



## EFFECT OF DIFFERENT PACE OF WALKING ON SELECTED CHD RISK FACTORS AMONG MIDDLE AGED MEN

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### ABSTRACT

The present study is aimed to achieve an impact of different pace of walking on selected CHD risk factors among Middle aged men. For this purpose forty five middle aged men from Best walkers club, Pudukkottai Tamilnadu India were selected as subjects and they were assigned equally into three groups of fifteen each. Group-I underwent Slow continuous walking, Group-II underwent Brisk continuous walking and Group III as Control. The age, height and weight of the subjects ranged from 35 to 45 years, 163 to 171 cms and 65 to 72 kg respectively, and the means were 19.3 years, 167 centimeters and 67 kilograms respectively. Experimental groups (Group I & Group II) underwent the respective training programme for duration of twelve weeks at the rate of three days a week, whereas the control remain as normal with the sedentary life. Among the coronary heart disease risk factors Total Cholesterol (TC) and Triglycerides (TGL) only was selected as a dependent variable. Total cholesterol and Triglycerides were assessed by Blood Sample Tests. All the groups were tested on selected criterion variables prior to and immediately after the training periods. Analysis of covariance (ANCOVA) was used to determine the differences, if any, among the adjusted post-test means. Whenever 'F'-ratio for adjusted post-test mean was found to be significant, the Scheffe's test was applied as a post-hoc test to determine the paired mean differences. The level of significance was fixed at .05 level of confidence for all the cases. The resulting data revealed that 10 weeks of Slow continuous walking and Brisk continuous walking were found to be benefitted among college men students compared to control.

**KEYWORDS:** Slow Continuous walking, Brisk Continuous Walking, Total cholesterol, Triglycerides.

### INTRODUCTION

"Physical fitness is not only one of the most important keys to a healthy body, it is the basis of dynamic and creative intellectual activity. Physical fitness not only improves our quality of life, but also helps us in the long run. It increases cardiovascular fitness and body endurance. Regular exercise can also help increase the strength of one's heart. Regular exercise reduces the risk of developing heart disease, high blood pressure, high cholesterol, type 2 diabetes and certain types of cancer. It also reduces the risk of having a stroke. 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 main gaits of locomotion among legged animals, and is typically slower than running and other gaits. Walking is defined by an 'inverted pendulum' gait in which the body vaults over the stiff limb or limbs with each step.

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. Walking can lower your 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 your body. Brisk walking every day lets you burn up to 200 calories and reduces body fat. Walking is one of the easiest and cheapest ways to exercise. Experts agree that you should get 30 minutes of moderate-level physical activity on most days of the week -- walking is one of these activities. There are also has several health benefits of walking, such as reducing your risk of certain medical conditions (such as high blood pressure and heart disease), reducing depression, and helping you sleep better.

### METHODOLOGY

The study was conducted on forty five (N=45) middle aged men from Best walkers club, Pudukkottai Tamilnadu India. Subjects were randomly assigned equally into three groups, The age, height and weight of the subjects ranged from 35 to 45 years, 163 to 171 cms and 65 to 72 kg respectively, and the means were 19.3 years, 167 centimeters and 67 kilograms respectively.

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 10 weeks and for three days per week. Among the Coronary Heart Diseases Risk Factors Total Cholesterol (TC) 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 (TGL) was analyzed before and after the training period. Biochemical analysis was done by the concerned Biochemist, Team Hospital, Pudukkottai.

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 (TGL) of Experimental Groups and Control group have been analyzed and presented in Table -1.

#### ANALYSIS OF THE DATA

**TABLE – 1**  
**VALUES OF ANALYSIS OF COVARIANCE FOR EXPERIMENTAL GROUPS AND CONTROL GROUP ON TOTAL CHOLESTEROL (TC) AND TRIGLYCERIDES (TGL)**

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)	181.04	176.18	188.38	Between	1130.48	2	565.24	32.99*
				With in	702.39	41	17.13	
Triglycerides (TGL)	131.89	117.52	142.53	Between	4724.51	2	2362.25	117.60*
				With in	823.59	41	20.09	

\* 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) for Slow Continuous Walking, Brisk Continuous Walking and Control Group, are 181.04, 176.18 and 188.38 respectively. The obtained F-ratio of 32.99 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. Further the table shows that the mean value of Triglycerides (TGL) for the experimental groups and control groups are 131.89, 117.52 and 142.53 respectively. The obtained F-ratio of

117.60 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 and Triglycerides (TGL). 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 (TGL)**

