TARO (*Colocasia esculenta*) AS A CARBOHYDRATE SOURCE FOR MYCOLOGICAL CULTURE MEDIA

THESIS

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ABSTRACT

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The study entitled "Taro (*Colocasia esculenta*) as a Carohydrate Source for a Mycological Culture Media" was conducted at the Department of Medical Technology, College of Nursing, Cavite State University, Indang, Cavite from July 2016 to September 2016. It aimed to make a mycological culture media using taro (*Colocasia esculenta*) as a carbohydrate source. Specifically, the purpose of this study were to: establish the development of mycological culture media using taro as a carbohydrate source; determine the effects of different concentrations of taro as a carbohydrate source and Potato Dextrose Agar (PDA) in terms of colony clarity, colony diameter, fungi sporulation, and aerial mycelial growth; and determine the optimum concentration of taro which might be substituted to potato in making a mycological culture media.

Fungi were inoculated on the varying concentrations of culture media and were incubated for seven days. Colony morphology based on clarity, size, and mycelial growth of each fungi were determined. Determination of fungi sporulation was done using a counting chamber.

In general, results showed that there were growths of fungi in different concentrations of taro based on colony clarity and diameter, fungi sporulation, and mycelial growth. This study concluded that taro could be used as a carbohydrate source

for a culture media, specifically Treatment 3 (100%), which was the optimum concentration that could be used as a substitute for potato in Potato Dextrose Agar.

This recommended that taro (*Colocasia esculenta)* could be used as an alternative source of carbohydrate for mycological culture media.

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INTRODUCTION

Culture media are important tools in identifying and studying microorganisms in the laboratory, may it be liquid or solid media. However, solid media make easy identification of pathological specimen and reduce contamination (Prescott *et al*, 2002). Most solid media contain an extract of a natural source of carbohydrates and other nutrients to which variable amount of agar are added to solidify the medium in which the pathogen can grow and be observed (Agrios, 2006).

A desirable solidifying agent for media includes solidity, transparency, and the ability to form a reversible colloid. Also, the medium must be firm enough to allow the carrying out of common techniques such as streaking out cultures and plating. In addition, gelling agent should be relatively inexpensive and easily obtained (Adubofor, 2006).