Effect of Swimming Programme on Body Weight and Blood Sugar in Diabetic Patients from Slum Area of Villupuram, District Tamil Nadu

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ABSTRACT

The purpose of the study was to determine the effect of Swimming programme on body weight and blood sugar in diabetic patients. The subjects of the study were 20 diabetic patients selected from slum area of Villupuram District, Tamil Nadu. They were randomly assigned into two groups, an experimental group and a control group and each group consisting of ten subjects. The experimental group had undergone Swimming programme on alternate days, for a period of 12 weeks. The control group did not involve in any fitness programme. All the subjects were tested for their body weight and blood glucose, before and after the Swimming programme. The collected data were analyzed by ANCOVA to determine the difference between initial and final mean for experimental and control groups.

The results of analysis of covariance indicate that there is a significant difference among the experimental and control groups on body weight and blood glucose level.

KEY WORDS

Physical fitness, life style, cardiac muscles, Heart attack, Obesity, diabetics. Aerobic exercises, Hypertension, Blood glucose, Nutrition, medication.

INTRODUCTION

Good health is our most precious possession. One of the important ways to improve physical fitness is by regular exercise. Healthy lifestyle contributes to optimal health and quality of life. Regular exercise helps in attaining stronger cardiac muscles, lower heart rate, and increased oxygen supply to brain, increased work capacity, reduced risk of heart attack, reduced hypertension and increased oxygen carrying capacity of the blood which will lead to improved cardiovascular fitness and health. Proper exercise can make definite difference in body mass and body fat which help to attain greater work efficiency, less incidence of problems related to obesity, less susceptibility to diseases and improved appearance.

Swimming strengthens all the major muscles in the body, which is valuable in controlling diabetes. When

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exercising, muscle cells more efficiently absorb blood sugar. This is how physical training lowers blood sugar levels for experimental and control groups.

The intensity of Swimming for fitness benefits varies according to the age and fitness of the individual ;but, generally, 'brisk is best'. Brisk walking provides many of the same benefits as more intense activities, like jogging or aerobics. The key seems to be in trading off intensity for having already identified the benefits.

Every minute, the person is physically active and burns off more calories than when he is inactive. The amount of calories that one burns per minute depends on the weight (heavier persons burn slightly more than the lighter persons) and the intensity of the exercise (high intensity exercise, such as running, burns more calories than low-intensity exercise, such as walking). Yet, regardless of the intensity of the exercise, any form of regular physical activity will help to control the weight by burning off calories. People worry that exercise will just make them eat more. In fact, moderate physical activity is unlikely to make you more hungry and actually will help to moderate your appetite. Exercise reduces the body fat and increases your lean tissue.

Diabetes is a serious disease, but the complications of diabetes can be delayed or prevented with frequent monitoring of proper nutrition, exercise and medication. There are different kinds of diabetes (Principle forms are Type 1, Type 2 Gestational) each with slightly varying symptoms and treatments. They all have serious implications if left untreated.

At present, no cure is available for diabetes. But, with regular self-monitoring of blood glucose and a proper combination of diet, exercise and medication, people with diabetes can lead an active healthy lifestyle.

METHODOLOGY

The purpose of the study was to determine the effect of Swimming programme on body weight and blood sugar in diabetic patients. The subjects of the study were 20 diabetic patients from slum area of Villupuram District, Tamil Nadu

The subjects were randomly assigned into two groups; that is, an experimental group and a control group, with ten subjects in each group. The experimental group underwent Swimming programme on alternate days in a week, for a period of 12 weeks. The diabetic patients underwent free style swim for one hour daily, that is 10 minutes swim and 10 minutes rest. The control group did not involve in any fitness programme. All the subjects were tested in body weight and blood glucose before and after 12 weeks of Swimming training. The collected data were analyzed by ANCOVA to determine the difference between initial and final mean for experimental and control groups.

RESULTS & DISCUSSION

The above Table indicates the analysis of covariance of blood glucose and body weight between experimental and control groups. From the Table, it can be observed that the obtained 'F'

TABLE- I : Summary of Analysis of Covariance on Body Weight and Blood Glucose among experimentaland control groups

Variables	Adjusted Post Test Mean		Source of Variance	df	Sum of Square	Mean Square	F Ratio
	Experimental Group	Control Group					
Blood Glucose (mg/l00ml)	241.26	207.11	Between Within	1 17	201.01 141.05	201.01 8.29	24.22*
Body Weight (Kg)	68.62	63.86	Between Within	1 17	107.99 18.43	107.99 1.08	99.58*

*F.05 (l,17) = 4.45

value are 24.22 and 99.58, which are greater than the Table value of 4.45, for degrees of freedom 1 and 17. This significance may be due to the effect of twelve weeks of Swimming programme among the experimental group. The result of this study indicates that there will be a decrease in blood glucose and body weight of the subjects (experimental group) after twelve weeks of Swimming programme. The results of analysis of covariance indicate that there was a significant difference among the experimental and control groups.

CONCLUSIONS

With the limitations of the study the following conclusions are drawn.

1. Participation in Swimming program me resulted in reduction of body weight.
2. Blood glucose level also decreased by the Swimming programme.

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