

ABSTRACT

The present research was conducted to investigate the ethnopharmacological potential of the bark of *Ficus benjamina*, *Ficus elastica*, *Ficus religiosa* and *Ficus virens* in n-hexane, chloroform, ethanol and water extract along with the silver nanoparticles synthesized from the aqueous extracts of these barks. Nanoparticles are widely used because of their tiny size range from 1 nm to 100 nm and useful features. Plants can be used to synthesize silver nanoparticles biologically without the use of hazardous chemicals, high temperatures or energy. Phenols, flavonoids, carbohydrates, glycosides, saponins, betacyanin, resins, steroids, and terpenoids were discovered during the phytochemical analysis. For the synthesis of silver nanoparticles both silver nitrate salt and aqueous bark extracts were mixed in proper ratio changing the solution's brown colour to a blackish brown. The characterization of AgNPs were carried out using UV-visible spectroscopy, Scanning Electron Microscope (SEM) and Fourier Transform Infrared Spectroscopy (FTIR) to confirm the synthesis and stabilization of AgNPs. The reduction of Ag ions to AgNPs was analyzed by absorption peaks observing in spectrum of UV-Vis Spectroscopy while the size and shape was confirmed through SEM analysis. The FTIR analysis showed that aldehydes, ketones, alcohols and amines were bioactive compounds responsible for stabilization of synthesized AgNPs. To confirm the activities of the synthesized nanoparticles, different biological assays such antioxidant and antimicrobial activities were performed. To study the antioxidant activity of *Ficus* bark extracts and AgNPs different evaluating tests (%DPPH, metal chelating, total phenolic and flavanoid content) were performed. The comparison of %DPPH values of AgNPs with Plant aqueous extract and standard antioxidant showed more than 80%. Total phenolic and flavonoid content in AgNPs varied from 80.32 to 126.57 (mgGAE/g DW) and 13.86 to 75.52 (mg QE/g DW). The % inhibition metal chelating in comparison of Ag NPs and aqueous extract showed significant difference. Antimicrobial assay of *Ficus* bark extracts and synthesized AgNPs was performed on solid growth medium against bacterial and fungal strains. It was found that ethanol and distilled water extracts showed good antimicrobial potential. Antimicrobial activities of AgNPs had shown higher inhibition as compared to aqueous bark extract in all samples.