

## Screening of antibacterial effect of selected plant leaf extracts

Hansika K. A. S., Perera A. J. D. and Hemamali K. K. G. U.\*

*Department of Botany, University of Ruhuna, Matara, Sri Lanka.*

Sri Lankans have been using plant extracts to treat various diseases and wounds for years. Those plants contain various chemical compounds that have wound healing properties. The wound healing mechanisms may differ with the compound. One of the prevalent mechanisms of wound healing by plant extract has been identified is the prevention of microbial infections. Our objective of this study was to evaluate & compare the antibacterial potential of plant extracts, which are commonly used in Sri Lanka for wound healing. In this study, water extracts of tender and mature leaves of *Piper betel*, *Clidemia hirta*, *Mikania micrantha*, *Coffea arabica*, *Albizia odoratissima* and *Lantana camara* were evaluated for their antibacterial effect using Soxhlet extraction method. Those plant extracts were tested against pathogenic bacteria namely *Staphylococcus aureus*, *Escherichia coli* and *Pseudomonas aeruginosa* by agar well diffusion method. The results revealed that all investigated water extracts exhibited antibacterial activity against at least one of the test organisms except *C. arabica* and *A. odoratissima*. However, *S. aureus* was more vulnerable than *E. coli* and *P. aeruginosa*. Those plant extracts showed significant ( $p < 0.05$ ) antibacterial activity against all bacterial strains tested. Effects of the extracts were proportional to the concentration of the extracts tested. The results also indicated that mature leaves of *C. hirta* extract showed the highest inhibition against *S. aureus* at the lowest concentration. Comparatively, mature leaves showed the best antibacterial activity than the tender leaves. Study shows that strong antibacterial activity is shown by aqueous extracts of almost all the investigated plants except *C. arabica* and *A. odoratissima*.

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\*Corresponding author: [upekshahe@yahoo.com](mailto:upekshahe@yahoo.com)