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"EFFECT OF AEROBIC TRAINING ON CARDIO-VASCULAR ENDURANCE AMONG UNIVERSITY MALE PHYSICAL STUDENTS"

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ABSTRACT

The purpose of the present study was to find out the impact of aerobic training on Cardio-Vascular Endurance among university male physical students. Twenty students (n = 20) were randomly selected between the age group of 21 - 30 years. The selected subjects were randomly assigned into two equal groups such as training group (TG) and the control group (CG) for the strengths of ten (n = 10) each. The training group underwent respective aerobic training programs for six weeks duration three days per week and a session on each day. The CG was not given any special training program apart from their regular activities. Cardio-Vascular Endurance was taken as a criterion variable for the present study. The instrument which was used to measure Cardio-Vascular Endurance was Metronome. Analysis of covariance (ANCOVA) was used to analyze the collected data. The result revealed that the Cardio-Vascular Endurance was made significant improvement ($p \leq 0.50$)in physical fitness components of the selected subjects. The level of confidence was fixed at 0.05 in all cases.

KEYWORDS- *Aerobic training, Cardio-Vascular Endurance, university male students.*

INTRODUCTION :

Aerobic exercise (also known as Cardio) is physical exercise of low to high intensity that depends primarily on the aerobic energy generating process (Sharon A. Plowman, Denisel. Simith 1 June 2007).

Aerobic literally means "relating to involving or requiring free oxygen." (Kenneth H. Copper 1997) and refers to the use of oxygen to adequately meet energy demands during exercise via aerobic metabolism. Generally, light-to-moderate intensity activates that are sufficiently supported by aerobic metabolism can be performed for extended periods of time. When practiced in the way, example of cardiovascular /aerobic exercise are medium to long distance running/jogging, swimming, cycling, and walking, according to the first extensive re4search on aerobic exercise, conducted in the 1960s on over 5,000 U.S. Air Force personals by Dr. Kenneth H. Cooper. The benefits of aerobic exercise can be broadly categorized as either fitness (physical capacity or health fitness) and health are linked, and most form of aerobic exercise will help you achieve both (Blair SN Morris 17 May 2016)

MATERIAL AND METHOD

The purpose of this investigation was to find out the impact of aerobic training program on Cardio-

Vascular Endurance among university male students. Twenty students for this study were taken from the department of physical education at Annamalai University, Tamil Nadu. The age of the selected subject were ranged between 21 to 30 years. The total strength was further divided into two equal groups of ten (n =10) each in strength. The first group was named as Training Group (TG) and they underwent a symmetric training program of aerobic training for six week duration. The second group was named as control group (CG) and they did not expose any special training program apart from their curriculum. The training period was restricted to one session per day for three days in a week for six weeks duration. All the subjects were present for more than 96% of the total training sessions. The dependent variable of Cardio-Vascular Endurance were taken and it was measured by using the instrument Metronome. The data was collected two days prior to the training and immediately after the training program. The collected data were statistically examined by analysis of covariance (ANCOVA). The confidence interval was fixed at 0.05 levels. Which is considering appropriate enough for the present study?

Experimental Procedure of training design:

S. No.	Name of Group	Type of group	Type of Training
1	A	Experimental	Aerobic Training
2	B	Control	No Training

Weekly Training Schedule for Experimental Group

Day	Duration (Min.)	Training Task	Training Means and Methods	Distance (km.)	Intensity
Monday	25	Basic Endurance	Continuous Running	2	Medium
	5	Relaxation	Walking and jogging		
Tuesday	30	Basic Endurance	Continuous Running along the road	4	Low
	15	Strength exercise	Stretching Exercise (triceps, Biceps, Calf muscles, etc.) Neck, shoulder, hip, ankle rotation etc.		
Wednesday	25	Basic Endurance	Continuous Running along the road and over the hill	4	Medium
	15	Stretching Exercise	Triceps, Side wing, Hamstring, Quadriceps, calf muscles, abdominal forward and back ward lean.		
	10	Relaxation	Easy Walking and jogging		
Thursday	05	Speed, Strength Endurance	General warming up, 100m, 200m run.		
	30	Basic Endurance	Running and Walking	4	
	10	Relaxation	Limbering down, Easy Jogging and Walk	1	Medium
Friday	25	Basic Endurance	Continuous running with changing speed	4	Low, Medium, Fast
	10	Agility Development	Hopping Alternate high knee action, twisting on the exercises		
	5	Relaxation	Limbering down, Easy Jogging and Walk		
Saturday	20	Basic Endurance	Continuous running	2	Medium
	15	Strength Development	Hill Running up and down		
		Supplementary training	Training Exercise standing Broad jump three times each		
	5	Relaxation	Easy Walking and jogging		
Sunday		Rest			

