

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

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*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  $4.81 \pm 0.26$  mm,  $4.69 \pm 0.26$  mm,  $4.25 \pm 0.27$  mm,  $3.88 \pm 0.23$  mm,  $5.12 \pm 0.23$  mm,  $4.50 \pm 0.38$  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