Analysis of the Antibacterial Action of Lectin from *Moringa oleifera* seeds (WSMoL) against *Klebsiella pneumoniae* and *Serratia* sp.

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INTRODUCTION. The resistance of microorganisms to antibiotics has made hospital infections a problem of public health. Bacterial extracellular proteases can act as virulence compounds. Studies have shown pharmacological potential of *Moringa oleifera* against pathogenic bacteria. **OBJECTIVE:** To investigate the antibacterial action of a water-soluble *M. oleifera* seed lectin (WSMoL) against pathogenic bacteria *Klebsiella pneumoniae* and *Serratia* sp., by analyzing the bacterial growth curve and the secretion of extracellular proteases. **MATERIAL AND METHODS:** The minimum inhibitory (MIC) and bactericidal (MBC) concentrations were determined in Muller Hinton (MH) broth. The growth curves were performed with treated (at MIC) and untreated cells (negative control) during 6h of incubation at 37ºC. For determination of protease secretions for both bacteria, the strains were incubated in MH broth containing bovine serum albumin and WSMoL at MIC for test and without the lectin for controls, during 24h. **DISCUSSION AND RESULTS**: WSMoL inhibited bacterial growth of the *K. pneumoniae* (MIC of 31.25 µg mL^{-1} and MBC of 312.5 µg mL^{-1}), and *Serratia* sp. (MIC of 125 µg mL^{-1} and MBC of 250 µg mL^{-1}). The growth curve showed significant reduction of cell number after 6h of incubation for both bacteria. The research showed a decrease in extracellular protease secretion or activity. **CONCLUSION:** The results revealed that WSMoL is a bioactive compound with inhibitory and bactericidal action on *K. pneumoniae* and *Serratia* sp.; in addition, the lectin was able to interfer in virulence factors, like proteases, necessary on pathogenicity.

Keywords: Antibacterial action; WSMoL; *Moringa oleifera*.

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