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**THE EFFECTS OF HIGH PROTEIN DIET VERSUS NORMAL DIET ON
MUSCLE HYPERTROPHY AND MUSCULAR STRENGTH IN RESPONSE
TO 8 WEEKS BODY WEIGHT RESISTANCE EXERCISE AMONG MALE
RECREATIONAL ATHLETES**

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Research Project submitted in partial fulfillment of the requirements for the degree
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AUTHOR'S DECLARATION

I declare that the work in this research project was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledge as referenced work. This research project has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that have been supplied with the Academic Rules and Regulation for Post Graduated, Universiti Teknologi MARA, regulating the conduct of my study and research.

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The Effects of High Protein Diet versus Normal Diet on Muscle Hypertrophy and Muscular Strength among Male Recreational Athletes in Response to 8 Weeks Body Weight Resistance Exercise

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ABSTRACT

Diet strategy can improve muscular hypertrophy and muscular strength in response to bodyweight resistance exercise. The most prominent strategy to increase muscular hypertrophy and muscular strength is High Protein Diet (HPD). The purpose of this study is to determine the effects of high protein diet versus normal diet to muscle hypertrophy and muscular strength in response to eight weeks bodyweight resistance exercise among recreational male athletes. Thirty male students from SMK Siong volunteered as participants. They were divided into two groups; 15 participants in High Protein Diet (HPD) group (age 14.60 ± 1.12 y.o, weight: 48.77 ± 12.85 kg, height: 156.60 ± 10.60 cm, BMI 19.50 ± 3.50 kg.m⁻²) and 15 students in Normal Diet group (age 14.47 ± 1.06 y.o, weight: 53.97 ± 19.21 kg, height: 160.47 ± 10.33 cm, BMI 21.63 ± 5.35 kg.m⁻²) All participants followed same exercise included same warm-up, stretching, four types of bodyweight resistance exercise and cool down session lasted for eight weeks. Both groups consumed 2400 kcal but High Protein Diet (HPD) group need to consume 60% of carbohydrate, 10% of fat and 30% of protein while Normal Diet (ND) group need to consume 60% of carbohydrate, 30% of fat and 10% of protein. Both groups were prohibited to get extra proteins supplements including whey protein. The data was analyzed by using paired t-test and independent t-test. As the result for paired t-test, biceps and triceps circumference showed significant hypertrophy in both group (ND and HPD) after 8weeks of bodyweight resistance exercise when p-value for ND group is $p= 0.001$ while HPD $p=0.001$ after compared pre-test and post-test of bicep triceps circumference measurement. 1RM test for biceps curls showed significant increase when p-value for ND group was $p=0.006$ and $p=0.001$ for HPD group. For independent t-test, the data showed no significant difference for pre circumference both group when $p=0.941$ while pre-test for 1RM strength test also no significant difference when $p=0.382$. However, post-test for both

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