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IN VITRO ANTIMICROBIAL ACTIVITY OF *PANCHAVALKALA*, AN AYURVEDIC HERBAL FORMULA: PRELIMINARY STUDY

A.M.A. Fernando[1*] and J.A.M.S. Jayatilake[2]

[1]Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka
[2]Department of Oral Medicine and Periodontology, Faculty of Dental Sciences, University of Peradeniya, Peradeniya, Sri Lanka
[*]anumaheshamila@gmail.com

Panchavalkala is a water extract of a combination of barks of five medicinal plants, widely used to treat wounds in Ayurvedic medicine. Three different combinations are commonly used as *Panchavalkala* in Sri Lanka. This study evaluated the *in vitro* antimicrobial activity (AMA) of three different combinations of *Panchavalkala* against common pathogens: *Escherichia coli*, *Pseudomonas auregenosa*, *Staphylococcus aureus*, methicillin-resistant *Staphylococcus aureus* (MRSA) and *Candida albicans*. The combinations of *Panchavalkala* were prepared using pure raw materials according to the ayurvedic formulae. They were named A, B, and C and 60 g of total weight was used for water extraction and concentrated into 8:1 by boiling from each combination. Screening of AMA for each sample was carried out using the agar well diffusion assay in quadruplicate. Zones of inhibition of samples A, B, C against *S. aureus* and MRSA were 4.81 ± 0.26 mm, 4.69 ± 0.26 mm, 4.25 ± 0.27 mm, 3.88 ± 0.23 mm, 5.12 ± 0.23 mm, 4.50 ± 0.38 mm, respectively. Growth of *S. aureus* was significantly inhibited by sample C compared to amoxicillin used as a positive control (p = 0.01). Samples A and C showed a significant effect against MRSA compared to vancomycin (p = 0.01). None of the above combinations of *Panchavalkala* had an inhibitory effect on *E. coli*, *P. auregenosa* and *C. albicans*. All three combinations were effective against *S. aureus*, including MRSA *in vitro*. Further studies are recommended to explore the AMA of *Panchavalkala* used in Sri Lanka.

Keywords: Anti-microbial activity, Methicillin-resistant *Staphylococcus aureus*, *Panchavalkala*, *Staphylococcus aureus*, Water extraction