ID – 054- OP

Preliminary Phytochemical Screening and Antibacterial Activity of *Ficus benghalensis :* A Comparison between Ethanol Extract and Decoction

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Ficus benghalensis belongs to the family Moraceae.(Tamil - *Aal*, English- banyan tree, Sinhala–*Mahadan*) The aim of this study is to compare the antibacterial activity of decoction and ethanolic extract of *F.benghalensis* bark, against *Staphylococcus aureus* (ATCC 25923) *Escherichia coli* (ATCC 25922) *Pseudomonus aeruginosa* (ATCC 27853) and *Enterococcus faccealis* (ATCC 291212) and to screen the phytochemicals present. The freshly prepared ethanolic extract (5g bark material + 50ml of ethanol) and water extract (1g of bark material + 10ml of water) were chemically tested qualitatively for the presence of chemical constituent such as alkaloids, tannins, saponins, phlobatannins, flavonoids, steroids, terpenoids, cardiac glycosides. The ethanolic extract possesses alkaloid, tannin, saponin, flavonoids, steroid, terpinoides and cardiac glycoside, whereas the decoction contains tannin, saponin, flavonoids, terpinoides and cardiac glycoside. The antibacterial activity was carried out by using the standard cut well diffusion method with Mueller Hinton Agaras the medium control. The diameter of the Zone of Inhibition was measured after 24 hours of incubation. Decoction and ethanolic extract of *F.benghalensis* showed inhibitory activity against all the tested bacteria. The diameter of Zone of inhibition is ranging from 8±0.41mm to 21±0.02mm. The ethanolic extract of *F.benghalensis* showed antibacterial activity against the tested organism ranging from 14±0.13mm to 21±0.02mm.This diameter is greater than the Zone of Inhibition of decoction of *F.benghalensis* (8±0.14mm to 11±0.31mm). The reason for this observation may be due to the presence of alkaloid and steroid in ethanol extract. In summery the ethanolic extract of bark of *F.benghalensis* has a great potential inhibitory activity against tested organisms that can be used in

treatment of infectious diseases caused by *S.aureus, E.coli, P.aeruginosa, E.faccealis*. Further study should be carried out against a wider spectrum of organisms.

Key Words: Antibacterial activity, phytochemicals, *Ficus benghalensis*