

**DETERMINATION OF ANTIMICROBIAL AND ANTIOXIDATIVE
EXTRACT FROM THE LEAVES OF *Leea indica*
(MEMALI)**

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ABSTRACT

DETERMINATION OF ANTIMICROBIAL AND ANTIOXIDATIVE EXTRACT FROM THE LEAVES OF *LEEA INDICA* (MEMALI)

This study is designed to explore the phytochemicals, antimicrobial and antioxidant activity of *L. indica*. The phytochemical analysis of methanol extracts of *L. indica* leaves showed the presence of alkaloid, tannins, saponins, and triterpenoids. The best developing solvents of TLC analysis for petroleum ether extract was 30:70 (PE:DCM), DCM extract was 96:4 (DCM:MeOH) and methanol extract was 50:40:10 (CHCl₃:Ethyl Acetate:Formic Acid). The crude extracts were investigated the antibacterial activity using agar diffusion method. The extracts were tested in different concentrations which are 50, 100, 200 and 400 mg/mL. Antibacterial activity of dichloromethane (DCM) at concentration of 200 mg/mL was the highest against *Staphylococcus epidermidis* with 18.0 mm zone of inhibition and *Staphylococcus aureus* with the zone of inhibition of 7.8 mm. Thus, *Staphylococcus epidermidis* is the most susceptible. The most active extract for antimicrobial activity is dichloromethane which is showed the strongest inhibition zone. Qualitative method of antioxidant activity results showed petroleum ether extract give the most active antioxidant compounds which were terpenoids and alkaloids. Semi quantitative method showed petroleum ether extract, DCM extract and methanol extract give strong antioxidant activity. Plant extracts showed potential antioxidant activity but antibacterial activity was found to be comparatively lower to that of the standard antibiotics used. Petroleum ether is the most active extract that showed the highest antioxidant properties.