RESULT AND DISCUSSION

Cardio-Vascular Endurance between Pre and Post Test of Control Group

Control Group	Mean	S.D.	D.F.	T-Test.
Pre. Test	95.736	24.458	38	0.877
Post Test	101.099	12.262		

*Level of Significance = 0.05
Tabulated't' 0.05 (38) = 2.021

The above table reveals that there is significant difference between means of pre and post test of control group, because mean of pre test is 95.736 is less than mean of post test is 101.099, To check the significant difference between pre and post test of control group the data was again analyzed by applying' test. Before applying' test, standard deviation was calculated between pre-test where S.D. = 24.458 and Post test where S.D. = 12.262 and their Combine standard error = 6.118. There was no significant difference between pre and post test of control group because value of calculated 't' = 0.877 which is less than tabulated 't' = 2.021 at 0.05 level of confidence, which shows no improvement was found in Cardio-Vascular Endurance of control group because no training was given to the subjects of control group.

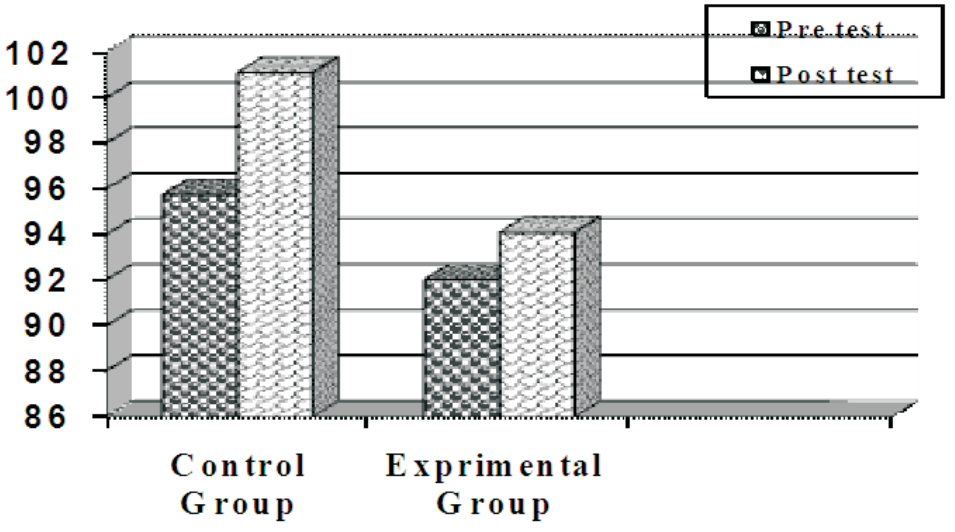
Cardio-Vascular Endurance between Pre and Post Test of Experimental Group

Experimental Group	Mean	S.D.	D.F.	T-Test
Pre. Test	92.010	6.471	38	1.034
Post Test	94.088	6.238		

*Level of Significance = 0.05
Tabulated't' 0.05 (38) = 2.021

The above table reveals that there is significant difference between means of pre and post test of experimental group, because mean of pre test is 92.010 is less than mean of post test is 94.088, To check the significant difference between pre and post test of experimental group the data was again analyzed by applying't' test. Before applying' test, standard deviation was calculated between pre-test where S.D. = 6.471 and Post test where S.D. = 6.238 There was least significant difference between pre and post test of experimental group because value of calculated' = 1.034 which is greater than tabulated' = 2.021 at 0.05 level of confidence, which shows six weeks aerobic training have least effect of six weeks aerobic training on the Cardio-Vascular Endurance of experimental group.

Graph 1
Graphical Representation of Mean Difference Between Pre and Post Test Of Control and Experimental Group for Cardio-Vascular Endurance



CONCLUSION

The result of the study revealed that the training group has significant improvement in cardio-vascular endurance among the university male students after the systematic aerobic training protocol. The Cardio-Vascular endurance showed significant improvement as the planned training program shows the significant effect. Hence aerobic training program of six weeks was adequate for Cardio-Vascular endurance. It was also concluded that the aerobic training is one of the best training methods for improving the vital capacity as well as the physical fitness for young men.

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