

The Effect of Using (Carbohydrates) Diet Program Accompanied by Aerobics in Obesity Treatment

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ABSTRACT

This study aims to prepare the (carbohydrates) diet program and aerobics exercises consistent with the sample of the study and determining the relation of the (carbohydrates) diet program and aerobics in obesity treatment for the sample of the study. The researchers used the empirical method with a single group. The sample was selected purposively in women who are suffering from obesity and visit Hawa'a Center for Agility with weighs between 75 and 120 kg (10 women with ages between 25 and 35 years old). The researchers set two nutrition and sport programs. In the first program, the (carbohydrates) diet program was applied for 9 weeks including 3 weeks without practicing sport until weights are reduced 10 kg. After that, aerobics exercises are used with diet for 6 weeks. In the light of results reached by the researchers, it was concluded that the (carbohydrates) diet system affected directly the weight loss in addition to aerobics exercises through reducing fats in various areas of the body as there were significant differences in favor of post-test.

Keywords: Diet programs, carbohydrates, aerobics, obesity

INTRODUCTION

Obesity, from which many are suffering, is usually due to lack of nutritional health awareness, increasing food amounts, bad selection of food sorts, and lack of movement and effort. We eat more than our bodies need and move a little. Therefore, the body stores over energy resulting from foods in the form of lipids accumulating in various parts of the body.

Obesity is a medical term that always happened when a man's weight is over his normal weight limit notably with an increase in fats formation in various parts if

the body (David et al., 1994: p. 492). Obesity can be defined as an increase in fats in a normal amount in terms of age, gender, body pattern, and length. Obesity is a case of over fat and not only overweight (Faraj, 2009: p. 283).

Causes of obesity can be summed up as follows: Too much food that contains large amounts of sugars and fats, a lack of movement, psychological problems, and some diseases related to hormonal imbalance, poor feeding habits in childhood, genetic obesity, increased appetite, excessive food, and poor metabolism.

For the purpose of obesity treatment, diet and sport exercises must be adhered to as carbohydrate diet is one of the systems that rely on the application of a low-calorie diet regime. The (carbohydrates) diet relies on calorie-rich foods of complex carbohydrate quality because complex carbohydrates have advantage of being rich in fibers and need more time to digest, so they make you feel satiety for a

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long time. They are rich in nutritious substances and nutrition fibers, lead to a relatively slow rise in blood sugar level and release little insulin from complex carbohydrates foods such as oats, brown bread, brown rice, and beans of all types where these foods with a high energy content, which is an important element for the body and, at the same time, protect against the accumulation of fat and unexplained weight gain. Diet carbohydrates, as a daily system, offers large shares of protein, vegetables, and reduces carbohydrate intake to as little as possible which makes few amounts of calories provided to the body forcing the body to burn its stock of fat to make up the shortfall in calories and increase metabolism rate by the increase of providing proteins.

Aerobic exercises are among the popular exercises in clubs, agility gyms and weight loss for women. They are sport movements performed on a musical rhythm similar to dancing. The word (Aero) is of a Greek origin and it means (Air) while (Bic) means (Life) as man needs oxygen in the air all the time to manufacture energy and to stay alive (Hemdan and Abdelrazek, 2001: p. 56).

These exercises are regular sequential movements with a musical rhythm. The movements are jumping, hopping, limb movement, muscle tension, and extension that are performed with a musical rhythm. In recent years, these have become a form of highly popular aerobic exercises characterized by great appeal, especially for women, because of the nature of their performance with music and fun provided in the course of practice (Assi, 2000: p. 6). Hence, the significance of the study is an experimental attempt for obesity treatment which is a disease suffered by many women through carbohydrate diet and aerobics together.

Objectives of the Study

1. Preparing the (carbohydrates) diet program and aerobics consistent with the sample of the study.
2. Determining the relation of the (carbohydrates) diet program and aerobics in obesity treatment for the sample of the study.

Hypothesis of the Study

There are statistically significant differences in the relation between the (carbohydrates) diet program and aerobics in obesity treatment for the sample of the study.

METHODOLOGY

The researchers adopted the empirical method with a single group as it is appropriate to the nature of the study.

Sample of the Study

The sample was selected purposively in women who are suffering from obesity and visit Hawa'a Center for Agility with weighs between 75 and 120 kg (10 women with ages between 25 and 35 years old).

Tests of the Study

1. Body mass index which is the proportion of weight (kg) to length (m^2) through which we can determine the percentage of accumulated lipids in the body (Durr, 1999: p. 17).
2. Lipid components measurement using the calipers device (Yassin and Taha, 1986: p. 334). It measures the following parts:
 - a. Lipid components in shoulder plate
 - b. Lipid components in the biceps brachii muscle
 - c. Lipid components in the triceps brachii muscle
 - d. Lipid components in the waist
 - e. Lipid components in the abdomen
 - f. Lipid components in the thigh.

