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Anti-bacterial activity of selected *Barringtonia asiatica* seed kernel fractions against bacteria

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The research for more efficient and novel antimicrobials with fewer side-effects on human health is important due to development of antibiotic resistance by bacteria. Thus the aim of this study was to assess the antibacterial potential of two extracts obtained from *B. asiatica* seed kernel. The fruits of *B. asiatica* have been used as a fish poison and contain saponins. The crude methanolic extract (15 g powder / 40 mL MeOH, 24 hrs, dried at 45°C in a rotary evaporator) and a fraction obtained following running the crude methanolic extract (CME) through medium pressure liquid chromatography (MPLC), both of which had shown cytotoxicity with brine shrimp assay, were used. The CME (5000 ppm) and the fraction from MPLC (5000 ppm) were tested for antibacterial activity against standard ATCC strains of *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Enterococcus faecalis*, *Escherichia coli* and their clinical isolates obtained from a diabetic patient's wound. The antibacterial assays were done using Muller Hinton Agar (MHA) medium, with well diffusion method. CME or fraction of MPLC, Vancomycin (30 mg/mL, *S. aureus*, *E. faecalis*) or Gentamycin (30 mg/mL, *P. aeruginosa*, *E. coli*) were used as positive, and dimethyl sulfoxide (5%, DMSO) were used as negative controls. The zone of inhibition was measured after incubation at 37°C for 24 hours (n = 3). MPLC fraction resulted in a 14 mm zone of inhibition only for *P. aeruginosa* (ATCC 27853) and *S. aureus* (ATCC 25923) was inhibited only by CME (11 mm). CME did not inhibit the growth of *P. aeruginosa* and the MPLC fraction was inactive against *S. aureus*. The growth of their clinical isolates was also not inhibited. The growth of *E. faecalis* (ATCC 29212), *E. coli* (ATCC 25922) and their clinical isolates were not inhibited by the CME or the MPLC fraction. According to the results, CME and MPLC fraction of *B. asiatica* have shown low antibacterial activity against the bacterial strains studied.

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