

OR-69**Fatty Acid Composition and Antibacterial Activity of Neem (*Azadirachta indica*) Seedoil**

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Pneumonia and skin diseases are some types of the severe infections that occur worldwide due to human pathogenic bacteria such as *Escherichia coli* and *Staphylococcus aureus*. These bacteria's do also contribute towards other infections that occur in human body and thus lead towards unhealthy life style. The aim of this study is to determine the fatty acid composition and to investigate the toxic effect of seedoil of Neem, genus *Azadirachta* of *Azadirachta indica* (Family: *Meliaceae*) against two multi-drug resistant bacteria, namely; *E. coli* and *S. aureus*. The oil was extracted for 6 h through solvent continuous method (soxhlet) using hexane as the solvent. Then, the fatty acid composition was analyzed via Gas Chromatography-Mass Spectrometry (GC-MS). The composition resulted in detection of 9 fatty acids, whereby the dominant compound is linoleic of 34.69% and followed by oleic acid, stearic acid, palmitic acid, arachidic acid, behenic acid, lignoceric acid, and palmiticoleic acid at the percentage of 20.46, 20.42, 18.66, 3.59, 0.80, 0.55, and 0.17%, respectively. For the bioassay, the test was conducted through in vitro activity using disc diffusion method, by using five (5, 20, 50, 80, and 100 mg/mL) different concentrations. Streptomycin and 1% DMSO were used as positive and negative controls respectively for comparison. The bioassay provided inhibition zone that lies between 8.7 to 11.7 mm for *E. coli* and 8.7 to 13.0 mm for *S. aureus* at the concentration range of 5 to 100 mg/mL respectively. The antibacterial activity of Neem seedoil against these pathogenic bacteria depends on the correlation of its concentration and thus further isolation of bioactive components that corresponds towards this activity should be conducted.

Keywords: Neem, *Azadirachta indica*, seedoil, fatty acid composition, antibacterial activity.