Exploratory Trial

The exploratory study was performed on a sample consisting of 4 women among the original sample of the study to overcome impediments that may face the researchers if they ensure correct tools, how consistent the prepared method is and efficiency of the assistant team. Tests were conducted on 07/02/2016 corresponding Sunday in Hawa'a Center of Women's Agility at 2 pm.

Pre-tests

Appropriate measurements to the sample of the study were made on 11/02/2016 at 2 pm in Hawa'a Center for Agility.

Main Trial

The main trial began on Monday, 15/02/2016, where researchers deliberately put two programs, one of them is a diet program and the second was an athletic one. In the first program, they set the (carbohydrates) diet

for 9 weeks including 3 weeks without exercise until the weight loss of 10 kg. After that, aerobic exercises were performed with diet for 6 weeks. Instructions of the diet should be complied with as follows: You can delete anything from the diet without any compensation, you can eat vegetables at any time and with any amount except for (carrots), use salt in very small amounts, fat forbidden, forbidden fruit are: (Bananas, mangoes, dates, apricots, grapes), you are allowed to drink coffee and tea without sugar, but you must drink (8-12) water glasses daily.

The (carbohydrates) diet model:

Week 1	Week 2	Week 3	Week 4	Week 5
Saturday	Sunday	Monday	Tuesday	Wednesday
Breakfast: Fat-free milk+small spoon of honey+ 2 toast slices+white cheese+½ orange juice cup	Breakfast: 2 toast slices+fresh juice +vegetables	Breakfast: 2 toast slices +a small spoon of yogurt+ tea or fat-free milk	Breakfast: Fat-free milk+ a small spoon of honey+ one toast slice+yogurt	Breakfast: Fat-free milk+ fresh juice+ one toast slice+yogurt spoon
Lunch: Oil-free salad+grilled chicken breast+½ toast slice	Lunch: Macaroni +tomato sauce+fresh salad with apple vinegar	Lunch: A piece of steak+ boiled vegetables	Lunch: Fresh salad+ a piece of boiled or grilled chicken+1 slice of toast	Lunch: Cup of boiled rice+ cup of milk
Dinner: Vegetable soup+2 toast slices+ yogurt+ two types of fruits	Dinner: Fresh juice or fat-free milk+ 2 toasts with white cheese+ an apple	Dinner: 2 toasts with white cheese+ cucumbers+ two types of fruits	Dinner: Fat-free milk+ 1 toast+one spoon of yogurt+two types of fruits	Dinner: Fat-free milk+ a boiled egg+ 2 toasts+2 fruits
Week 6	Week 7	Week 8	Week 9	
Thursday	Friday	Saturday	Sunday	
Breakfast: Fat-free milk+ one toast+ one boiled egg or white cheese	Breakfast: Fresh orange juice+one spoon of honey +2 toast slices+yogurt	Breakfast: Tea and fat-free milk+2 toast slices+yogurt spoon	Breakfast: Grape fruit juice+2 toast slices+yogurt	
Lunch: Fresh salad+ vegetable soup+ 1 toast	Lunch: Vegetable salad+a piece of grilled steak+a toast	Lunch: Oil-free tuna salad 1 toast	Lunch: One omelette egg, ½ spoon of vegetable oil+1 toast	
Dinner: Lettuce salad with white cheese+ 2 toasts+an orange	Dinner: Boiled potatoes+ orange juice	Dinner: Fruit salad+fresh orange juice	Dinner: Milk with cucumber salad+one type of fruit	

In their program application, the researchers considered the following basics:

The program started on Monday (07/03/2016) corresponding Thursday at 10 am. The aerobic program lasted for 6 weeks in 5 training units a week and days from Sunday to Thursday. The number of training units for the program was 30 training units. The researchers also depended on grading in intensity. Since the sample consists of beginners, the program began with an intensity of 45% of maximum repetition. Intensity increases from the first until the 6th week to reach 70%. The program contains some various movements that suit the trainees' abilities in this age category. This is because aerobics are characterized with variability in training, so the sample did not feel bored with continuous performance accompanied with music. The total duration of the single training unit is 40-60 min including the period of warm-up and relaxation.

Post-test

Measurements were made on Sunday 17/04/2016 at the same conditions of the pre-test.

Statistical Means

The researchers used the Statistical Package for the Social Sciences program and calculated arithmetic mean, standard deviation (SD) and Wilcoxon value automatically.

Findings

Table 1 shows that the arithmetic mean of weight variable in pre-test was 87.59 with an SD of 11.93 and in post-test was 75.48 with an SD of 17.41. Average ranks were 5.5, total ranks of 55, counted Wilcoxon value of 2.8 with a possible value of error percentage of 0.005 which are less than the counted one, so there are statistically significant differences in favor of post-test. The sample was presented on all studied variables and found that they are all have statistically significant differences in favor of post-test.

