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In Vitro Testing of the Antibacterial Activity of Ethanol Extract of Lontar Leaves (*Borassus flabellifer*) Against *Staphylococcus aureus*

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ABSTRACT

BACKGROUND: *Staphylococcus aureus* is a bacterium that frequently causes infections and often develops resistance to antibiotics. Efforts to identify alternative treatments using herbal remedies are increasing. In Indonesia, a country rich in biodiversity, lontar leaves (*Borassus flabellifer*) have been traditionally used and show potential antibacterial activity.

AIMS: To evaluate the antibacterial activity of ethanol extract of lontar leaves against *Staphylococcus aureus* in vitro.

METHOD: This experimental study employed a post-test-only control group design. Antibacterial activity was tested using the well diffusion method. Extracts were obtained through maceration with 96% ethanol and tested at 75%, 50%, and 25% concentrations. Ciprofloxacin was used as the positive control, and 10% DMSO as the negative control.

RESULTS: The inhibition zone diameters were 21.86 mm (75%), 19.64 mm (50%), and 18.37 mm (25%). The positive control (ciprofloxacin) measured 24.43 mm, while the negative control (DMSO) showed 0 mm.

CONCLUSION: The 96% ethanol extract of lontar leaves demonstrated antibacterial activity against *Staphylococcus aureus*, with higher concentrations yielding stronger inhibition.