



EFFECTS OF AEROBIC TRAINING ON SELECTED PHYSICAL FITNESS VARIABLES AMONG COLLEGE LEVEL CRICKET PLAYERS

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ABSTRACT

Objective: This study was intended to examine the effects of aerobic training on selected physical fitness variables among college level cricket players.

Study design: Experimental research.

Setting: Various affiliated colleges in the Bharathiar University in Coimbatore, Tamil Nadu.

Participation: Thirty (N=30) college level cricket player age range between 18 and 24 were randomly assigned into two group, aerobic training group (n=15) and control group (n=15). The aerobic training group underwent the aerobic training for a period of 8 weeks, while the control group continued with their regular routine.

Main Outcomes Measures: The participants performed 8 weeks training sessions involving the aerobic training integrated with certain physical fitness variables namely muscular endurance, cardiovascular endurance.

Results: The results assume that the certain physical fitness variables namely muscular endurance, cardiovascular endurance among college level cricket players have improved significantly due to the aerobic training with the limitations.

Conclusion: In 8-weeks of aerobic training program can be a practical and beneficial approach for college level cricket players seeking to improve their physical fitness variables namely muscular endurance, cardiovascular endurance.

KEYWORDS: Aerobic training, Physical fitness variables and Cricket players.

INTRODUCTION

Cricket, a sport known for its dynamic nature and demands on physical endurance, requires athletes to maintain optimal physical fitness to excel on the field. Among the various training methods available, aerobic training has emerged as a fundamental component in enhancing the performance of cricket players, particularly at the college level. This introduction serves to explore the effects of aerobic training on selected physical fitness variables among college-level cricket players. Understanding the significance of physical fitness in cricket is paramount. As the sport evolves, so do the fitness standards required to compete at higher levels. Physical fitness plays a crucial role in cricket performance, impacting aspects such as endurance, agility, and muscular strength. Of particular importance is aerobic capacity, which enables players to sustain high-intensity efforts over prolonged periods, a necessity in the endurance-based format of cricket matches.

STATEMENT OF THE PROBLEM

The statement of the problem was stated to find out effects of aerobic training on selected physical fitness variables among college level cricket players.

METHODOLOGY

Thirty participants were selected from the various affiliated colleges at Bharathiar University in Coimbatore, Tamil Nadu. The participants ranged in age from 18 to 24 years old, and were divided into two equal groups of 15 each, the aerobic training group and the control group. The aerobic training group was exposed to aerobic training, while the control group was not given any additional training beyond their daily routine. Muscular endurance was measured by the push up test, cardiovascular endurance fitness was measured by the 20-meter shuttle run test. The aerobic training period lasted 8 weeks, with each workout lasting 40 to 50 minutes. The data collected from the two groups before and after the aerobic training period was statistically examined using a dependent 't' test to determine any significant improvement. In all cases 0.05 level of significance was fixed to the test.

Criterion Measures: It is evaluating physical fitness variables were chosen as the criterion measures to this study for testing.

STATISCAL TECHNIQUE

The collected data on Muscular Endurance and Cardiovascular Endurance due to the effects of aerobic training on selected physical fitness variables among college level cricket players, it will be analyzed by using paired' test.

TABLE-I
CRITERION MEASURES

S.NO	VARIABLES	TEST ITEMS	UNITS OF MEASURES
1.	Muscular Endurance	Push- Up Test	Seconds
2.	Cardiovascular Endurance	20-Meter Shuttle Run (Beep Test)	Seconds

TABLE -II
THE t- RATIO FOR COLLEGE LEVEL CRICKET PLAYERS
ON MUSCULAR ENDURANCE

Variable	Groups	Pre mean	Post mean	SD	SEM	t
Muscular Endurance	Aerobic training group	31.40	32.33	0.79	0.20	4.52*
	Control group	28.26	28.40	0.35	0.09	1.46

(Significance at 0.05 level of confidence for df of 14 is 2.14)
 Table II reveals that the computation of ‘t’ ratio between mean of pre and post-test on muscular endurance of experimental group and control group. The mean values of pre and post-test of experimental group and control group were 31.40, 32.33 seconds and 28.26, 28.40 seconds respectively. Since, the

obtained ‘t’ ratio 4.52 was higher than the required table value 2.145, it was found to be statistically significant for the degree of freedom 1 and 14 at 0.05 level of confidence. The results clearly indicated that the Muscular endurance of the experimental group improved due to effect of aerobic training.

FIGURE-I
THE BAR DIAGRAM SHOWS THE MEAN VALUE OF PRE-TEST AND POST-TEST OF CARDIO VASCULAR
ENDURANCE OF EXPERIMENTAL GROUP AND CONTROL GROUP (Seconds)

