



Effect of Slow and Brisk Continuous Walking on Selected Coronary Heart Disease of Middle Aged Men

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Abstract

The present study is aimed to achieve the effect of slow and brisk continuous walking on selected coronary heart disease of middle aged men. To attain the purpose forty five middle aged men living in Chidambaram, Tamilnadu India were selected as subjects and they were assigned equally into three groups of fifteen each They are Group-I as Slow continuous walking, Group-II as Brisk continuous walking and Group-III as Control. The duration of experimental period is 8 weeks (3 days/week). Slow continuous walking and Brisk continuous walking were performed by the experimental groups whereas the control remain as normal with the sedentary life. Selected Biochemical variables such as Total cholesterol and Triglycerides were analyzed before and after the training period. Biochemical analysis was done by the concerned Biochemist, Department of Biochemistry, Annamalai University, Annamalainagar. 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.

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Introduction

Fitness is perhaps one of the most controversial aspects in the field of measurement in physical education. It is most elusive quality and has been frequently defined in rather abstract terms. In the dictionary 'Fitness' is defined as having the necessary qualities or a readiness or preparedness. Fitness is operationalized in present day Western Societies with a focus on two goals; performance and health. Performance related fitness refers to those components of fitness that are necessary for optional work to work performance. (Bouchard, 1994). Walking may be an appropriate activity for home-based programmes 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).

Walking is one of the easiest ways to stay fit. A moderate dose of physical exercise for 30 minutes (if

you can't manage that much, even 15 minutes is okay to begin with) a day is enough to keep you healthy. This form of aerobic fitness can lift one's mood, make physically fit, and improve the quality of the life. Walking can lower the cholesterol levels and decrease the risks for cardiovascular diseases. It can also strengthen your heart, muscles and lungs. A strong heart with an increased heart rate is able to carry more blood to the rest of the body. Brisk Continuous Walking every day lets you burn up to 200 calories and reduces body fat.

Regular walking improves the BMI (body mass index) and blood pressure levels in people with diabetes. Allowing muscle movement leads to more use of glucose by the muscle cells. This also involves utilization of more insulin, which improves blood sugar levels. Low blood pressure levels can also protect against kidney failure, heart attack and stroke.

There are distinctive types of workout that one can perform in order to keep fit, but one exercise that is suitable for all age groups is Brisk Continuous Walking. There are innumerable benefits of Brisk Continuous Walking, especially for obese people, as it helps them a great deal in fastening their weight loss program. Talking

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about the fact, as to how fast should the pace of your aerobic exercise Brisk Continuous Walking is; the answer to it is that the right pace is the one, which is fast but not exhausting.

Methodology

The study was conducted on forty five (N=45) middle aged men living in Chidambaram, Tamilnadu India. Subjects were randomly assigned equally into three groups, Based on the Maximum Heart Rate 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. Biochemical analysis was done by the concerned Biochemist, Department of Biochemistry, Annamalai University, Annamalainagar.

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 .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 I. 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)	181.91	176.72	188.97	Between	1133.03	2	566.51	33.72*
				With in	688.81	41	16.80	
Triglycerides	132.14	117.09	142.30	Between	4823.46	2	2411.73	127.08*
				With in	778.10	41	18.98	

* *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 181.91, 176.72, 188.97, 132.14, 117.09 and 142.30 respectively. The obtained F-ratio of 33.72 and 127.08 for the adjusted post test mean is more than the table value of 3.23 for df 2 and 41 required for significance at .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 II. 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)	181.91	176.72		5.19*	3.78
	181.91		188.97	7.06*	3.78
		176.72	188.97	12.25*	3.78
Triglycerides	132.14	117.09		15.05*	4.02
	132.14		142.30	10.16*	4.02
		117.09	142.30	26.21*	4.02

* Significant at .05 level of confidence

Table 2 shows that the adjusted post test mean difference 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 5.19, 7.06, 12.25, 15.05, 10.16, and 26.21 respectively. The adjusted post test mean values of Slow continuous walking group and Brisk Continuous Walking group, Slow continuous walking group and Control group, Brisk Continuous Walking group and Control group values are 5.19, 7.06, 12.25, 15.05, 10.16, and 26.21 and they greater than the confidence interval value 3.78 and 4.02 which shows significant differences at .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 I. Bar diagram on ordered adjusted means of total cholesterol (TC)

