THE EFFECTS OF SYNEPHRINE AND YOHIMBINE TO THE BODY WEIGHT AND CENTRAL NERVOUS SYSTEM STIMULATION OF *Rattus norvegicus* B. 1769 (Norway Rat)

An Undergraduate Research Presented to the
Faculty of the Biological Sciences Department
College of Science
De La Salle University - Dasmariñas
Dasmariñas, Cavite

In Partial Fulfilment of the Requirements
for the Degree of Bachelor of Science Major in Human Biology

LUIGI MIGUEL ISIDRO
CLAUDIA ANGELA SETIAWAN

March 2012

ABSTRACT

Slimming products have been overflowing with its claim to overcome the effects of our obese-promoting culture. Billions are spent annually by the consumers of these products, unaware of its true efficacy and safety. This study is conducted to analyze whether these products can indeed help in weight lose without adverse effects. Synephrine and yohimbine, the most common ingredients in many slimming products, were tested upon twelve male and twelve female Norway rats. The central nervous system (CNS) stimulation and body weight were measured weekly by the use of CNS stimulation tests (Bernas 2009) and top load balance respectively. After two weeks of acclimatization and four weeks of experiment, the test organisms gained weight instead of losing weight. There is an increase of body weight in majority of the test subjects, but it is only significant in males ($p= 0.001464$). There is no significant difference between the effects of synephrine, yohimbine, and mixture of synephrine and yohimbine ($p= 0.54115$). Although most of the parameters of the CNS stimulation test scored zero before and after the experiment, there was a slight increase in the respiratory rate of the test organisms before and after the experiment (before= 0, after= 1). Based on the respiratory rate, synephrine, yohimbine, and mixture of synephrine and yohimbine showed no significant difference on its effects to the CNS stimulation of the test organisms ($p= 0.881033$). There is also no significant difference between the respiratory rate of males and females ($p= 0.313628$). Increase in body weight and CNS stimulation cannot be attributed to the chemicals since the test subjects in the control groups also experienced weight gain and slight CNS stimulation. Thus, synephrine and yohimbine at the given doses are ineffective for weight loss, but are still safe for the central nervous system. Synephrine and yohimbine have no synergistic effect as proven by the experiment. Gender also has no implication in body weight and CNS stimulation.

TABLE OF CONTENTS