

## **IN VITRO ANTIBACTERIAL EFFECTS OF DIFFERENT SOLVENT EXTRACTS OF THE LEAVES OF *NICOTIANA TABACUM* LINN (SOLANACEAE) ON CLINICAL ISOLATES FROM OTITIS MEDIA PATIENTS**

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### **ABSTRACT**

**Background:** Treatment failures in Otitis media may be due to high cost of treatment and/or resistance to common antibiotics, which may result to complications in children. The possible discovery of effective and cheap phytomedicine with antibacterial activity - commonly might be a life-saving measure.

**Objective:** This study investigated the phytochemistry and antibacterial activity of *Nicotiana tabacum* Linn (Solanaceae) leaves on clinical isolates from Otitis media patients.

**Materials and Methods:** The powdered leaves of *N. tabacum* were extracted with 70% methanol and further fractionated into dichloromethane and n-butanol fractions. The isolated and purified organisms from the ear swabs of otitis media patients were characterized by biochemical tests and then standardized with 0.5 McFarland to obtain *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Streptococcal pneumonia*, *Bacillus cereus*, *Escherichia coli*, and *Moraxella catarrhalis* bacterial strains. The antibacterial activity of the different extracts was done using Kirby – Bauer disc diffusion assay.

**Results:** The n-Butanol fraction at 20- 100µg/ml exhibits a broad spectrum of activity against all the clinical isolates when compared to standard antimicrobial agents. The phytochemical tests carried out on the crude extracts of *N. tabacum* showed the presence of alkaloids, flavonoids, saponins, tannins, terpenoids and steroids.

**Conclusion:** *N. tabacum* leaves has *in vitro* antibacterial activity which can be attributed to the presence of secondary metabolite.

**Keywords:** Otitis media, antibacterial, *Nicotiana tabacum*, phytomedicine, clinical isolates.