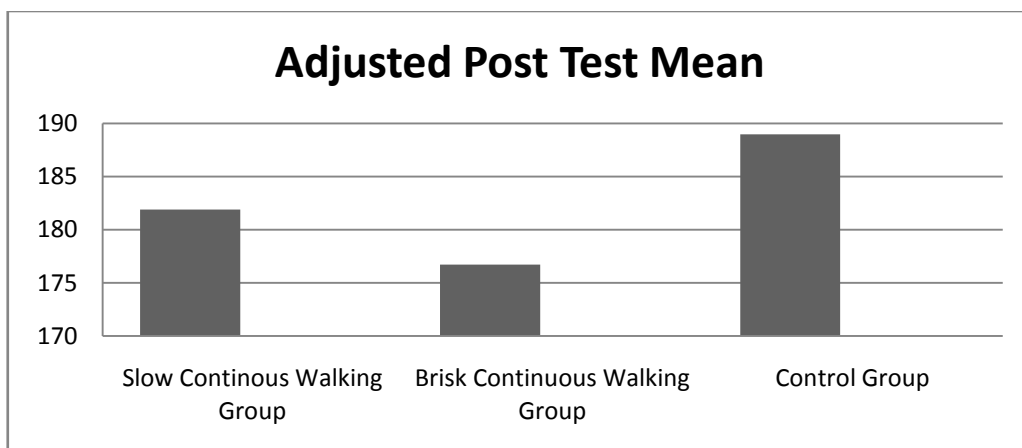
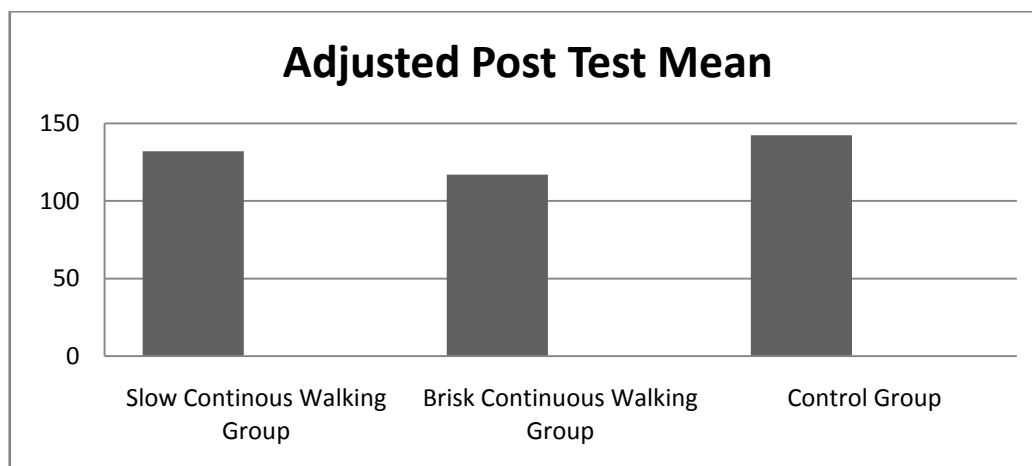


Figure II. Bar diagram on ordered adjusted means of triglycerides

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.

References

1. Bucher Charles A. and Lavorath Willest(1964), *Foundation of Physical Education* (2nd Ed.)Saint Louis: The C.V. Mosby Company.
2. Mika Piotr , Boguslaw Wilk, Anna Mika, Anna Marchewka and Rafal Nizankowski (2011), "The effect of pain-free treadmill training on fibrinogen, haematocrit, and lipid profile in patients with claudication", *European Journal of Cardiovascular Prevention & Rehabilitation*, February 9.
3. Parthiban B., K. SekarBabu, Suthakar Krishnaswamy and AnnidaBalakrishnan(2011), Influence of walking, jogging and running exercises moderates the selected lipids and lipoproteins on middle aged men, *Recent Research in Science and Technology*, 3(1): 88-96
4. Peltonen P. Marniemi et.al, (1981) Changes in Serum lipids, Lipoproteins and heparin releasable lipolyic enzymes during moderate physical training in main a longitudinal study, *Journal of Metabolism*.

5. Stefanick ML and Wood PD (1994), *Physical Activity: Lipid and Lipoprotein metabolism and lipid transport*, Champaign, Human Kinetics Publishers.
6. Westby MD(2001), A health professional's guide to exercise prescription for people with arthritis: a review of aerobic fitness activities, *Arthritis Rheum*, 45:501-511.