EFFECT OF AEROBIC CIRCUIT TRAINING ON POWER PARAMETERS AMONG UNIVERSITY MEN STUDENTS

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ABSTRACT

The purpose of the study was designed to examine the effect of aerobic circuit training on elastic power and explosive power in terms of vertical of university men students. For the purpose of the study, thirty men students 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 aerobic circuit training 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 elastic power and explosive power in terms of vertical were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables namely elastic power and explosive power in terms of vertical at prior to and immediately after the training programme by using bunny hops and vertical jump respectively. 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 indicated that there was a significant difference between the adjusted post-test means of aerobic circuit training group and control group on elastic power and explosive power in terms of vertical.

KEY WORDS : Aerobic Circuit Training, Elastic Power, Explosive Power in Terms of Vertical, University Men Students.

INTRODUCTION

Many people find circuit training easier to stick with than some other exercise routines. It can be easily performed at home with minimal or no equipment and the choices of exercises are almost unlimited. The variety inherent in circuit training can be a welcome relief from more monotonous workouts, such as running or cycling, and exercises are readily replaced if they become too easy or boring. Those that are too hard or too strenuous can be omitted. The amount of exertion and timing of rest intervals can be varied. Aerobic intervals can be increased by shortening or eliminating rest periods. Circuits range from four to about 15 exercises, usually performed for 30–90 seconds each, sometimes with 30–90-second rest intervals in between. Sometimes exercises are repeated a specified number of times without timing or the times are varied depending on the exercise. As fitness improves, station times can increase or rest intervals can decrease or be eliminated. Another variation is to simply move on to the next exercise when fatigue sets in, to give the worked

muscles a rest. Usually one to three circuits are completed, often with two to three minutes of rest between circuits.

METHODOLOGY

The purpose of the study was designed to examine the effect of aerobic circuit training on elastic power and explosive power in terms of vertical of university men students. For the purpose of the study, thirty men students 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 aerobic circuit training 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 elastic power and explosive power in terms of vertical were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables namely elastic power and explosive power in terms of vertical at prior to and immediately after the training programme by using bunny hops and vertical jump respectively. 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

Elastic power

The analysis of covariance on elastic power of the pre and post test scores of aerobic circuit training group and control group have been analyzed and presented in Table I.

TABLE I ANALYSIS OF COVARIANCE OF THE DATA ON ELASTIC POWER OF PRE AND POST TESTS SCORES OF AEROBIC CIRCUIT TRAINING AND CONTROL GROUPS

Test	Aerobic circuit training group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	7.53	7.33	Between	0.300	1	0.300	0.02
S.D.	0.62	0.47	Within	9.067	28	0.324	0.93
Post Test							
Mean	7.98	7.37	Between	2.821	1	2.821	1176*
S.D.	0.50	0.45	Within	6.717	28	0.240	11.70**
Adjusted	Post Test						
Mean	7.90	7.45	Between Within	1.481 0.797	1 27	1.481 0.030	50.20*

* 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 results of the study indicated that there was a significant difference between the adjusted post-test means of aerobic circuit training group and control group on elastic power.

Explosive power in terms of vertical

The analysis of covariance on explosive power in terms of vertical of the pre and post test scores of aerobic circuit training group and control group have been analyzed and presented in Table II

TABLE II ANALYSIS OF COVARIANCE OF THE DATA ON EXPLOSIVE POWER IN TERMS OF VERTICAL OF PRE AND POST TESTS SCORES OF AEROBIC CIRCUIT TRAINING AND CONTROL GROUPS

Test	Aerobic circuit training group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	48.13	47.93	Between	0.300	1	0.300	0.02
S.D.	3.69	3.82	Within	422.667	28	15.095	0.02
Post Test							
Mean	51.93	48.20	Between	104.533	1	104.533	C 05*
S.D.	3.94	3.60	Within	427.333	28	15.262	6.83*
Adjusted							
Post Test							
Moon	51.84	18 20	Between	93.751	1	93.751	121 20*
wicall	31.64	40.30	Within	19.206	27	0.711	131.00

* 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 II shows that the adjusted post-test means of aerobic circuit training group and control group are 51.84 and 48.30 respectively. The obtained "F" ratio of 131.80 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 explosive power in terms of vertical.

The results of the study indicated that there was a significant difference between the adjusted post-test means of aerobic circuit training group and control group on explosive power in terms of vertical.

CONCLUSIONS

1. There was a significant difference between aerobic circuit training group and control group on elastic power and explosive power in terms of vertical.

2. And also, it was found that there was a significant improvement on selected criterion variables such as elastic power and explosive power in terms of vertical due to aerobic circuit training.

REFERENCES

- 1. Barrow, Harold M. and Rosemery Mc Gee, A Practical Approach to Measurement in Physical Education. Philadelphia: Lea and Febiger, 1991.
- 2. Best and B.J. Taylor. The Living Body. London : Chapman and Hall Ltd., 1997.
- 3. Howely, Edward T., B. Don Franks, Health Fitness Instructor's Hand Book. New York: Oxford University Press Inc., 2003.
- 4. Johnson, Barry L. and Jack. K. Nelson, Practical Measurement for Evaluation in Physical Education. Champaign, Illinois : The Human Kinetics Publishers., 1992.
- 5. McArdle, William D., Exercise Physiology Energy, Nutrition, and Human Performance. Philadelphia: The Human Kinetics Publishers, 1996.
- 6. Miller, Benjamin F., The Modern, Medical Encyclopedia. New York, The Golden Press, 1995.
- 7. Singh, Ajmer. Essential or Physical Education. Kalyani Publishers, 2003.