera*, Pathogenic bacteria, Juice, Extract, Antibacterial activity, MIC