Name(s)	Project Number
Haraj Dhesi; Gurinder Jassar	**S1302**

Project Title

The Effect of Macronutrient Splits on the Loss of Visceral Fat

Abstract

Objectives/Goals

The objective is to determine if there is a difference in visceral fat lost through three different macronutrient splits: normal (40%carbohydrates/30%fats/30%proteins), high carbohydrate (55% carbohydrates/15%fats/30%proteins), and high fat(25%carbohydrates/35%fats/30% proteins.)

Methods/Materials

Materials required were 15 human subjects, a scale, a computer, and access to Avatar Nutrition. We weighed each subject and found their maintenance calories and fiber requirements. Each of the subjects were split into the 3 splits and told them to maintain their activity level. After 3 weeks of dieting, the subjects were weighed again. After the results, we ran a T-test.

Results

The average visceral fat lost was .72% through all groups. The normal group lost 1.06%, the high carbohydrate group lost 2.2%, and the high-fat group lost 0% visceral fat on average. The difference between the high carbohydrate and high fat group was the only test proven to be significant through a T-test.

Conclusions/Discussion

The Normal Diet proved to be in the middle of the other two diets due to it being based off of the average unhealthy American#s diet. The visceral fat loss was just as we expected. In the High fat split, the subjects lost weight as expected but lost more subcutaneous fat than visceral fat. This split did not work for losing much visceral fat because lipids go through a longer process to convert into glucose so it became Visceral fat. The High Carbohydrate diet led to a larger percent in visceral fat loss. In addition, less subcutaneous fat was lost. This could have been because of the fast process of using Carbohydrates as energy. A T-Test was conducted to see if these results were significant but all except one lacked enough evidence to prove significance. This was due to the lack of subjects and not being able to fulfill the Central Limit Theorem. The results still hold value to them and show that the high carbohydrate split led to the greatest loss in visceral fat.

Summary Statement

Our project found that the high carbohydrate split was the best way to lose the fat held around organs which can help solve many of the health drawbacks that are associated with visceral fat, such as Heart disease and Type 2 Diabetes.

Help Received

My biology teacher helped us conduct a t-test on the subjects. Layne Norton, PhD in nutrition, reviewed our methods and suggests helpful changes to the experiment so that we could improve it.