

**ANTIFUNGAL PROPERTY OF *Moringa oleifera* LEAF EXTRACTS AGAINST
*Trichophyton mentagrophytes***

THESIS

**DONA D. BARDE
VIDA ANGELA D. PAGALA**

**College of Nursing
CAVITE STATE UNIVERSITY
Indang, Cavite**

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November 2016

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*Trichophyton mentagrophytes**

Undergraduate Thesis
Submitted to the Faculty of the
Department of Medical Technology
College of Nursing
Cavite State University
Indang, Cavite

In partial fulfillment
of the requirements for the degree
Bachelor of Science in Medical Technology



DONA D. BARDE
VIDA ANGELA D. PAGALA
April 2017

ABSTRACT

BARDE, DONA D., PAGALA, VIDA ANGELA D. Antifungal Property of *Moringa oleifera* Leaf Extracts against *Trichophyton mentagrophytes*. Undergraduate Thesis. Bachelor of Science in Medical Technology. Cavite State University, Indang, Cavite. November 2016. Adviser: Dr. Adelaida E. Sangalang, RMT.

This study was conducted to determine the antifungal property of *Moringa oleifera* leaf extracts against *Trichophyton mentagrophytes*. Specifically, it aimed to determine if the dermatophyte *Trichophyton mentagrophytes* is susceptible to the *M. oleifera* extract in vitro; determine the most effective concentration of the *M. oleifera* leaf extract against *Trichophyton mentagrophytes* in vitro; and determine the effectivity of the *M. Oleifera* extract compared with the commercially available Lamisil on the fungi *Trichophyton mentagrophytes*.

Rotary evaporation method was done at De La Salle University Dasmariñas Interdisciplinary Science and Research Unit in Dasmariñas, Cavite to concentrate the extract. The experimentation was conducted at the laboratory of the Department of Medical Technology, College of Nursing, Cavite State University, Indang, Cavite from April to October 2016.

The study used an experimental research design to prove the antifungal property of *Moringa oleifera* leaf extracts against *Trichophyton mentagrophytes*. A total of six treatments were used in the study. The control groups were Lamisil (common fungicidal drug as positive control) and distilled water (as negative control) while the experimental groups were composed of varying concentrations of *Moringa oleifera* extracts. The experiment was laid out in a 3 x 1 Factorial in Completely Randomized Design which

was replicated four times. The treatments used were as follows: Treatment 1 (T₁): Lamisil (positive control), Treatment 2 (T₂): Distilled Water (negative control), Treatment 3 (T₃): 1% *Moringa oleifera* leaf extract, Treatment 4 (T₄): 5% *Moringa oleifera* leaf extract, Treatment 5 (T₅): 10% % *Moringa oleifera* leaf extract, Treatment 6 (T₆): 20% *Moringa oleifera* leaf extract

Based on the results of the study, only Treatment 1 containing Lamisil as the positive control showed susceptibility against *Trichophyton mentagrophytes*. None of the concentrations containing *Moringa oleifera* leaf extracts showed susceptibility against *Trichophyton mentagrophytes*. Based on testing the antifungal activity of *Moringa oleifera*, no given concentration showed any susceptibility against *Trichophyton mentagrophytes* based from the four replications. Only the positive control (Lamisil) showed susceptibility on the second day of observation.

The researchers would like to recommend further studies on higher concentrations to be tested to clarify at what concentrations would the *Trichophyton mentagrophytes* show susceptibility to the *Moringa oleifera* extract. If a given concentration has already been known to show antifungal property, it is highly recommended for further testing on animals, and eventually on man if possible. Also, if proven successful for both, pharmaceutical companies could develop a drug that would help cure dermatomycosis that is of low cost and has fewer side effects on the human body.

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Dona D. Barde
Vida Angela D. Pagala

An undergraduate thesis manuscript submitted to the faculty of the Department of Medical Technology, College of Nursing, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for the degree of Bachelor of Science in Medical Technology with Contribution No. SP CON MT-2017-20, prepared under the supervision of Dr. Adelaida E. Sangalang.

INTRODUCTION

Cutaneous fungal infections are noninvasive conditions that mainly affect the outermost layer of the skin, including the hair and nails. No living tissue is invaded and there is no cellular response from the host. Essentially, pathological changes are often elicited. These infections are often so innocuous that patients are often unaware of their condition. Infection of humans is favored by heat, humidity and poor hygiene. The fungi that cause these mycotic infections mainly live in nature as saprophytes or those who feed on organic materials that decay. Cutaneous infections are usually treated with topical agents, but persistent and nonresponsive infections are better treated with oral antifungal agents. Topical agents include Nystatin, Tolnaftate and Imidazoles such as Clotrimazole, and Miconazole; while examples of oral agents are Griseofulvin, Ketoconazole, Fluconazole, Itraconazole, and Terbinafine.