

OP 2

Antibacterial Activity of Crude Hexane Extract of *Epaltes divaricata* (Heen mudamahana) against Methicillin Resistant *Staphylococcus aureus* Clinical Isolates

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Background: Development of methicillin resistant *Staphylococcus aureus* (MRSA) bacterial strains with reduced susceptibility to antibiotics and increased number of multidrug resistant microbial strains is observed worldwide due to irrational use of broad spectrum antibiotics. Since there is need to search for new infection-fighting strategies, medicinal plants have become potential sources in the development of novel antimicrobial agents to overcome this problem.

Objectives: To determine the antibacterial activity of hexane extract of *Epaltes divaricata* (Heen mudamahana) against MRSA isolates.

Methodology: Hexane extract of Sri Lankan medicinal plant *Epaltes divaricata* (whole plant) was analysed against twenty MRSA clinical isolates obtained from stock cultures of Department of Microbiology, Faculty of Medicine, University of Ruhuna. Antibacterial activity of plant extract was initially examined using agar disc diffusion method. Minimum inhibitory concentration (MIC) was determined by broth dilution method using a microtitre plate. Serial five-fold dilution of the plant extract was prepared to yield seven dilutions of the original extract. Vancomycin was used as positive control.

Results: Hexane extract of *E. divaricata* showed zones of inhibition for all twenty MRSA isolates in the initial screening. Maximum zone of inhibition of MRSA isolates ranged between 6.7-13.1 mm. Minimum inhibitory concentration for MRSA isolates ranged between 0.012-0.32 mg/mL.

Conclusions: It is concluded that hexane extract of *Epaltes divaricata* showed significant antibacterial activity against the clinical isolates of MRSA tested. Further scientific investigations will warrant identification of active compounds responsible for the antibacterial activity in this plant extract.

Keywords: Antibacterial activity, *Epaltes divaricata*, Hexane extract, Medicinal plant