

**ANTIBACTERIAL ACTIVITY OF *Camellia sinensis*  
LEAF EXTRACT AGAINST WOUND  
PATHOGENIC BACTERIA**

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## ABSTRACT

Medicinal plants have been a major source of therapeutic agents for alleviation and cure diseases. Tea is a product made from the leaf of the plant called "*Camellia sinensis*" which is one of the most ancient and popular therapeutic beverages consumed around the world. It can be prepared as a drink, which can have many systemic health effects or an "extract" can be made from the leaves to use as medicine. In the present investigation comparative analysis for the antimicrobial activity of methanolic extracted *Camellia sinensis* fresh leaves against wound pathogenic bacteria were carried out. The antimicrobial activity of the tea leaf extract was analyzed by using paper disc diffusion method and minimum inhibitory concentration. Efficacy of the antibiotic activity of the tea leaf extract against wound pathogenic bacteria compare to the commercially available antibiotic called "Providone iodine" was analyzed. The experiment revealed the tea leaf extract has significance antibacterial power than the synthetic Providone iodine. Tea leaf extract indicated antibacterial susceptibility for all five most common wound pathogenic bacteria while Providone iodine indicated intermediate resistance to Gram positives and resistance to Gram negatives. Specially, the experiment ascertained tea leaf extract required less MIC value (0.008 mg/ ml) to kill Gram negative bacteria than the MIC value required by the Providone iodine ( $\geq 0.02$  mg/ ml). Both tea and Providone iodine bared same MIC value (0.004 mg/ ml) for Gram positive wound pathogenic bacteria. This gives credence to tea's ethnopharmacological use as a remedy to treat infections and diseases caused by the test organisms. Therefore, herbal preparations using fresh tea leaf extract as its main ingredient can effectively use as substitute to other medicines in the treatments of wound and infections caused by wound pathogenic bacteria.

**Keywords:** *Camellia sinensis*, Providone iodine, antimicrobial activity, wound pathogenic bacteria, polyphenols.