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EFFECT OF SLOW AND BRISK WALKING ON SELECTED CORONARY HEART DISEASE OF PROFESSIONAL COLLEGE MEN STUDENTS

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Abstract

Active life style is the essential requirement for an individual to preserve the well desired health and wellness. Though there is no consensus on the concept of active lifestyle, physical educationists all over the world are trying to find out various means and methods to protect the health of individuals through active life style elements. The present study is aimed to achieve the effect of slow and brisk walking on selected coronary heart disease of Professional college men students. To attained the purpose, forty five(N=45) Professional college men students doing Bachelor of Engineering in Anna University, BIT Campus, Tiruchirappalli, Tamilnadu, India were selected as subjects and they were assigned equally into three groups of fifteen each namely Slow continuous walking group, Brisk continuous walking group and Control group. The experimental group(slow and brisk continuous walking) underwent the respective training for a period of 8 weeks (3 days/week), whereas the control remain as normal with the sedentary life. Coronary heart risk factors such as Total cholesterol and Triglycerides were selected, and it was assessed before and after the training period. Data were collected and statistically analyzed using ANCOVA. Scheffe's post hoc test was applied to determine the significant difference between the paired means. In all the cases 0.05 level of significance was fixed. The resulting data revealed that 8 weeks of Slow continuous walking and Brisk continuous walking were found to be benefitted in modifying the lipids and lipoprotein levels among college men students compared to control. It is predominantly effective in Brisk Continuous Walking than slow continuous groups. Hence the study concluded that brisk continuous walking prevails in retaining the normal healthy body and obstruct from various coronary heart diseases.

Keywords: Slow Continuous walking, Brisk Continuous Walking, Total cholesterol, Triglycerides

Introduction

In modern society, life has become complex due to various reasons. The modern way of life has lowered people's biological fitness levels, because they lead sedentary lives and machines have made their life easy and comfortable. Without adequate physical exertion, man has become a storehouse of unreleased tension. Modern

man, in the electronic and computer age, tends to become complacent due to his luxurious, ease and comfortable life and has become an easy prey to various fatal diseases, forgetting the need for physical training for his survival.Healthy living and physical fitness are closely connected. Being physically fit not only helps people live healthy lives; it also helps people live longer. People who make physical activity and exercise a part of their daily lives when they are young are more likely to keep it in their lives as they grow older and benefit from it throughout their life spans. Physical activity is defined as any movement that spends energy. Exercise is a subset of physical activity, but it is an activity that is structured and planned ***(Coakley, 1986).*** Regular activity and exercise make for a healthier heart. A healthy heart is a strong heart that works efficiently. The heart pumps blood, which carries oxygen to muscles and carries away waste. How well the heart performs is a good indication of how healthy a person's cardiovascular system is.Walking is one of the best, safest and most natural forms of exercise. One can, in fact, walk their way to a healthier, stronger cardiovascular system. Walking is an effective exercise for people of all ages and all states and levels of health. What's more, walking increases our sense of well-being. Human beings were actually designed for lengthy, regular walking.Walking may be an appropriate activity for home-based programs because it has resulted in greater improvements in pain and greater participation rates than other forms of aerobic exercise, such as running or cycling ***(Westby, 2001).***

Methodology

The study was conducted on forty five (N=45) college men students who were studying various Engineering Departments in Anna University BIT Campus, Tiruchirappalli, Tamilnadu, India. Subjects were randomly assigned equally into three groups, Based on the Maximum Heart Rate(MHR) of the subjects, Experimental Groups were classified.

Group–I underwent Slow continuous walking group (n = 15), Group –II underwent Brisk Continuous walking group (n = 15) and Group II (n=15) acted as Control Group. The training period was limited to Eight weeks and for three days per week. Among the Coronary Heart Diseases Risk Factors, Total Cholesterol (TC) and Triglycerides only selected as dependent variables. All the three groups were tested on selected Coronary Heart Diseases Risk Factors such as Total Cholesterol (TC) and Triglycerides were analyzed before and after the training period.

Analysis of the data

The data collected from the experimental groups and control group on prior and after experimentation on selected variables were statistically examined by analysis of covariance (ANCOVA) was used to determine differences, if any among the adjusted post test means on selected criterion variables separately. Whenever they obtained f-ratio value in the simple effect was significant the Scheffe's test was applied as post hoc test to determine the paired mean differences, if any. In all the cases 0.05 level of significance was fixed.

The Analysis of covariance (ANCOVA) on Total cholesterol (TC) and Triglycerides of Experimental Groups and Control group have been analyzed and presented in Table -1.

Table – 1
Values of Analysis of Covariance for Experimental Groups and Control Group on Total cholesterol (TC) and Triglycerides

Certain Variables	Adjusted Post test Means			Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
	Slow Continuous Walking Group – (I)	Brisk Continuous Walking Group – (II)	Control Group – (III)					
Total Cholesterol (TC)	176.52	168.47	194.28	Between With in	4550.56 1027.41	2 41	2275.28 25.06	90.80 *
Triglycerides	122.67	112.17	140.56	Between With in	6073.07 1124.46	2 41	3036.53 27.43	110.72*

* Significant at.05 level of confidence
(The table value required for Significance at .05 level with df 2 and 41 is 3.23)

Table 1 shows that the adjusted post test mean value of Total cholesterol (TC) and Triglycerides for Slow Continuous Walking, Brisk Continuous Walking and Control Group, are 176.52, 168.47, 194.28, 122.67, 112.17 and 140.56 respectively. The obtained F-ratio of 90.80 and 110.72 for the adjusted post test mean is more than the table value of 3.23 for df 2 and 41 required for significance at 0.05 level of confidence.