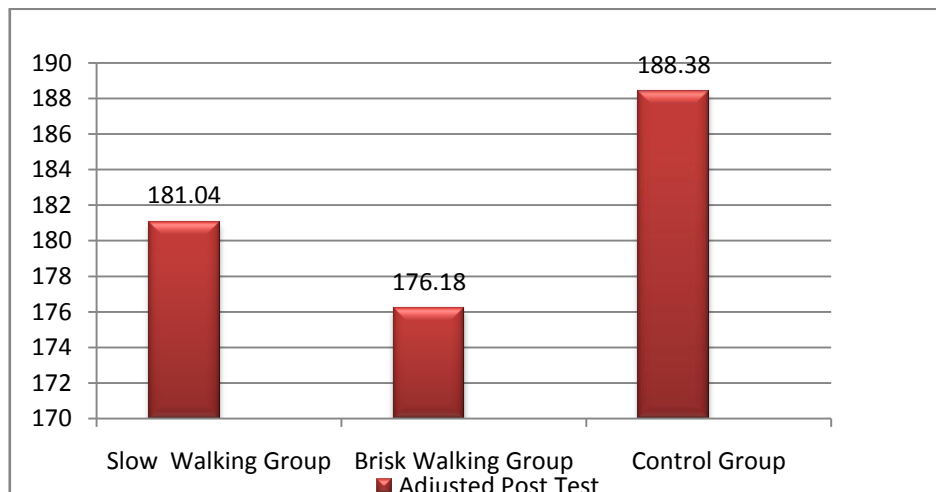
Certain Variables	Adjusted Post test Means			Mean Difference	Confidence Interval
	Slow Continuous Walking Group – (I)	Brisk Continuous Walking Group – (II)	Control Group – (III)		
Total Cholesterol (TC)	181.04	176.18		4.86*	3.79
	181.04		188.38	7.34*	3.79
		176.18	188.38	12.20*	3.79
Triglycerides (TGL)	131.89	117.52		14.37*	4.10
	131.89		142.53	10.64*	4.10
		117.52	142.53	25.01*	4.10

\* Significant at .05 level of confidence

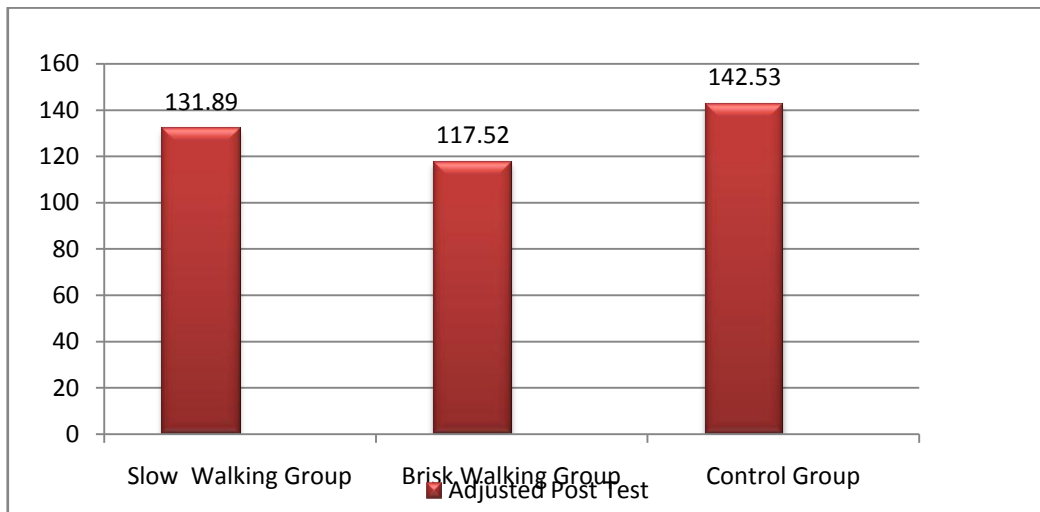
Table 2 shows that the adjusted post test mean difference of Total Cholesterol(TC) on Slow continuous walking group and Brisk Continuous Walking group, Slow continuous walking group and Control group, Brisk Continuous Walking group and Control group are 4.86, 7.34 and 12.20 respectively and they greater than the confidence interval value 3.79, which shows significant differences at .05 level of confidence. Further the table-2 shows that the adjusted post test mean difference of Triglycerides (TGL) 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 14.37, 10.64 and 25.01 respectively and they greater than the confidence interval value 4.10, 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 (TGL) 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 (TGL) were 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 (TGL). The adjusted post test means values of experimental groups and control group on Total Cholesterol (TC) Triglycerides (TGL) 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 (TGL)**



## 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 (TGL). 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) and Natarajan(2012). 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 (TGL) 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 (TGL).
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 (TGL).
3. The Brisk Continuous Walking was found to be better than the slow continuous walking group in decreasing Total Cholesterol (TC) and Triglycerides (TGL).

## REFERENCES

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