



Effects of Aerobic Dance with and without hand held weights on Breath Holding Time of Alagappa University Women Athletes

Dr. V. A. MANICKAM

Assistant Professor, Department of Physical Education and Health Sciences, Alagappa University, Karaikudi,-630 004, Tamilnadu, India.

M. RAJATHI

M. Phil Scholar, Department of Physical Education and Health Sciences, Alagappa University, Karaikudi,-630 004 Tamilnadu, India.

ABSTRACT

The Purpose of the study was to find out the effects of Aerobic Dance with and without hand held weights on Breath Holding Time of Alagappa University Women Athletes. The study was conducted on forty five (N=45) women athletes who were studying various colleges affiliated to Alagappa University, Karaikudi, Tamilnadu, India were selected as subjects. The selected subjects were assigned in to three groups of fifteen each(n=15), Group I underwent Aerobic Dance with hand held weights, Group II underwent Aerobic Dance without hand held weights, and Group III acted as control. Breath Holding Time was selected as dependent variable. Breath Holding Time was assessed by abdomen touch method. All the subjects were tested on selected dependent variables prior to and immediately after the training periods. The data collected data from the three groups prior to and immediately after the training programme on the selected criterion variables were statistically analyzed with Analysis of Covariance (ANCOVA). Whenever the 'F' ratio for adjusted post test means was found to be significant, Scheffe's post hoc test was followed to determine which of the paired mean differences was significant. In all the cases .05 level of confidence was fixed to test the hypotheses. Breath Holding Time showed significant difference among the groups. Aerobic dance with hand held weight group showed better performance than Aerobic dance without hand held weight group and Control group.

KEYWORDS

Aerobic dance with hand held weight, Aerobic dance without hand held weight, Breath Holding Time

INTRODUCTION

"Training improves the functioning of the circulatory, respiratory and the muscular systems, while practice is largely aimed at improving the control of muscular activity by the nervous systems". (Kenneth, J. 1976)

Training is good for the development of the cardiovascular system. "It enables athletes to recover from tough workouts and helps to develop the capacity to increase repetitions". (Singh, 1991).

Aerobic exercise is any extended activity that makes ones breathe hard while using the large muscle groups at a regular, even pace. Aerobic activities help make human heart stronger and more efficient. During the early part of exercise, body uses stored carbohydrate and circulating fatty acids (the building blocks of fat molecules) for energy.

Aerobic exercise is the type of moderate-intensity physical activity that one can sustain for more than just a few minutes with the objective of improving their cardio-respiratory fitness and your health. "Aerobic" means "in the presence of, or with, oxygen."

Anaerobic, on the other hand, means "the absence of, or without, oxygen." Anaerobic exercise is performed at an intensity that causes to get out of breath quickly and can be sustained for only a few moments. Weight lifting and sprinting are examples of anaerobic exercise.

METHODOLOGY

The study was conducted on forty five (N=45) women athletes who were studying various colleges affiliated to Alagappa University, Karaikudi, Tamilnadu, India were selected as subjects. The selected subjects were assigned in to three groups of fifteen each(n=15), Group-I underwent Aerobic Dance with hand held weights, Group-II underwent Aerobic Dance without hand held weights, and Group-III acted as control. Breath Holding Time was selected as dependent variable. Breath Holding Time was assessed by abdomen touch method.

RESULTS AND DISCUSSION

The data collected data from the three groups prior to and immediately after the training programme on the selected

criterion variables were statistically analyzed with Analysis of Covariance (ANCOVA). Whenever the 'F' ratio for adjusted post test means was found to be significant, Scheffe's post hoc test was followed to determine which of the paired mean differences was significant. In all the cases .05 level of confidence was fixed to test the hypotheses.

The Analysis of covariance (ANCOVA) on Breath Holding Time of Aerobic Dance with hand held weights, Aerobic Dance without hand held weights and control group have been analyzed and presented in Table -I.

