

## Antibacterial activity and Preliminary phytochemical screening of decoction of *Indigofera aspalathoides* whole plant

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*Indigofera aspalathoides* is a medicinal plant belongs to the family Leguminosae known as Shivonarvembu in Tamil and Rathkohomba in Sinhala. In Traditional medical system this plant is used as a treatment for several diseases. A decoction of the whole plant is given for secondary syphilis and psoriasis. The leaves are applied on abscess and the root oil is used for skin diseases (Itching, Scabies, Karappan, Kuddam). The decoction of the leaves and flowers are used for skin diseases. A preparation made from the ash of the burnt plant is used to clean dandruff. In Siddha medical system, “Sivanar vembu thylam”, “Sivanarvembu kuliththylam” are the special preparations for skin disorders. The whole plant was collected from Jaffna, cleaned and ground into coarse powder to prepare the decoction (40 g of whole plant coarse powder in 480 ml distilled water boiled until the volume was reduced to 60 ml and further concentrated to obtain 30 ml using a reduced flame). The decoction was screened against eight bacterial isolates (*Staphylococcus aureus* – NCTC 6571, *E. coli* – NCTC - 10418, *P. aeruginosa* – NCTC – 10662 and five wild strains of Methicillin resistant *Staphylococcus aureus* (MRSA). This was performed by the cut well diffusion using Mueller – Hinton Agar (MHA) and agar dilution methods. The activity of the decoction was carried out in cut well method. The inhibition zone was  $17.00 \pm 1.00$  to  $18.67 \pm 0.58$  against *Staphylococcus aureus* (MSSA and five different strains of MRSA). In agar dilution method this decoction showed activity against *Staphylococcus aureus* (MSSA and five different strains of MRSA) at 1/20 dilution and against *Pseudomonas*

*aeruginosa* at 1/10 dilution. The decoction showed potent activity ( $18.67 \pm 0.58$  for MSSA and  $17.00 \pm 1.00 - 18.33 \pm 0.58$  for five MRSA) in cut well method and potent activity in agar dilution method. *E. coli* did not show any activity in both, agar dilution and cut well methods. In order to check the active ingredients phytochemical screening was carried out and the results revealed the presence of alkaloids, tannins, steroids, flavonoids, glycosides and triterpenoids in this plant. The ability of the decoction of *Indigofera aspalathoides* to inhibit the growth of bacteria is an indication of its antibacterial potential which may be employed in the management of bacterial infections.

**Key words:** Antibacterial activity, phytochemical screening, decoction, *Indigofera aspalathoides*

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