



The Effect of Six Weeks of Brisk Walking on Aerobic/Cardiovascular Function of Sedentary College Students

KEYWORDS

Brisk walking, Aerobic/Cardiovascular function, Sedentary.

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ABSTRACT The purpose of the present study was to determine the effect of six weeks of brisk walking on aerobic/cardiovascular function of sedentary college students. The sample was consisted of thirty (N 30) sedentary college students and their age ranged between 18-25 years of age. The subjects were briefed in details about the study. The criterion measures for the study was aerobic/cardiovascular function and it was measured by 1 mile walk test in nearest of min/sec. The total research period was of 12 weeks out of which six (6 weeks) of brisk walking programme was employed. Mean aerobic/cardiovascular function differed statistically significantly between Observation points (F (4, 116) = 53.23, P < 0.000), insignificant difference was found in case first observation and second observation (MD=0.05, p=1.000), whereas significant difference was found in second and third observation (MD=2.53, p=0.000), also in third observation and fourth observation (MD=2.22, p=0.000) and fourth and fifth observation (MD=2.58, p=0.000).

1 Introduction

Cardiovascular exercises benefit any age group. However, any exercise of aerobic capacity should be structured properly and should be scaled moderately to fit the particular needs of each person. Cardiovascular exercise (aerobic exercise) forms an important pillar within the entire anti-aging exercise program. It is one of the greatest anti-aging bullets that is available to anyone. A list of benefits from aerobic exercise resembles that obtained with growth hormone: gain of muscles and strength, loss of fat, increased energy, greater well being and a decrease in anxiety and depression. Moreover, aerobic exercise also increases the level of HDL cholesterol, lowers blood pressure, improves immune system and helps protect the body against a host of diseases, including cardiovascular diseases, stroke, hypertension, diabetes, and osteoporosis. Thus the investigator interested in whether six weeks of brisk walking programme is effective in increasing the aerobic/cardiovascular function of sedentary college students.

2. Material and Methods

2.1 Subjects

For the purpose of the study thirty (N=30) male sedentary college students of Lucknow Christian College, Lucknow between 18 to 25 years of age were selected as subjects for the present study and the subjects were briefed in details about the study.

2.2 selections of variables

Based on literary evidence, discussion with expert and scholar's own understanding aerobic/cardiovascular function was selected as variable for the present study.

2.3 Procedure

Periodisation of training and collection of data was showed in table 1

For the detail of training protocol interested person may contact to the author.

2.4 Administration of test

Aerobic/cardiovascular function

Test: -

The 1-Mile Run.

Equipment: -

stop watch.

Procedure: -

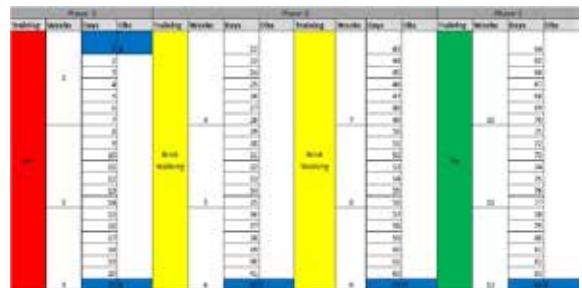
The aerobic/cardiovascular function was measured by 1-mile run. Aerobic-cardiovascular performance during exercise can be measured by a running performance over a distance of 1 mile. Warm-up for several minutes, then run/walk as rapidly as possible for 1 mile.

Scoring: -

times recorded to the nearest of second.

Periodisation of training and collection of data presented in Table 1

Table- 1 Periodisation of training and collection of data



Note:- obs = observation

The Total research period was of 84 days. obs A=day1, obs B=21st day, obs C=42nd day, obs D=63rd day and obs E=84th day).

2.5 Statistical Analysis

To determine the level of Aerobic/cardiovascular function, descriptive statistics was applied. To determine the effect of brisk walking on Aerobic/cardiovascular function in sedentary college students one factor repeated measures analysis of variance was used to compute the data.

3 Findings

The findings and discussion of findings with regard to the present study have been presented in two sections. Sec-

tion one deal with the mean and standard deviation of Aerobic/cardiovascular function. Section two deals with the one factor repeated measures Analysis of variance of Aerobic/cardiovascular function variable.

SECTION ONE

Mean and Standard deviation of Aerobic/cardiovascular function

Table-2

Variable	Observation									
	obs A		obs B		obs C		obs D		obs E	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Aerobic/CardioVascular Function	21.70	1.83	21.65	1.95	19.12	1.75	16.89	1.25	19.48	1.37

The Mean of Cardiovascular Endurance in Table-2 reveals that there was sequential reduction in the mean of Cardiovascular Endurance from observation one to four (obs A 21.70(m/sec), obs B 21.65(m/sec), obs C 19.12(m/sec), obs D 16.90(m/sec). Whereas at obs E of detraining phase there was slight increase in aerobic/cardiovascular function 19.48 (Cm).

