

**A STUDY ON THE ANTIMICROBIAL ACTIVITY AND
MICROSCOPIC AUTHENTICATION OF NEEM
PREPARATIONS USED BY HERBALIST IN NAIROBI
CENTRAL BUSINESS DISTRICT.**

CHARITY NYAKINYUA WARUI

BPH/101/00004

**A Research project presented to the school of pharmacy in partial fulfillment
of the requirements for the award of bachelor of pharmacy in Mount Kenya
University.**

DEPARTMENT OF PHARMACOGNOSY

SCHOOL OF PHARMACY

2013

ABSTRACT

Neem (*Azadirachta indica*), belonging to the family of *Meliaceae* is an important medicinal plant. The seeds, bark and leaves contain compounds with proven antiseptic, antiviral, antipyretic, anti-inflammatory, anti-ulcer and antifungal uses.

Neem has anti-bacterial properties that help in fighting against skin infections such as acne, psoriasis, scabies, eczema, etc. Neem extracts also help in treating diabetes, AIDS, cancer, heart disease, herpes, allergies, ulcers, hepatitis and several other diseases.

This study was conducted with the aim of microscopically investigating the authenticity of neem leaf powdered preparations obtained from Kamirithu and Olive herbs clinics in comparison with the standard obtained from KEMRI. Chloral hydrate solution and phloroglucinol solutions were used to make a smear and it was observed under microphotography setup and characteristics observed were compared. Antibacterial properties of *Azadirachta indica* powdered leaves preparations against certain bacteria strains using disc diffusion method. The neem extracts used were prepared by soaking the powdered leaves preparations in hot distilled water overnight at 37⁰c. The discs were impregnated with the herbal drugs, positive control drug chloramphenicol and negative control distilled water and incubated for twenty four hours at 37⁰C, zones of inhibition were measured with a ruler and recorded. *Azadirachta indica* preparations obtained from Kamirithu and Olive herbs clinic were found to be adulterated and not authentic. All the three preparations exhibited antibacterial activity against all test microbes. All the neem preparations obtained from KEMRI, Kamirithu herbs clinic and Olive herbs clinic had limited antibacterial activity against all test microbes in comparison to the positive control chloramphenicol. Negative control distilled water exhibited no antibacterial activity against all test microbes. Kamirithu herbs clinic neem preparation exhibited the highest activity against *Staphylococcus aureus* in all the solutions prepared. Neem preparation obtained from Olive herbs clinic exhibited highest activity against *Escherichia coli* in all the solution prepared. The increased antibacterial activity exhibited by neem preparations obtained from Kamirithu and Olive herbs clinic in comparison to that from KEMRI could have been as a result of the adulterants. It's recommended that studies be done to ensure authenticity of all herbal drugs dispensed to patients.