

EFFECT OF WEIGHT TRAINING AND CIRCUIT TRAINING ON EXPLOSIVE POWER OF COLLEGE MALE BASKETBALL PLAYERS

Amit D Pate

Dr. Makarand S. Joshi

Research Scholar

MSM College of Physical Education,

S.G.S.U., Gandhinagar

Aurangabad

Abstract :

The main objective of this study was to find out the Effect of Weight Training and Circuit Training on Explosive Power of college male basketball players. To achieve the purpose of the study, sixty male Basketball Players were randomly selected as subjects from Veer Narmad South Gujarat University Surat Affiliated College Students. The age of the subjects were ranged between 18 to 25 years. The study was formulated as pre and post-test random group design, in which sixty subjects were divided into three equal groups. Experimental Group-I (N=20; CT Group) performed the Circuit training Group. The Experimental Group-II (N=20, WT group) performed Weight Training program. Control group (N=20; CG) did not undergo any specific training programmed but there practiced the regular game. The analysis of covariance was used to analyze the significant difference, if any among the groups. Three groups were compared, whenever they obtained 'F' ratio for adjusted post-test was found to be significant, the Scheffe's test to find out the paired mean differences, if any. The 0.05 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 result of the study indicates due to training on Explosive Power has been improved significantly.

Keywords: Weight Training; Circuit training, Explosive Power & ANCOVA.

Introduction:

The Weight Training has two primary functions in a workout program: instability and support. Instability during an exercise forces you to engage your core muscles to maintain your balance, making the exercise more difficult. Training the core with instability helps develop a strong support system for your legs and back, which prevents injuries and helps you get the most out of your exercise routine. The Training can also be used to support your back as you work on developing core stability. For instance, you can place the ball against the wall and lean your back against it as you do a squat. To add lower back support to an abdominal crunch, sit on the ball, walk your feet out in front of you until you are lying back on the ball with a neutral spine, and do crunches from there. Rutherford and Jones (1986) suggested that adaptations from Resistance training resulted in better coordination of synergistic and stabilizer muscles. Behm (2002) and colleagues reported the effect of unstable conditions, as induced by sitting on Swiss ball on force production of the knee extenders. Robert examined the effect of Swiss ball exercises on core stability and stated that there is a improvement in core strength among the subjects.

Objective of the Study:

- The main objective of this study was to find out the purpose of the study will be to find out the effect of weight training and circuit training on Explosive Power of college male basketball players.
- To analyses to compare the superiority between weight training and circuit training on male basketball

players.

- Effect of weight training on college male basketball players.
- To prepare appropriate circuit training program at basketball players.

Methodology:

Selection of Subjects:

Sixty male Basketball players were selected from area of Affiliated colleges of Veer Narmad south Gujarat university, Surat who have represented at inter collegiate tournament Twice were randomly selected as subjects for the study. This experimental study was administered to only two experimental groups and one control group of 20 subjects each. The age of subjects ranged from 18 to 25 years only.

Experimental Design:

This experimental study was administered to only two experimental groups and one control group of 20 subjects each. For this purpose Group I underwent Circuit training, Group II underwent Weight training and Group III acted as control group.

EXPERIMENTAL GROUP - 1 –(Circuit Training Group)

The Exercises as Follows

Pac Fly, Pivoting Lateral Clip, Vertical Jump, Zig-Zag Dribble, Lay Up Shot With Right Hand, Lay Up Shot With Centre Side, Lay Up Shot With Left Hand, Vertical Jump, Side To Side Running and Forward Sprint.

Training Period is 6 Week, Duration In Between 20 To 25 Sec. Intensity – 60% To 90%, Rest Time 2 Min To 6 Min.

EXPERIMENTAL GROUP – 2 (Weight Training Group)

Pac Fly, Bench Press, Ab Crunches, Squat, Dynamic Lunges, Leg Standing and Calf Rise.

TABLE - 1

COMPUTATION OF ANALYSIS OF COVARIANCE OF PRE-TEST, POST-TEST AND ADJUSTED POST-TEST ON EXPLOSIVE POWER OF EXPERIMENTAL GROUP I, EXPERIMENTAL GROUP II AND CONTROL GROUP (Scores in Meters)

Table No.1

Test	Ex Group I	Ex Group II	Control Group	Sources of Variance	Sum of Square	df	Mean of Square	Obtain F ratio
Pre Test Mean	1.87	1.87	1.87	Between	0.0002	2	0.0001	0.31
	0.02	0.02	0.01	Within	0.0109	57	0.0003	
Post Test Mean	1.90	1.93	1.87	Between	0.0249	2	0.0124	28.74*
	0.02	0.03	0.01	Within	0.0182	57	0.0004	
Adjusted Post Test Mean	1.90	1.93	1.87	Between	0.0282	2	0.0141	93.95*
				Within	0.0061	56	0.0001	

*Significance at .05 level of confidence

(The table values required for significance at 0.05 level of confidence for 2 and 57 and 2 and 56 are 3.16 and 3.16 respectively).

RESULTS OF EXPLOSIVE POWER

Table 1 shows the analysis data on explosive power. The pre-test means of Leg explosive power were 1.87 for experimental groups I, 1.87 for experimental groups II and 1.87 for control group. The obtained "F" ratio of 0.31 was lesser than the table F-ratio 3.16. Hence the pre-test was not significant at 0.05 level of confidence for the degree of freedom 2 and 57.

