

Antibacterial efficacy of green synthesized silver nanoparticles against gram-positive and gram-negative bacteria

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ABSTRACT

Microorganisms show higher degree of resistance to synthetic antibiotics these resistance strains of bacteria are the most serious threat to the treatment of infectious diseases. Hence, the present study intended to evaluate antibacterial activity of green synthesized nanoparticles using *Achyranthes aspera*. The silver nanoparticles were synthesized using aqueous leaf extract of *Achyranthes aspera* and characterized with UV-Vis spectroscopy, FTIR and Scanning electron microscopy. Antibacterial activities were assessed by disc diffusion method against *Proteus mirabilis*, *Bacillus subtilis*, *Klebsiella Pneumonia*, *Escherichia coli* and *Vibrio cholera*. Silver nanoparticles shows a potential bactericidal activity against both the gram positive and gram negative bacteria, highest significant activity was observed against *Proteus mirabilis* and *Klebsiella pneumonia*. The green synthesized silver nanoparticles show a potential antimicrobial activity against the tested organisms when compared with the solvent extracted leaf extracts of *Achyranthes aspera*.