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Antibacterial activity of Flueggea leucopyrus Willd

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Fluggea leucopyrus Willd. (Euphorbiacea) known as 'Katupila' in local dialect is a plant widely used in indigenous medicinal system in Sri Lanka as a remedy for cancers and infectious diseases. Sufficient scientific investigations however are unavailable to rationalize the ethnobotanical and ethnopharmacological significance of the plant. Present study was conducted to investigate the antimicrobial potential of F. leucopyrus whole plant extract. The antimicrobial activity of the methanolic extract of F. leucopyrus was determined by agar well diffusion method. The extract was tested against five standard bacterial strains and eight clinically isolated bacterial cultures; Staphylococcus aureus (ATCC 25923), Staphylococcus aureus (ATCC 6538), Escherichia coli (ATCC 8739), Pseudomonas aeruginosa (ATCC 9027), Pseudomonas aeruginosa (ATCC 27853), Streptococcus pyogenes, Klebsiella pneumoniae, Proteus mirabilis, Enterococcus faecalis, Salmonella typhi, Bacillus subtilis, Methicillin Resistant Staphylococcus aureus (MRSA) and *Staphylococcus saprophyticus*. The test was triplicated for each microorganism. Ciprofloxacin was used as the positive control while 20% Dimethyl sulfoxide (DMSO) which was used to dissolve the plant extract was used as the negative control. No inhibition of growth was observed in the negative controls and the positive control was able to inhibit the growth of all test bacterial strains used. The growth of S. pyogenes, K. pneumoniae, S. typhi, B. subtilis, E.coli (ATCC 8739) was not affected by F. leucopyrus extract, meanwhile S. aureus (ATCC 25923), S. aureus (ATCC 6538), P. mirabilis, E. faecalis, MRSA, P. aeruginosa (ATCC 9027), P. aeruginosa (ATCC 27853) and S. saprophyticus seemed to be susceptible to the extract showing inhibition zone diameters of 12.67±0.58 mm, 12.67±0.58 mm, 15.33±0.58 mm, 9.67±0.58 mm, 13.67±0.58 mm, 12.67±0.58 mm, 11.33±0.58 mm and 13.67±0.58 mm respectively. These preliminary observations suggest that F. leucopyrus plant is a potent source of antimicrobial substances. Further studies are required to determine the phytochemicals responsible for the antimicrobial action.

Keywords: Antimicrobial, Fluggea leucopyrus, Natural products, Phytochemical