ORIGINAL RESEARCH PAPER | Physical Education | Volume : 6 | Issue : 10 | October 2016 | ISSN - 2249-555X | IF : 3.919 | IC Value : 74.50

Effect of Aerobic Exercise on Selected Physiological Variables Among College Women Players

KEYWORDS: Aerobic Exercise, resting heart rate and breath holding time.

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ABSTRACT *The Purpose Of The Study Is To Find The Effect Of Aerobic Exercise On Selected Physiological Variables Among College Women Players. Thirty College Women Players Were Randomly Selected From Department Of Physical Education, Bharathiar University, Coimbatore And Their Age Ranged Between 21 And 23 Years. The Selected Players Were Divided Into Two Equal Groups Consists Of 15 Subjects Each Namely Experimental Group And Control Group. The Experimental Group Underwent A Aerobic Exercise Programme For Eight Weeks. The Control Group Was Not Taking Part In Any Training During The Course Of The Study. Resting Heart Rate Was Assessed By Digital Heart Rate Monitor. Breath Holding Time Was Assessed By Nose Clip Method. Pre-Test Was Taken Before The Training Period And Post- Test Was Measured Immediately After The Eight Weeks Training Period. Statistical Technique 'T' Ratio Was Used To Analyze The Means Of The Pre-Test And Post Test Data Of Experimental Group And Control Group. The Results Revealed That There Was A Significant Difference Found On The Criterion Variables. The Difference Found Is Due To Aerobic Exercise Given To The Experimental Group On Selected Physiological Variables When Compared To Control Group*

INTRODUCTION

Sport and games involve competition. Without competition, there is no game. Competition provides a forum within which people strive to become competent, to become excellent. The opportunities for rivalry within sport are many and varied: team against team, individual against individual, individual against a record, individual now against a previous best performance, individual against a physical barrier. Competition involves individuals and groups striving for excellence within the rules and traditions that make up a sport, including all the festival characteristics that give the sport additional flavor and meaning **(Siedentop, 1998)**.

Aerobic (with oxygen) endurance is generally characterized by modern contraction of large muscle group for an extended period of time, during which maximum cardio respiratory adjustment are necessary, as in swimming, bicycling and distance running. Since aerobic endurance refers to ability of heart, vascular system and lings to provide oxygen and nutrient to working tissues and to remove the waste product of metabolism, it is quite clear that the primary goal of aerobic endurance training is to improve and /or increase the capacity and efficiency of three system in order that a greater amount oxygen can be supplied to the cells. This type of training is often referred to as cardio respiratory or cardiovascular training**. (Larry G.Shaver, 1981)**

Aerobic dance a way to fun as well as a way to be fit. Muscle building exercises, fat burning movements and stretching into routine are some aerobic exercises played on music. Many dance forms are used, including disco, jazz, and ballet. All ages can benefit from aerobic dance.

The major benefits of aerobic exercises are stronger and more efficiently operating heart and lungs, more energy, physical flexibility, conditioned muscles, proper use of fats and effective burning of calories. The increased oxygen flow gained through aerobics re-energies by giving any one more energy and a "reawakening" of his senses. **(Kolata, Gina 2002)**

METHODOLOGY

For the present study the subjects were 30 inter collegiate women players were randomly selected from Department of Physical Education, Bharathiar University, Coimbatore were selected randomly and their age ranged from 21 to 23 years. For the present study pre test – post test randomized group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of 15 students each and named as Group 'A' and Group 'B'. Group 'A' underwent Aerobic Exercise group and Group 'B' underwent no training. Resting heart rate was assessed by stethoscope. Breath holding time was assessed by nose clip method. The data was collected before and after eight weeks of training period. Statistical technique 't' ratio was used to analyze the means of the pre-test and post test data of experimental group and control group.

Table I

Analysis of t-ratio for the Pre and Post Test Mean Values of Control Group and Experimental Group on Resting Heart Rate

Variables	Groups	Mean		SD		Sd Error	df	't' ratio
		Pre	Post	Pre	Post			
Resting Heart Rate	Control	73.60	73.73	2.10	1.87	0.27	14	0.49
	Experimental	73.53	72.33	2.39	2.06	0.22	14	5.39*

**Significance at 0.05 level of confidence. (The table value required for 0.05 level of significant with df of 14 is 2.15)*

The table I shows that the mean values of pre-test and post-test of control group in resting heart rate were 73.60 and 73.73 respectively. The obtained 't' ratio was 0.49 since the obtained 't' ratio was less than the required table value 2.15 for the significant at 0.05 level of with 14 degrees of freedom it was found to be statistically insignificant. The mean values of pre-test and post-test of experimental groups in resting heart rate were 73.53 and 72.33 respectively. The obtained 't' ratio was 5.39 since the obtained 't' ratio was greater than the required table value of 2.15 for significance at 0.05 level of with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a significant dif-

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ference between control group and experimental group in resting heart rate. It may be concluded The result of the study that experimental group improved in resting heart rate due to eight weeks of yogic practices.

