

**CLINICO-MYCOLOGICAL PROFILES OF SUPERFICIAL FUNGAL
PATHOGENS ISOLATED FROM SKIN AND NAILS OF INFECTED
INDIVIDUALS RESIDING IN NAIC, CAVITE**

THESIS

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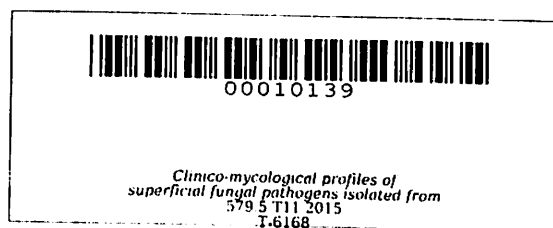
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**CLINICO-MYCOLOGICAL PROFILES OF SUPERFICIAL FUNGAL
PATHOGENS ISOLATED FROM SKIN AND NAILS OF INFECTED
INDIVIDUALS RESIDING IN NAIC, CAVITE**

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presented to the faculty of the
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ABSTRACT

TABLAN, TRICIA EMILY C. "CLINICO-MYCOLOGICAL PROFILES OF SUPERFICIAL FUNGAL PATHOGENS ISOLATED FROM SKIN AND NAILS OF INFECTED INDIVIDUALS RESIDING IN NAIC, CAVITE". Undergraduate Thesis, Bachelor of Science in Biology, Major in Microbiology. College of Arts and Sciences, Cavite State University, Indang, Cavite. 2015. Adviser: Prof. Sherine M. Cruzate.

Superficial fungal infections such as dermatophytosis, pityriasis versicolor and non-dermatophyte fungal infections are extremely common on tropical countries like the Philippines and the warm and humid conditions favours the growth of pathogenic fungi.

Forty five infected individuals residing in three barangays of Naic namely: Bucana Sasahan, Timalan Balsahan, and Malainen Bago exhibited symptoms of superficial mycoses. The most common infections were tinea unguium, tinea corporis, and tinea pedis. Several individuals also showed multiple infections in their body. Most infected individuals were female belonging to age groups <10 years old and 51 – 60. With regard to living conditions and hygienic practices infected individuals take their bath at least once a day. However, 29 (64.44%) of the affected individuals do not use their own bath towel while 17 (37.78%) used their dirty clothes to wipe their body. Thirteen (28.89%) individuals experienced overcrowding in their house having more than seven family members.

A total of 109 clinical specimens, comprised of skin scrapings, nail clippings and skin swabs were collected. Direct microscopic examination (KOH mount) showed that all samples were positive with the presence of fungal hyphae and spores. However, not all KOH positive samples were culture positive.

Cultural and morphological characterization of the fungal isolates revealed that aside from dermatophyte *Microsporum audouinii*, non-dermatophyte fungi were associated to superficial fungal infections. These were identified belonging to genera *Aspergillus*, *Acremonium*, *Mucor*, *Penicillium*, *Scopulariopsis*, *Paecilomyces*, *Colletotrichum*, *Scedosporium*, *Rhizomucor*, *Rhizopus oryzae*, and *Chaetomium*. Among these, five species of *Aspergillus* such as *A. flavus*, *A. fumigatus*, *A. nidulans*, *A. niger* and *A. terreus* and two species of *Penicillium* such as *Penicillium* sp. and *Penicillium cheresanum* were commonly observed on individuals suffering with tinea unguium and tinea corporis.

Statistical analysis revealed that age, gender, nature of work, and hygienic practices of the participants were significantly related to the occurrence of fungal pathogens. Likewise, tinea unguium, tinea pedis, tinea manuum, and tinea faciale are all significantly related to the superficial fungal pathogens obtained from the infected individuals.

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An undergraduate thesis submitted to the faculty of the Department of Biological Sciences, College of Arts and Sciences, Cavite State University, Indang, Cavite in partial fulfilment of the requirement for the degree of Bachelor of Science in Biology with the Contribution No. _____. Prepared under the supervision of Prof. Sherine M. Cruzate.

INTRODUCTION

Superficial fungal pathogens are groups of fungi that invades the stratum corneum of the skin and has the ability to metabolize keratinized tissues such as of the nails and hair (Valdigem et al., 2006) which produces a dermal inflammatory response and intensive itching (Mishra et al., 1998). They caused superficial infections that are contagious (Richardson and Elewski, 2000) and are very common in humans (Singh and Beena, 2003). Superficial mycoses are considered as a public health problem that has a worldwide distribution (Ghahfarokhi et. al., 2009) and usually produces self-limiting or bearable benign skin lesions (Adekeye et al. 1989). Thus, this disease are usually neglected by the infected individuals.

Pigmentation, scaling, maceration, fissuring, and erythema accompanied by itching or burning are the common manifestation of skin infections. Thickening, discoloration and pain of the nail body are the results of nail infections (White et al., 2008).