

### Evaluation of the antibacterial effect of *Thila Nimbhadi Kalka* against laboratory specimen of *Staphylococcus aureus*

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#### Abstract

Drugs from natural sources have been used in the treatment of various diseases since ancient times. Currently available synthetic antibiotics cause serious side effects and harm vital organs. Thus it is a need of present society to identify newer antibiotics from herbal sources to prevent from such serious effects. In compendium of *Sushruta Samhita*, preceptor *Sushruta* has mentioned an important prescription called *Thila Nimbhadi Kalka* which is used as antiseptic drug for wound cleansing. The objective of the research was to evaluate the antibacterial activity of *Thila Nimbhadi Kalka* (paste of *Azadirachta indica*, *Sesamum indicum* and bee honey) and its squeezed watery extract, by using Agar Well Diffusion method. *Staphylococcus aureus* (ATCC25923) was used as bacterial strain for this evaluation. Finely grounded paste of *Nimbha* leaves, *Thila* seed and bee honey were used as sample D<sub>1</sub>. Squeezed watery extract of above paste was used as sample D<sub>2</sub>. These two samples were tested for Antibacterial Sensitivity Test (ABST), according to the well diffusion method to explore their potent antibacterial activity against laboratory specimen of *Staphylococcus aureus*. Zones of inhibition was measured by scaling and analyzed by statistic package of Minitab software. The mean inhibitory zone diameters of sample D<sub>1</sub> and D<sub>2</sub> were 24mm and 21mm respectively. Accordingly sample D<sub>1</sub> showed maximum antibacterial activity against *Staphylococcus aureus* and it was within the range of standard sensitivity value of Amoxicillin. Sample D<sub>2</sub> also showed antibacterial activity against above bacterium. But it was not within the range of standard sensitivity value of Amoxicillin. Amoxicillin is normally used as an oral antibiotic for bacterial infections. However *Thila Nimbhadi kalka* was in standard sensitivity similar to Amoxicillin. Hence it can be highly accepted as an extrinsic local antibacterial application in the management of infected wound.

**Keywords:** Antibacterial activity, *Thila Nimbhadi Kalka*, *Staphylococcus aureus*

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