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***Woodfordia fruticosa*: Multifaceted medicinal plant**

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Medicinal plants have been used in herbal formulations virtually in all cultures as they boost-up the immune system specifically and selectively without any side effects. Medicinal plants have vital importance in developed countries like India to cure various health ailments. Indo-Himalayan region is hotspot zone for medicinal plants. *Woodfordia fruticosa*, is one of the medicinal plants belongs to Lythraceae family and commonly known as Dhataki. It has highly pharmacological value in Indian traditional healthcare system such as Ayurveda for the treatment of diarrhea, dysentery, fever, headache, liver disorder, and ulcer and wounds etc. In present work *Woodfordia fruticosa* was screened against clinical isolates of human pathogens. Silver and iron nanoparticles were also synthesized from the most effective extract. Plant flowers, collected from different area of Shimla district were dried and extraction was carried out in different solvents by cold percolation method. Acetone extract of *woodfordia fruticosa* flowers were more effective against pathogens (18.3 mm/4 mg, 20.7mm/4mg, 20.3mm/4 mg, 18 mm/ 4mg against *Bacillus cereus*, *staphylococcus aureus*, *Escherichia coli*, and *pseudomonas aeruginosa* respectively). The plant extract was characterized by the presence of phenols, tannins, flavonoids and carbohydrates. The results suggested that *Woodfordia fruticosa* flowers have antimicrobial potential which can be exploited in drug development. Minimizing the particle size further increase the application and potential of drug molecules, hence conjugate of silver and iron metal nanoparticles and flower extract was prepared. Atomic force microscopy analysis showed that nanoparticles are well within the range of 40-50 nm. However plants have been found very effective but proper identification, purification of chemical constituents, toxicological investigations, and dosage identification will certainly help to develop novel drug for human healthcare. Moreover the support to herbal healthcare helps in reducing the antibiotics consumption globally and generation of drug resistant pathogens. Herbal drug can help to emergence of new era of healthcare system to treat human disease in future and securing the environment.

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