

ANTIMICROBIAL ACTIVITY OF *Ageratum conyzoides* AGAINST *Staphylococcus aureus*

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by

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Abstract

Ageratum conyzoides is used in traditional medicine for the treatments of variety of alignment. The aim of this research was to formulate and evaluate the wound healing activity of methanolic extract of *Ageratum conyzoides*. *Staphylococcus aureus* is most common bacteria in wounds. The antibacterial activities of *Ageratum conyzoides* was investigated against *Staphylococcus aureus*, using the Well diffusion method. The solvent type extracts were obtained by soxhlet method with methanol. Solvent was removed by using rotary evaporator at 150rpm below 40⁰C and obtained semi solid slurry. Stock solutions were prepared by dissolving semi solid slurry with methanol. These were tested in varying concentration of 200mg/ml – 12.5mg/ml. The solvents were used as negative control. Solvents had no effect on the microorganisms. Each parts of *Ageratum conyzoides* such as leaves, flowers, roots and stems showed antimicrobial inhibitory activity at 200mg/ml. Highest inhibition zone was showed leaves of *Ageratum conyzoides* and inhibition zone was decrease when concentration decrease. MIC of the *Ageratum conyzoides* leaves extract is 12.5mg/mL determine through concentration series. This study suggests that the methanol extracts of *Ageratum conyzoides*, can be used as herbal medicines in the control of *Staphylococcus aureus*. Methanolic extract of *Ageratum conyzoides* leaves was used to formulate the herbal ointment. Formulations were then tested for its physicochemical properties. Further, herbal formulations were evaluated for its antibacterial activity against *Staphylococcus aureus* by agar well diffusion method using Betadine as the standard. The formulations showed predominant activity against selected species.

This study showed that the leaf extracts of the *Ageratum conyzoides* plant, had good antibacterial activity against *Staphylococcus aureus*. Prepared herbal ointment also showed antibacterial activity against *Staphylococcus aureus*. That ointment had more than 50% consumer preference and didn't show any allergy reaction. Overall result of this study reveals that this is an effective herbal ointment.

Key words: *Ageratum conyzoides*, *Staphylococcus aureus*, Well diffusion method, antibacterial activities.