

**Antibacterial activity of fruit of *Embelia ribes* against skin pathogens****Thayalini T<sup>1</sup>, Thevanesam V<sup>1</sup>, Kathirgamanathar S<sup>2</sup>, Gamage TM<sup>1</sup>**<sup>1</sup>Department of Microbiology, Faculty of Medicine, University of Peradeniya.  
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*Embelia ribes* is a medicinal plant used in Traditional medicine for the treatment of various ailments. The decoction of the fruit is beneficial against intestinal worms and skin diseases. The antibacterial activity of aqueous and ethanolic extracts of *Embelia ribes* fruit extract has been evaluated against gram-positive bacteria (*Bacillus subtilis*, *Staphylococcus aureus*) and Gram-negative bacteria (*Escherichia coli*, *Pseudomonas aeruginosa*). This plant extract has not been tested against Methicillin resistant *Staphylococcus aureus* (MRSA). The objectives of the study were to determine the antibacterial activity and minimum inhibitory concentration (MIC) of decoction and methanolic extract of *Embelia ribes* against *S.aureus* NCTC 6571, five MRSA strains, *P. aeruginosa* and *E. coli*.

The fruit of *Embelia ribes* was used to prepare the decoction and a methanolic extract obtained using a soxhlet extractor. Screening for antibacterial activity was done using the cut well diffusion method and MIC determined using the agar dilution method.

Screening of the decoction of *Embelia ribes* fruit showed activity against *S. aureus* NCTC 6571 and five MRSA strains. A 1/80 dilution of the decoction showed activity against *S. aureus* NCTC 6571 and the five MRSA strains. Although screening using the cut well diffusion method did not demonstrate any activity against *E. coli* and *P. aeruginosa* a 1/10 dilution of the decoction showed activity against *P. aeruginosa* by the agar dilution method. The methanolic extract of plant demonstrated activity against *S. aureus* NCTC 6571, the five MRSA strains (MIC 0.25mg/ml). The MIC for *E. coli* and *P. aeruginosa* was 2 mg/ml.

The diameter of the zone of inhibition (ZOI) produced by the decoction against *S. aureus* NCTC 6571 ( $22.33 \pm 0.57$  mm) and all 5 MRSA ( $19 \pm 0.57$  mm) was greater than ZOI produced by the methanolic extract against these organisms (range from  $15.66 \pm 0.57$  mm to  $16.66 \pm 1.11$  mm). Both decoction and methanolic extract of *Embelia ribes* demonstrated antibacterial activity against *S. aureus* at concentrations equal to or lower than the standard antibiotic.

**Key words:** Antibacterial activity, *Embelia ribes* fruit, skin pathogens.

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