The results of the study indicate that there are significant differences among the adjusted post test means of Experimental Groups and Control Group on the decrease of Total cholesterol (TC) and Triglycerides.

To determine which of the paired means had a significant difference, Scheffe's test was applied as Post hoc test and the results are presented in Table 2.

Table - 2
The Scheffe's test for the differences between the adjusted post tests paired means on Total cholesterol (TC) and Triglycerides

Certain Variables	Adjusted Post test Means			Mean Difference	Confidence Interval
	Slow Continuous Walking Group – (I)	Brisk Continuous Walking Group – (II)	Control Group – (III)		
Total Cholesterol (TC)	176.52	168.47		8.05 *	4.58
	176.52		194.28	17.76*	4.58
		168.47	194.28	25.81*	4.58
Triglycerides	122.67	112.17		10.50*	4.80
	122.67		140.56	17.89*	4.80
		112.17	140.56	28.33*	4.80

**** Significant at.05 level of confidence***

Table 2 shows that the adjusted post test mean difference for Total Cholesterol and Triglycerides on Slow continuous walking group and Brisk Continuous Walking group, Slow continuous walking group and Control group, Brisk Continuous Walking group and Control group are 8.05, 17.76, 25.81, 10.50, 17.89 and 28.33 respectively, these values are greater than the confidence interval value 4.58 and 4.50 which shows significant differences at 0.05 level of confidence.

It may be concluded from the results of the study that there is a significant difference in Total Cholesterol (TC) and Triglycerides between the adjusted post test means of slow continuous walking group and Brisk Continuous Walking group, slow continuous walking group and Control group, Brisk Continuous Walking group and

Control group. However, the improvement in Total Cholesterol (TC) and Triglycerides was significantly decreased for Brisk Continuous Walking group than slow continuous walking group and Control Group.

It may be concluded that the Brisk Continuous Walking group is better than the other slow continuous walking group and control in improving Total Cholesterol (TC) and Triglycerides.

The adjusted post test means values of experimental groups and control group on Total Cholesterol (TC) and Triglycerides are graphically represented in the Figure - 1 and Figure-2.

Figure 1
Bar diagram on ordered adjusted means of total cholesterol (tc)

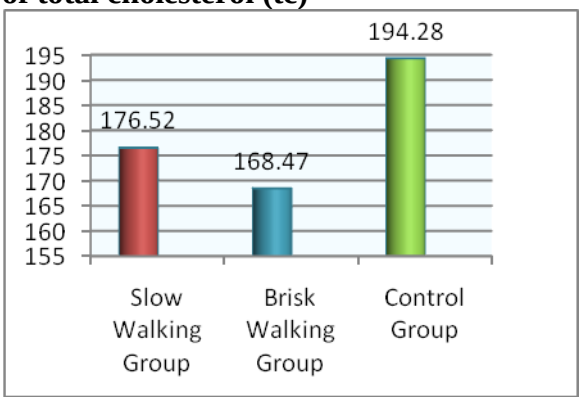
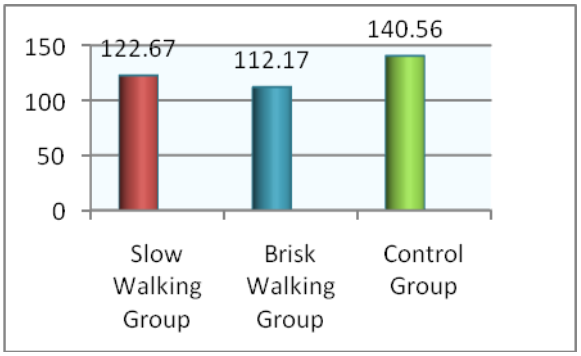


Figure 2
Bar diagram on ordered adjusted means of triglycerides



Results and discussion

The results of the study indicate that the experimental groups namely slow continuous walking group and Brisk Continuous Walking training had significantly improved in the selected dependent Coronary Heart Diseases Risk Factors namely Total Cholesterol (TC) and Triglycerides. It is also found that the improvement achieved by the Brisk Continuous Walking training was greater when compared to slow continuous walking group and Control group.

These results are in conformity with the findings of the studies undertaken by the following sports scientists. Parthiban and others (2011) examined that 12 weeks of walking, jogging and running exercises were found to be benefitted in modifying the lipids and lipoprotein levels among middle aged men compared to control. It is predominantly effective in running men than other exercise groups. Hence the study concluded that running exercise prevails in retaining the normal healthy body and obstruct from various coronary heart diseases Peltonen P. Marniemi and other (1981) have examined and suggested that LDL may be related to HDL metabolism, a causal relation between exercises that involved changes in LDL activity and HDL cholesterol level. Magnitude of HDL cholesterol change over the course of a training program is highly correlated with the amount of exercise performed (Stefanick and Wood (1994).

It is inferred from the literature and from the results of the present study that systematically designed Brisk Continuous Walking training decreases the Total Cholesterol (TC) and Triglycerides and these are very important qualities for Coronary Heart Diseases. Hence, it is concluded from the results of the study that systematically and scientifically designed

Brisk Continuous Walking training may be given due recognition and implemented properly in the training programmes for control Coronary Heart Diseases.

Conclusion

From the analysis of the data, the following conclusions were drawn.

1. Significant differences in achievement were found between slow continuous walking group, Brisk Continuous Walking group and Control group in the selected criterion variables such as Total Cholesterol (TC) and Triglycerides.
2. The Experimental groups namely, slow continuous walking and Brisk Continuous Walking, had significantly improved in Coronary Risk Factors such as Total Cholesterol (TC) and Triglycerides.
3. The Brisk Continuous Walking was found to be better than the slow continuous walking group in decreasing Total Cholesterol (TC) and Triglycerides.

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