DISCUSSING RESULTS

Through Table 1, the study found that results of Table 1, it was found that results of anthropometric measurements and tests in pre- and post-tests of body weight, mass, lipids in shoulder plate, lipids in biceps, triceps, waist, abdomen, and thigh showed

Table 1: Arithmetic means, SD and Wilcoxon value for pre- and post-tests of variables of the sample of study

Statistical variables	Measurements	Mean		SD		Rank average	Total ranks	Wilcoxon value	Possible value	Significance
		Pre-	Post-	Pre-	Post-					
Weight	Kg	87.59	75.48	11.93	17.41	5.5	55	2.8	0.005	Significant
BMR	m/kg	24.12	21.11	3.1	2.3	5.5	55	2.8	0.005	Significant
Lipid components in shoulder plate	Mm	22.93	20.58	5.94	6.74	5.11	46	1.8	0.059	Significant
Lipid components in biceps	Mm	21.44	18.01	3.55	3.81	5.5	55	2.8	0.005	Significant
Lipid components in triceps	Mm	25.04	21.16	5.04	4.9	5.5	55	2.8	0.005	Significant
Lipid components in waist	Mm	25.77	22.38	5.66	5.61	5.5	55	2.8	0.005	Significant
Lipid components in abdomen	Mm	29.71	25.08	5.02	4.16	5.5	55	2.8	0.005	Significant
Lipid components in thigh	Mm	30.68	27.84	6.3	6.47	5.5	55	2.8	0.005	Significant

SD: Standard deviation

statistically significant differences in favor of post-test. The researchers attribute this reduction in lipids to consumption of lipid components as a result of requirements of the adopted physical methodology and intensity between 50 and 70% which shows domination of aerobic power system on total adopted method and diet. In addition, the sample adhered to performance with regular nutrition along trial period was a cause of reducing lipid components present. Regularly practiced oxygenic exercises for the long period increase power consumption which leads to reduce lipid percentage in the body (Bob et al., 2000: p. 108).

The results of fat weight measurement and weight variable also showed that there is a significant difference between pre- and post-tests in favor of post-test. The researcher attributes the differences to the nature of physical method and its included exercises with low-intensity physical activity which led to reduce lipids as a result of the nature of the energy system working based on these exercises. These exercises led to reduce their weight in a way that enables the trainee to consume a great number of calories originated from materials stored in the body, especially fats beneath the skin with adherence to the low-calories carbohydrate diet which was referred to by Valerie as oxygenic exercises may be a means to enhance metabolism ability, calories balance and control the amount of body lipids (Valerie, 1988: p. 138) in addition to Qaba, 1989: p. 22 who asserted this too.

Abo El Ela and Mohamed Sobhy assert that one of the prevailing misconceptions is that physical activity increases the appetite to eat, as recent research results have shown that exercise, particularly exercise with light or moderate intensity that requires continuing relatively long periods of time, do not increase appetite but probably diminish them because of the increase of digestive hormones that accompany the exercises (Abo El Ela and Mohamed Sobhy, 1997).

Having a consistent body is due to consistent aerobic training which starts by obtaining the energy source from lipids of the most storing places to less ones, so anthropometric measurements are affected accordingly. Many specialists tried to deal with positive effects of physical exercise, especially these characterized using wind energy, especially these using aerobic energy for a relatively long period of time with analysis and study to determine all of these effects, their effectiveness and effect on anthropometric (physical) measurements, physiological (all inside body systems) measurements, and exercises which affect all previously mentioned variables (Weineckij, 1983: p. 146).

The studies also agreed that the process of balancing calories balance process used in any physical activity with calories through eating will help in weight loss. Moreover, physical training is considered a helping factor on controlling weight as a result of calories consumption till they remained stored as we find that the person became fat (Assi, 2000: p. 124).

Furthermore, regularly practiced aerobics increase power consumption which leads to reduce lipids value in the body (Bob et al., 2000: p. 108). Studies refer that: "Weight loss or gain relative to these optimal weights in tables of weight and length may be due to increase in muscle mass and decrease in lipids less than the required limit," (William, 1985: p. 112).

CONCLUSION

In the light of study findings by the researchers, it was found that the (carbohydrates) diet has a direct effect on weight loss with participation in aerobics through reducing lipids in various areas of the body. There were significant differences in favor of post-test. As for the most significant recommendations, the study recommends adoption of suitable and integrated nutrition diet such as the (carbohydrates) diet that does not affect individual's health in keeping optimal weight and the necessity to adopt low-intensity physical activity with oxygenic power to get rid of over fats that are more than natural rate of body weight.

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