SECTION TWO

The findings pertaining to brisk walking one factor repeated measure analysis of variance was computed and data pertaining to that have been presented in tables.

AEROBIC/CARDIOVASCULAR FUNCTION

Mauchly's Test of Sphericity for Aerobic/cardiovascular function presented in Table 3

Table-3 Mauchly's Test of Sphericity for Aerobic/cardiovascular function

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	Df	Sig.	Epsilon		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Observation	.710	9.550	9	0.389	.867	1.000	.250

It was observed from the above table that the Mauchly's Test of Sphericity was insignificant $X^2(9) = 9.55, p = 0.389$, (i.e. has a probability value greater than 0.05) and it is concluded that there was no significant variance of difference and thus the condition of Sphericity has not been violated. Therefore in test within subject effect, Sphericity assumption value of 'F' was taken into consideration.

One Factor Repeated-Measure analysis of variance for aerobic/ cardiovascular function presented in Table 3.1

Table-3.1 One Factor Repeated-Measure analysis of variance for aerobic/ cardiovascular function

Source	SS	Df	MS	F	P
Between-Subject	25.28	29	0.87		
Within-Subject					
Observation	481.22	4	120.30	53.23	.000*
Subject x Observations	262.97	116	2.26		

*Sig. at 0.05 level of confidence, (F (4, 116) = 53.23, P < 0.000).

Mauchly's test indicated that the assumption of Sphericity has not been violated, $X^2(9) = 9.55, p = 0.389$, the results show that there was significant effect of brisk walking on aerobic/cardiovascular function, (F (4, 116) = 53.23, P < 0.000).

Pair wise Comparison of observations in relation to aerobic/ cardiovascular function presented in Table 3.2

Table-3.2 Pair Wise Comparison of observations in relation to Aerobic/ cardiovascular function

(I) Observation	(J) Observation	Mean Difference (I-J)	Sig.
1) 21.70	2) 21.65	0.05	1.00
2) 21.65	3) 19.12	2.53*	0.00
3) 19.12	4) 16.90	2.22*	0.00
4) 16.90	5) 19.48	2.58*	0.00

Significant at 0.05 level of confidence.

a:- Adjustment for multiple comparison:Bonferroni

Post hoc tests using the Bonferroni correction revealed that insignificant difference was found in case of first observation and second observation (MD=0.05, p=1.000), whereas sequential significant difference was found in second and third observation (MD=2.53, p=0.000), third observation and fourth observation (MD=2.22, p=0.000) and fourth and fifth observation (MD=2.58, p=0.000). We can, therefore, conclude that a brisk walking training program (6 week) elicits a statistically significant improvement in Aerobic/cardiovascular function.

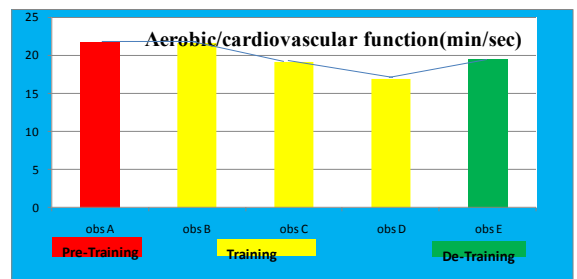


Figure:-1 Graphical representation of means on repeated observations in relation to Aerobic/cardiovascular Endurance (min/sec).

4. Discussion of Findings

Mean of aerobic/Cardiovascular function in table-2 shows that there was sequential reduction in the mean of Cardiovascular Endurance from observation one to four (obs A 21.70(m/sec), obs B 21.65(m/sec), obs C 19.12(m/sec), obs D 16.90(m/sec)). Whereas at obs E of detraining phase there was slight increase in the mean of Cardiovascular Endurance 19.48 m/sec). Mean Aerobic/Cardiovascular function differed statistically significantly between Observation points ($F(4, 116) = 53.23, P < 0.000$), insignificant difference was found in case first observation and second observation ($MD=0.05, p=1.000$), whereas sequential significant difference was found in second and third observation ($MD=2.53, p=0.000$), third observation and fourth observation ($MD=2.22, p=0.000$) and fourth and fifth observation ($MD=2.58, p=0.000$). We can, therefore, conclude that a brisk walking training program (6 weeks) elicits a statistically significant increase in cardiovascular endurance. Hardman Adrienne E et al. (1994) suggested that regular brisk walking can improve endurance fitness in sedentary women.

5. Conclusion and recommendation

From the above discussion it is concluded that a brisk walking training programme (6 weeks) elicits a statistically significant increase in aerobic/Cardiovascular function of sedentary college students. The results of this study may be used by Physical Education teachers, Health trainers and Fitness experts for prescribing the brisk walking programme for different age groups and sex.

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