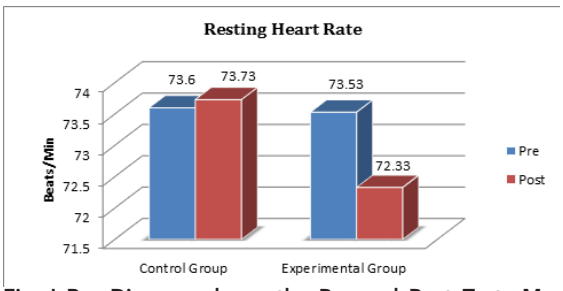


Fig. I Bar Diagram shows the Pre and Post Tests Mean Values of Control and Experimental Groups on Resting Heart Rate
(Units in Beats/Mins)

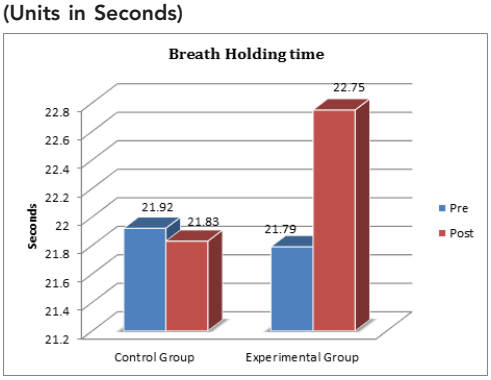
Table II
Analysis of t-ratio for the Pre-test and Post-test of Control Group and Experimental Group on Breath Holding Time

Variables	Group	Mean		SD		Sd Error	df	't' ratio
		Pre	Post	Pre	Post			
Breath Holding Time	Control	21.93	21.83	6.09	5.35	0.37	14	0.25
	Experimental	21.79	22.76	4.00	3.86	0.24	14	4.05*

**Significance at 0.05 level of confidence (The table value required for 0.05 level of significant with df of 14 is 2.15)*

The Table II shows that the mean values of pre-test and post-test of control group in breath holding time were 21.93 and 21.83 respectively. The obtained 't' ratio was 0.25 since the obtained 't' ratio was less than the required table value 2.15 for the significant at 0.05 level of with 14 degrees of freedom it was found to be statistically insignificant. The mean values of pre-test and post-test of experimental groups in breath holding time were 21.79 and 22.76 respectively. The obtained 't' ratio was 4.05 since the obtained 't' ratio was greater than the required table value of 2.15 for significance at 0.05 level of with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a significant difference between control group and experimental group in breath holding time. It may be concluded The result of the study that experimental group improved in breath holding time due to eight weeks of yogic practices.

Fig- II Bar Diagram shows the Pre and Post Test Mean Values of Control Group and Experimental Group on Breath Holding Time
(Units in Seconds)



Discussion on Findings
The goal of the investigation is to find whether there is any effect on those selected physiological variables due to aerobic exercise and further to find improvement on training group. The obtained 't' ratio showed that there was significant difference between experimental group and control group in performance of resting heart rate and breath holding time. It indicates that experimental group significantly improved the variables better as compared to control group. This may be due to the experimental group under gone a systematic progressive training and the control group have not take part in any formal training in the period of eight weeks.

Conclusions
There was a significant difference between experimental and control group on selected physiological variables after the eight weeks of aerobic exercise.

There was a significant improvement on resting heart rate and breath holding time. However the improvement was in favor of experimental group due to eight weeks of aerobic exercise.

References:

1. Kolata, Gina (2002), **Why Some People Won't Be Fit Despite Exercise,**. The New York: Timess Publications, P. 128.
2. Larry G.Shaver, ***Essentials of Exercise of Physiology***, (Minneapolis: Burgess, 1981), P.267.
3. Siedentop Daryl, ***Introduction to Physical Education, Fitness, and Sport, (3 Ed)***, Mayfield Publishing Company, Mountain View, California, 1998.
4. Welsman, J.R., Armstrong, N., Winter, E.M. and Kirby, B.J., "Responses of young girls to two modes of aerobic training", ***British Journal Sports Medicine,*** 31(2) (1997).