



## EFFECTS OF AEROBIC DANCE WITH AND WITHOUT HAND HELD WEIGHTS ON EXPLOSIVE POWER OF UNIVERSITY OF MADRAS MEN PLAYERS

### Physical Education

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### ABSTRACT

Aim of the study was to determine the effects of Aerobic Dance with and without hand held weights on Explosive Power of University of Madras men Players. The study was conducted on ninety (N=90) men players who were studying various colleges affiliated to University of Madras, Chennai, Tamilnadu, India were selected as subjects. The selected subjects were assigned in to three groups of thirty each (n=30), Group I underwent Aerobic Dance with hand held weights, Group II underwent Aerobic Dance without hand held weights, and Group III acted as control. Explosive Power was selected as dependent variable. Explosive Power was assessed by Standing Broad Jump. 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. Explosive Power 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, Explosive Power

### INTRODUCTION

Regular physical exercise is an important factor to reduce the indexes of cardiovascular and all causes morbimortality. However, there are, apparently, additional and independent benefits of the regular practice of physical exercise and the improvement of the level of aerobic condition (Almeida and Araujo, 2003).

According to the physical fitness experts, aerobic exercises and workouts are one of the best and most important factors for body fitness and those who do aerobics regularly get extended lifespan with great working capacity and decreased risk of coronary artery diseases, blood pressure issues, cancer and diabetes. Aerobic health and fitness is defined as the body's cardiovascular and muscular system ability for providing required energy to maintain physical activity over a long period of time. Aerobic exercises include walking, aerobic dance, swimming, jogging, cycling, rowing and stair climbing. Aerobics is something that needs to be initiated with a slower pace and gradually can be increased with pace and intensity. Coming to benefits and side effects of aerobics on health, there are always two sides of a coin

Regular aerobic exercising promotes good health by stimulating healthy blood flow and heart as well as lungs functioning. Benefits of aerobics on health are numerous, because in aerobic activity one's body's large muscles repeatedly move and their body responds to those moves very quickly. Breathing pattern becomes more faster and deeper which increases the amount of oxygen in blood which means faster heart beat and faster blood flow to muscles and back to the lungs. While doing aerobic activities, human body releases endorphins which are the natural painkillers that encourage improved sense of well being.

The rate of force development is at the maximum for any type of muscle action is explosive power. In activities requiring high acceleration and output, explosive power training is necessary for maximum development.

Power is defined as the combination of strength and speed. In any sport explosive movement is critical for improving performance. In sports like tennis, soccer, basketball, and football sprinting from one side of the court or field to another is an important part of winning (Dawson et al., 2004).

### METHODOLOGY

The study was conducted on ninety (N=90) men players who were studying various colleges affiliated to University of Madras, Chennai, Tamilnadu, India were selected as subjects. The selected subjects were assigned in to three groups of thirty each (n=30), Group-I underwent Aerobic Dance with hand held weights, Group-II underwent Aerobic Dance without hand held weights, and Group-III acted as control. Explosive Power was selected as dependent variable. Explosive Power was assessed by Standing Broad Jump.

### 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 Explosive Power 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 Explosive Power

Cert ain Varia bles	Adjusted Post test Means			Sourc e of Varia nce	Sum of Squa res	df	Mean Squa res	'F' Rat io
	Aerobic Dance with Hand Held Weights Group-(I)	Aerobic Dance without Hand Held Weights Group-(I)	Contr ol Group (III)					
Expl osive Powe r	2.24	2.21	2.14	Betwe en With in	0.14 0.44	2 86	0.07 0.01	30.0 4*

\*Significant at .05 level of confidence.

(The table value required for significance at .05 level with df 2 and 86 is 3.10)

Table-I shows that the adjusted post test mean values of Explosive Power for Aerobic Dance with hand held weights group, Aerobic Dance with hand held weights group and Control group are 2.24, 2.21 and 2.14 respectively. The obtained F-ratio is 30.04 is more than the table value 3.10 for df 2 and 66 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 Explosive Power.

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**

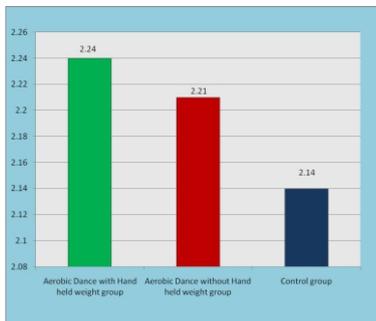
Certain Variables	Adjusted Post test Means			Mean Difference	Confidence Interval
	Aerobic Dance with Hand Held Weights Group-(I)	Aerobic Dance without Hand Held Weights Group-(II)	Control Group (III)		
Explosive Power	2.24	2.21		0.03	0.06
	2.24		2.14	0.10*	0.06
		2.21	2.14	0.07*	0.06

\*Significant at .05 level of confidence

Table-II shows that the adjusted post test means for differences on Explosive Power between Aerobic dance with hand held weights group and Control group, Aerobic Dance without hand held weights groups and Control groups were 0.10 and 0.07. The values are greater than the confidence interval 0.06, which shows significant differences at 0.05 level of confidence.

Further the Table-II shows that the adjusted post test mean for differences on Explosive Power between Aerobic dance with hand held weights group and Aerobic dance without hand held weights group, was 0.03. The value is less than the confidence interval 0.06, which shows insignificant 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 Explosive Power was graphically represented in the figure-1.



**Figure-1: Adjusted Post Test Means Values of Aerobic Dance with Hand Held Weights Group, Aerobic Dance without Hand Held Weights Group and Control Group on Explosive Power**

**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 Explosive Power.
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 decreasing Explosive Power.

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