The post test mean of explosive power were 1.90 for experimental group I, 1.93 for experimental group II, 1.87 for control group. The obtained "F" ratio of 28.74 was higher than the table F-ratio 3.16. Hence the post test was significant at 0.05 level of confidence for the degree of freedom 2 and 57.

The adjusted post-test mean of explosive power were 1.90 for experimental group I, 1.93 for experimental group II, 1.87 for control group. The obtained "F" ratio of 93.95 was higher than the table F-ratio 3.16. Hence the post-test was significant at 0.05 level of confidence for the degree of freedom 2 and 56.

Since, three groups were compared, whenever the obtained "F"-ratio for adjusted post test was found to be significant, the Scheffe's test to find out the paired mean difference and it was presented in Table 1

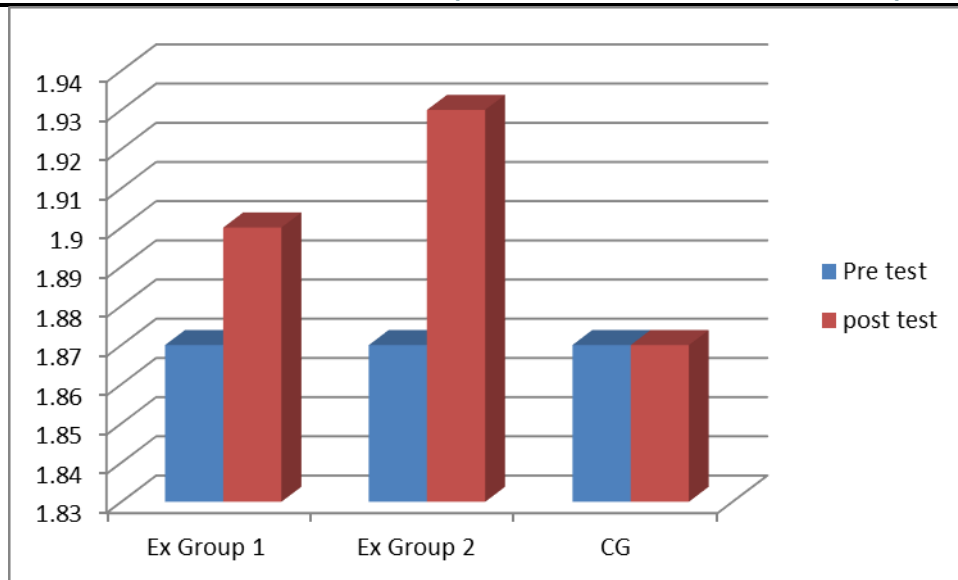
TABLE 1.2
ORDERED SCHEFFE'S POST HOC TEST MEAN DIFFERENCES
ON EXPLOSIVE POWER AMONG THREE GROUPS
(Scores in Meters)

Experimental Group I	Experimental Group II	Control Group	Mean Difference	Confidence Interval Value
1.90	1.93	-	0.03	0.006
1.90	-	1.87	0.06	0.006
-	1.93	1.87	0.03	0.006

Table 1.2 shows the Scheffe's post-hoc test result. The ordered adjusted final mean difference for explosive power of experimental groups I, II and control group were tested for significant at 0.05 level of confidence against confidential interval value.

The mean difference between experimental group I and experimental group II 0.03, experimental group I and control group 0.06, experimental group II and Control group 0.03 were respectively and it was seen to be greater than the confidential interval value of 0.006. Hence the above comparisons were significant.

The mean value of explosive power are shown graphically in 1.3



Explosive power

The experimental groups Circuit training and Weight training showed significant increase in the explosive power: 1.90 and 1.93 respectively from pre to post training.

The Weight Training group was found significantly better than ($f < .05$) the Circuit Training group and Control Group, Circuit Training group was better than the Control group in increasing the explosive power as measured by standing broad jump. Therefore weight training is better to improve the explosive power among the Basketball players.

Conclusion:

1. Weight training group produced a significant improvement in explosive Power better than the Circuit training group.
2. Explosive power was favored to weight training group greater than circuit training and control group of college male basketball players

References

- Clarke, H. Harison and David H. Clarke.** Application of Measurements of Physical Education Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1987.
- Singh, Hardayal.** Science of Sports Training. Ne-w Delhi: D.V.S. Publications, 1991.
- Bloomfield. J., T.R. Ackland and B.C. Elliott.** Applied Anatomy and Biomechanics in Sport. Melbourne: Blackwell Scientific Publications, 1994
- Jon Oliver,** "Basketball Fundamentals", (USA: Human Kinetics, 2004).
- Atkins, Ken.,** "Basketball Offences and Plays", (USA: Human Kinetics, 2004). Baeta, "A Practical Scientific Approach to Training", Track Technique, 95(1986), pp. 3038-3039.
- Barrow, Herold M. and Rose Mary Mc Gee.** A Practical Approach to Measurement in Physical Education, Philadelphia: Lea and Febiger, 1979.
- Barry, Johnson L. and Jack, K. Nelson.** Practical Measurement for Evaluation in Physical Education, Delhi: Surjeet Publication, 1982.