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PHYSICAL EDUCATION

INFLUENCE OF AEROBICS ON BREATH HOLDING TIME AND RESTING PULSE RATE AMONG WOMEN VOLLEYBALL PLAYERS

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ABSTRACT

The purpose of the study was designed to examine the effect of aerobics on breath holding time and resting pulse rate of college women volleyball players. For the purpose of the study, thirty women players from the Department of Physical Education, Annamalai University were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent aerobics for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables namely breath holding time and resting pulse rate were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered as an appropriate. The results of the study showed that there was a significant difference between aerobics group and control group on breath holding time and resting pulse rate. And also it was found that there was a significant change on selected criterion variables such as breath holding time and resting pulse rate due to alternate pace running.

KEYWORDS: Aerobics, Breath Holding Time, Resting Pulse Rate, Volleyball.

INTRODUCTION

Aerobics is a form of physical exercise that combines rhythmic aerobic exercise with stretching and strength training routines with the goal of improving all elements of fitness (flexibility, muscular strength, and cardio-vascular fitness). It is usually performed to music and may be practiced in a group setting led by an instructor (fitness professional), although it can be done solo and without musical accompaniment. With the goal of preventing illness and promoting physical fitness, practitioners perform various routines comprising a number of different dance-like exercises. Formal aerobics classes are divided into different levels of intensity and complexity and will have five components: warm-up (5–10 minutes), cardiovascular conditioning (25–30 minutes), muscular strength and conditioning (10–15 minutes), cool-down (5–8 minutes) and stretching and flexibility (5–8 minutes). Aerobics classes may allow participants to select their level of participation according to their fitness level. Many gyms offer a variety of aerobic classes. Each class is designed for a certain level of experience and taught by a certified instructor with a specialty area related to their particular class.

METHODOLOGY

The purpose of the study was designed to examine the effect of aerobics on breath holding time and resting pulse rate of college women volleyball players. For the purpose of the study, thirty women players from the Department of Physical Education, Annamalai University were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent aerobics for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables namely breath holding time and resting pulse rate were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered as an appropriate.

ANALYSIS OF THE DATA

BREATH HOLDING TIME

The analysis of covariance on breath holding time of the pre and post test scores of aerobics group and control group have been analyzed and presented in Table I.

TABLE 1
ANALYSIS OF COVARIANCE OF THE DATA ON BREATH HOLDING TIME OF PRE AND POST TESTS SCORES OF AEROBICS AND CONTROL GROUPS

Test	Aerobics Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	52.0	52.2	Between	0.0033	1	0.0033	0.0047
S.D.	0.97	1.09	Within	19.4637	28	0.695	
Post Test							
Mean	53.87	52.33	Between	7.5	1	7.5	10.09*
S.D.	1.09	0.596	Within	20.8	28	0.743	
Adjusted Post Test							
Mean	56.86	52.23	Between	7.502	1	7.502	108.72*
			Within	1.861	27	0.069	

* Significant at .05 level of confidence.
(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

The table 1 shows that the adjusted post-test means of aerobics group and control group are 56.86 and 52.23 respectively. The obtained "F" ratio of 108.72 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on breath holding time.

The results of the study indicated that there was a significant difference between the adjusted post-test means of aerobics group and control group on breath holding time.

RESTING PULSE RATE

The analysis of covariance on resting pulse rate of the pre and post test scores of aerobics group and control group have been analyzed and presented in Table 2.

TABLE 2
ANALYSIS OF COVARIANCE OF THE DATA ON RESTING PULSE RATE OF PRE AND POST TESTS SCORES OF AEROBICS AND CONTROL GROUPS

Test	Aerobics Group	Control Group	Source of Variance	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	67.47	67.2	Between	0.537	1	0.537	1.06
S.D.	0.718	0.653	Within	14.133	28	0.505	
Post Test							
Mean	66.47	67.13	Between	3.33	1	3.33	6.923*
S.D.	0.718	0.618	Within	13.47	28	0.481	
Adjusted Post Test							
Mean	66.35	67.26	Between	6.083	1	6.083	184.33*
			Within	0.897	27	0.033	

* Significant at .05 level of confidence.
(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

The table 2 shows that the adjusted post-test means of aerobics group and control group are 66.35 and 67.26 respectively. The obtained "F" ratio of 184.33 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on resting pulse rate.

The results of the study indicated that there was a significant difference between the adjusted post-test means of aerobics group and control group on resting pulse rate.

CONCLUSIONS

1. There was a significant difference between aerobics group and control group on breath holding time and resting pulse rate.
2. And also it was found that there was a significant change on selected criterion variables such as breath holding time and resting pulse rate due to alternate pace running.

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