



IN VITRO ANTIBACTERIAL ACTIVITY OF CRUDE EXTRACTS OF HIBISCUS HISPIDISSIMUS. GRIFF (NAPIRITTA)

P.T.N. Pathirana, M.T.A. Dayarathna, WJ Wickramarachchi

Department of Cikitsa, Gampaha Wickramarachchi Ayurveda Institute, University of Kelaniya

nisansalapatirana@gmail.com

Hibiscus hispidissimus (Malvaceae) has widely been used as a remedy in traditional medicine specially for various kinds of infectious skin diseases. The present study was aimed at observing the antibacterial activity of crude extracts of different parts of the plant (leaves, flowers, fruits and roots) against four bacterial strains by agar well diffusion method (50µl) in comparison with standard antibiotics, Amoxicillin (10mg/ml) and Tetracycline (10mg/ml). The antibacterial activity of the each *HH* extract was studied against Gram negative (*Pseudomonas aeruginosa* – ATCC27853), Gram positive (*Staphylococcus aureus* – ATCC25923 and *Streptococcus agalactiae* – ATCC12386) and Methicillin resistant *Staphylococcus aureus* (*MRSA* – ATCC43300). Data were statistically analyzed using Independent T-test in SPSS 22 software and statistical significance was determined at 0.05. Although the plant extracts have displayed inhibitory zones against both Gram negative and Gram positive organisms, Levene's test revealed *HH* extracts of leaves, fruits and roots to have significant antibacterial activity ($p > 0.05$) against all the respective microorganisms tested. But, *HH* flower extracts were not recorded as having antibacterial activity ($p < 0.05$) against *P. aeruginosa*, *S. aureus* and *S. agalactiae* except *MRSA* ($p > 0.05$). The study concludes that crude extracts of *HH* plant possess antibacterial activity against *MRSA*. Moreover, crude extracts of leaves, fruits and roots exhibited antibacterial activity while the flowers showed no activity against the rest of the bacterial species studied.

Keywords: *Hibiscus hispidissimus*, Antibacterial activity, Methicillin resistant *Staphylococcus aureus*, Agar well diffusion method, Positive control