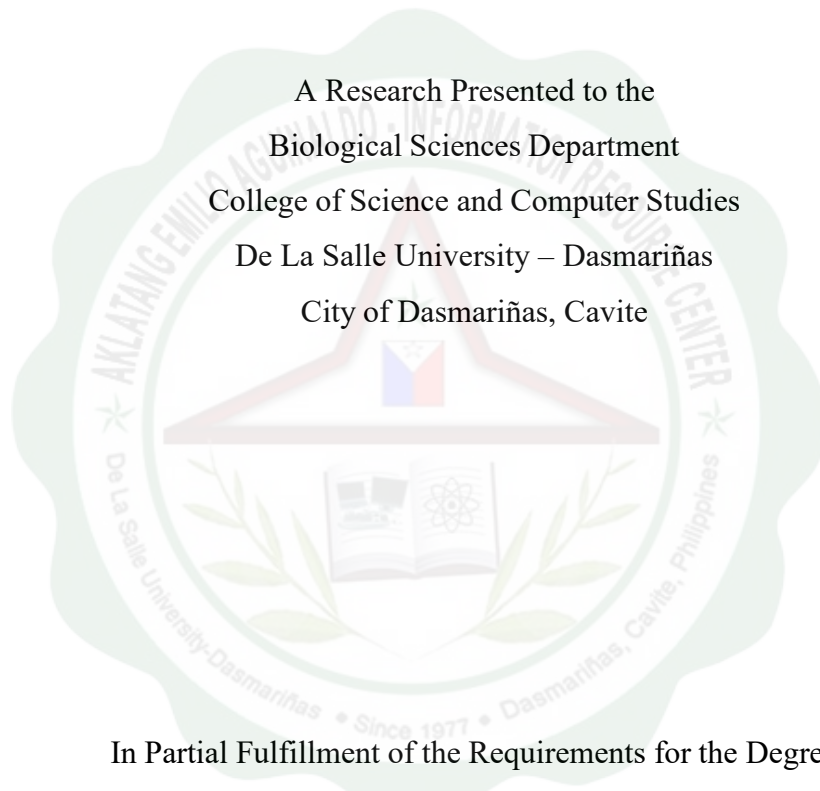




**EFFECTS OF *Citrus microcarpa* Bunge (KALAMANSI) JUICE ON THE
BLOOD CHOLESTEROL LEVEL OF *Rattus norvegicus* (ALBINO RATS)**

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ABSTRACT

Hypercholesterolemia is one of the leading causes of cardiovascular diseases, which, most of the time, ends up in fatality. One of the ways to regulate the blood cholesterol is through the intake of medicine such as Lipitor. However, some people seek alternative medicine due to the expensive cost of these medicines in the market. For that reason, this study was designed to investigate the potential effects of *Citrus microcarpa* Bunge (kalamansi) on hypercholesterolemic rats. Twenty-four healthy male rats were divided into 4 treatment groups after establishing >140 mg/dL total cholesterol level before inducing treatment for 2 weeks. The control group (T₀) received only water, while the first treatment group (T₁) received 2 mL/kg of kalamansi juice, the second treatment group (T₂) received 4 mL/kg, and the third treatment group (T₃) received 7 mL/kg. Comparing the results of the treatment groups from the control group, T₀ had an increase of 51 mg/dL, while T₁ increased by 41.50 mg/dL, and both T₂ and T₃ decreased in their total cholesterol by 4.75 mg/dL and 9 mg/dL, respectively. The decrease in cholesterol was made possible by the presence of phytochemicals in the kalamansi, such as ascorbic acid, pectin, and flavonoids. Using paired *t*-test and one-way ANOVA statistical analysis, the results showed that there was no significant difference among the treatment groups. However, the decreasing trend suggested that all treatment groups (T₁, T₂, and T₃) can normalize the total cholesterol level with an extended treatment period and a higher concentration. Consequently, the 2 weeks of treatment induction was not enough to make a significant difference in the total blood cholesterol of albino rats.

Key words: hypercholesterolemia, LDL, treatment, natural, decrease



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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Hypercholesterolemia is a condition wherein there is the presence of excess