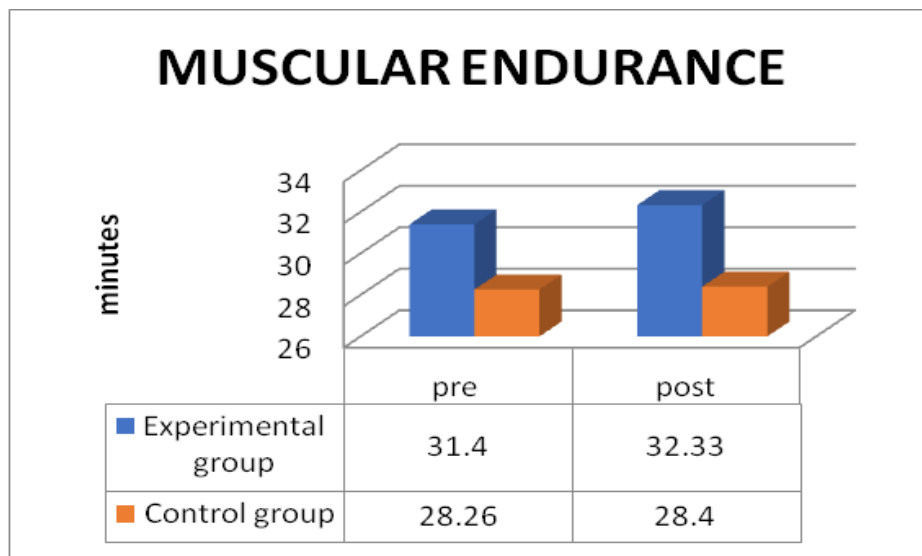


TABLE III
COMPUTATION OF ‘t’ RATIO BETWEEN PRE AND POST TEST MEANS OF EXPERIMENTAL GROUP AND
CONTROL GROUP ON CARDIO VASCULAR ENDURANCE
(Seconds)

Variable	Groups	Pre mean	Post mean	SD	SEM	t
Cardiovascular endurance	Aerobic training group	14.97	15.96	0.52	0.13	7.23*
	Control group	15.99	16.05	0.80	0.20	0.27

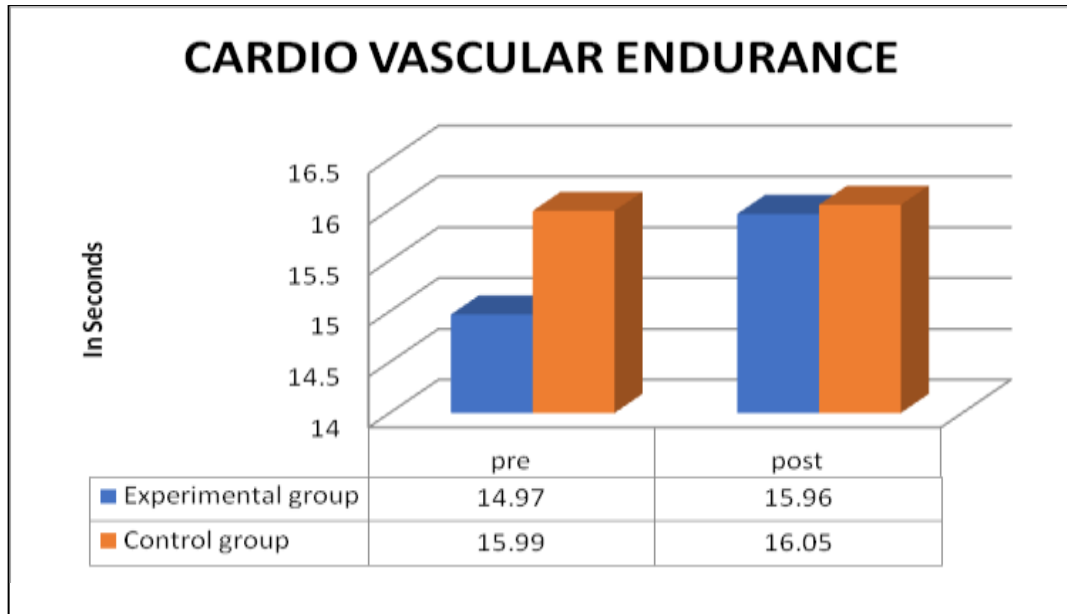
*Significant at 0.05 level of confidence (2.145), 1 & 14.

Table III reveals that the computation of ‘t’ ratio between mean of pre and post-test on muscular endurance of experimental group and control group. The mean values of pre and post-test of experimental group and control group were

14.97, 15.96 seconds and 15.99, 16.05 seconds respectively. Since, the obtained ‘t’ ratio 7.32* was higher than the required table value 2.145, it was found to be statistically significant for the degree of freedom 1 and 14 at 0.05 level of confidence.

The results clearly indicated that the cardiovascular endurance of the experimental group improved due to effect of aerobic training.

FIGURE-II
THE BAR DIAGRAM SHOWS THE MEAN VALUE OF PRE-TEST AND POST-TEST OF CARDIO VASCULAR ENDURANCE OF EXPERIMENTAL GROUP AND CONTROL GROUP (Seconds)



DISCUSSION ON FINDINGS

The results of the study indicate that the aerobic training group significantly improved their physical fitness variables, such as muscular endurance, cardiovascular endurance. Furthermore, it was observed that the improvement caused by the aerobic training was greater than that of the control group. This suggests that the aerobic training was an effective method for improving physical fitness variables. The obtained result proved positively the aerobic training and selected physical fitness group significantly improved. The result of the present study showed that the effects of aerobic training on selected physical fitness variables have significant improvement on college level male cricket players. The following studies were revealed that **Dar, U.R (2016)** examined the impact of aerobic training on the physical fitness of 40 University of Kashmir cricket players, revealing a significant improvement in their cardio-vascular efficiency, as measured by the Harvard Step Test. The result of the study supports the result of the present study. **B. D. Paul (2022)** concluded a study on the impact of aerobic training on the physical fitness of cricket players. The result of the study supports the result of the present study. These finding had not been previously replicated for a sample of college students. The result of the study showed that the control group was not significantly improved.

CONCLUSIONS

The results of effects lead to conclude that the effects of aerobic training on selected physical fitness group had better significant improvement on physical fitness variables (muscular endurance and cardiovascular endurance) of college level male cricket players.

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