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In-Vitro Antibacterial Activity and Phytochemical Screening of the Bark of *Ficus religiosa* against Selected Organisms

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Ficus religiosa is considered as a rich source of antimicrobial agent. *F.religiosa* belongs to the family of Moraceae (Tamil - Arasu; English - Bo tree, Sinhala - Bo-gaha). A paste of the bark used in inflammatory swelling, decoction of the bark is used as mouth wash for toothache and the dried bark powder is used for anal fistula. Therefore, objective of the study was to analyze the phytochemical composition of decoction and ethanolic extract of *F.religiosa* and evaluate the antibacterial activity against selected bacteria including *Staphylococcus aureus* (ATCC 25923), *Escherichia coli* (ATCC 25922), *Pseudomonas aeruginosa* (ATCC 27853) and *Enterococcus faecalis* (ATCC 291212). The antibacterial activity was evaluated by cut well diffusion method using Mueller Hinton Agar as the medium control. The diameter of the Zone of Inhibition (ZOI) was measured after 24 hours incubation. Qualitative phytochemical analysis was done to test the presence of phytochemicals. The decoction possesses alkaloid, tannin, saponin, flavonoids, terpenoids, phlobatannins, and cardiac glycoside. Ethanolic extract possess alkaloid, tannin, saponin, flavonoids, terpenoids, and cardiac glycoside. Decoction and ethanolic extract of *F.religiosa* showed inhibitory activity against all the tested bacteria. The diameter of ZOI was found to range from 12±0.18mm to 23±0.22mm. The ethanolic extract of *F.religiosa* showed antibacterial activity against the tested organism ranging from 18±1.12mm to 23±0.22mm. This diameter is greater than the diameter of Zone of Inhibition of decoction of *F.religiosa* (12±0.18mm to 17±0.41mm). Both extracts showed high degree of growth inhibition against all tested bacteria. The ethanolic extract of bark of *F.religiosa* has a great potential inhibitory activity against microorganism that can be used in treatment of infectious diseases caused by *S.aureus, E.coli, P.aeruginosa* and *E.faecalis*.

Further study should be carried out against the wider spectrum of microorganisms.

Key Words: Antibacterial activity, Phyto chemicals, *Ficus religiosa*