Table -I

Analysis of Covariance between Aerobic Dance with Hand Held Weights, Aerobic Dance without Hand Held Weights and Control Group on Breath Holding Time

Cert ain Vari able s	Adjusted Post test Means			Source of Variance	df	Mean Squares	'F' Ratio
	Aerobic Dance with Hand Held Weights Group-(I)	Aerobic Dance without Hand Held Weights Group-(II)	Control Group (III)				
Brea th Hold ing Time	33.59	31.02	29.02	Between With in	2 56	99.36 0.55	180 .65 *

***Significant at .05 level of confidence.**

(The table value required for significance at .05 level with df 2 and 56 is 3.16)

Table-I shows that the adjusted post test mean values of Breath holding time for Aerobic Dance with hand held weights group, Aerobic Dance with hand held weights group and Control group are 33.59, 31.02 and 29.02 respectively. The obtained F-ratio is 180.65 is more than the table value 3.23 for df 2 and 41 required for significance at 0.05 level of confidence.

The results of the study indicate that there is a significant difference exists among the adjusted post test means of experimental groups showing the increase in Breath holding time.

To determine which of the paired means had a significant differences, Scheffe's test was applied as Post hoc test and the results are presented in Table-II.

Table - II
The Scheffe's test for the Differences between the Adjusted Post Tests Paired Means on Dependent Variables

Certain Variables	Adjusted Post test Means			Mean Difference	Confidence Interval
	Aerobic Dance with Hand Held Weights Group-(I)	Aerobic Dance without Hand Held Weights Group-(I)	Control Group (III)		
Breath Holding Time	33.59	31.02		2.57*	0.63
	33.59		29.02	4.57*	0.63
		31.02	29.02	2.00*	0.63

** Significant at .05 level of confidence*

Table-II shows that the adjusted post test mean for differences on Breath holding time between Aerobic dance with hand held weights group and Aerobic dance without hand held weights group, Aerobic dance with hand held weights group and Control group, Aerobic Dance without hand held weights groups and Control groups were 2.57, 4.57 and 2.00. The values are greater than the confidence interval 0.63, which shows significant differences at 0.05 level of confidence.

The adjusted post test means values of Aerobic dance with hand held weights group, Aerobic dance without hand held weights group and Control group on Breath holding time was graphically represented in the figure-I.

BREATH HOLDING TIME IN SECONDS

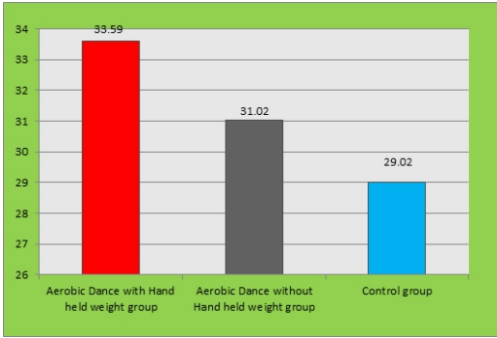


Figure -I: Adjusted Post Test Means Values of Aerobic Dance with Hand Held Weights Group, Aerobic Dance without Hand Held Weights Group and Control Group on Breath Holding Time

CONCLUSION

From the analysis of the data, the following conclusions were drawn.

1. The Experimental groups had registered significant improvement on the selected criterion variables namely Breath holding time.
2. It was concluded that the aerobic dance with hand held weight group is better than aerobic dance without hand held weight group and Control group in improving Breath holding time.

REFERENCES

1. Blessing D.L, Wilson G.D, Puckett JR, Ford HT(1987),The physiologic effects of eight weeks of aerobic dance with and without hand-held weights, Am J Sports Med.

Sep-Oct; 15(5): 508-10.

2. Doherty Kenneth J, (1976), Modern Track and Field, Englewood Cliffs, New Jersey: Prentice Hall Inc.P.87.

3. Singh Hardayal, (1991), Science of Sports Training, New Delhi: D.V.S. Publications, P.130.