



EFFECT OF BASKETBALL SPECIFIC TRAINING AND TRADITIONAL METHOD TRAINING ON EXPLOSIVE POWER OF INTERCOLLEGIATE MEN BASKETBALL PLAYERS

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ABSTRACT :

The purpose of the study was to assess the effectiveness of basketball specific training and traditional training method on explosive power of intercollegiate men Basketball players. To achieve this purpose, 60 male basketball intercollegiate men players from Mangalore University colleges of Cauveri College Gonikoppa, St. Anne's College, Virajapet and Cauvery College, Virajapet, Karnataka were selected as subjects and their age range between 18 to 25 years. The present study concerned with the effects of Basketball Specific Training and Traditional Method Training on Explosive Power (Vertical Jump in cms.) as a physical fitness component of Basketball players. The types of training used in the present study were Basketball Specific Training with aerobic and anaerobic training and Traditional Method with plyometric training. The statistical tool used for the present study was ANCOVA along with Scheffe's Post Hoc Analysis. After applying ANCOVA, it was found that there was significant improvement in the Explosive power for Basketball Specific Training Group (BSTG), Traditional Method Training Group (TMTG) when compared with Control Group (CG). Based on the results it was concluded that the BSTG experimental group was significantly improved in explosive power of Basketball players when compared with TMTG. The study suggested that coaches, fitness trainers and physical educationists should give this type of training to enhance the explosive power of intercollegiate men Basketball players.



KEYWORDS : Basketball Specific, Traditional Method, Training Group, Explosive Power, Intercollegiate, Basketball Players.

I. INTRODUCTION

Basketball is one of the most popular sports in the world. The attraction of the game lies in the fact that it is fast moving and played on relatively a small court, so that, every player is constantly involved in the action. It is a highly competitive game and it requires high physical fitness. The prime physical qualities are explosive power, strength, endurance, agility, speed, various coordinative abilities etc. Explosive Power is always dynamic and it was an important motor ability for basketball players (Gill et. al. and Shaker). For the best performance in basketball game, emphasis should be on explosive power. The physical fitness of basketball players and game performance can be influenced by both aerobic and anaerobic metabolism (Montgomery et al., 2010). Thus, interactions between aerobic and anaerobic metabolism should also be considered in the evaluation and training prescription. Basketball specific training was comprised of aerobic and anaerobic training, basketball specific practice of drills and playing the game. This training was executed by adapting principles of high intensity with low volume and low intensity with high intensity for aerobic and

anaerobic training modules, which was treated progressive in nature. Various studies conducted on aerobic and anaerobic training modules on physical fitness components.

Sivasankar and Govindaraj (2016) examined the effects of the aerobics exercises with and without Proprioceptive Neuromuscular Facilitation formulated as on the physical Fitness variables of the inter-collegiate basketball players and found that the aerobic group and the aerobic with PNF after 12 weeks training showed significant improvements on explosive power. Süel (2015) studied to know the effect of skill-based maximal intensity training on power in female team sport players and found that skill-based maximal intensity training programmes were found to be effective on explosive power. Barkadehi and Abedimahzoun (2014) found the effects of frequency and intensity of anaerobic exercises on legs explosive power of martial arts sportsmen and result showed that changes in explosive power had significant differences in the two groups in comparison with the control group. Raja (2014) studied the effect of plyometric training on explosive power among female basketball players of Annamalai University and result concluded that there was a significant improvement in the explosive power in terms of vertical and horizontal distances for plyometric training group when compared with the control group. Yilmaz (2014) examined the effects of power skill and anaerobic capacity of different training models in young male basketball players for 16 weeks endurance training along with the general basketball training and he found that 6 weeks endurance training along with the general basketball training was improved the power of young basketball players. In the present paper, aerobic and anaerobic exercises with basketball skills were selected to know the improvement of explosive power as physical fitness component. Very few studies conducted on to know the Basketball Specific Training on Explosive Power of male Basketball players. Hence, the researcher intention is to assess the effectiveness of Basketball Specific Training and Traditional Method Training on Explosive Power of intercollegiate men Basketball players.

II. OBJECTIVE OF THE STUDY

To determine the effect of Basketball Specific Training and Traditional Method Training on Explosive Power of intercollegiate men Basketball players.

III. STATEMENT OF HYPOTHESIS

There would be a significant difference in the Explosive Power of experimental group by practicing basketball specific training and traditional method training.

IV. METHODOLOGY

The purpose of the study was to assess the effectiveness of basketball specific training and traditional training methods on Explosive Power of intercollegiate men Basketball players. To achieve the purpose of the study 60 male basketball intercollegiate men players from Mangalore University colleges of Cauveri College Gonikoppa, St. Anne's College, Virajapet and Cauvery College, Virajapet, Karnataka were selected as subjects and the age of the subject were between 18 to 25 years. The present study concerned with the effects of Basketball Specific Training and Traditional Method Training on Explosive Power (Vertical Jump in cms) as a physical fitness component of Basketball players. The types of training used in the present study were Basketball Specific Training with aerobic and anaerobic training and Traditional Method with plyometric training. The statistical tool used for the present study was ANCOVA along with Scheffe's Post Hoc Analysis.

V. ANALYSIS OF THE DATA

The data collected prior to and after the experimental period on explosive power of Control Group (CG), Traditional Method Training Group (TMTG) and Basketball Specific Training Group (BSTG) were statistically analyzed and presented in Table-1.

Table-1: ANCOVA for the pre-test and post-test data on explosive power of CG; TMTG and BSTG.

		CG	TMTG	BSTG	Source of variance	df	Sum of square	Means square	'F' ratio
Pre-test	Mean	36.200	36.400	36.550	B	2	1.233	0.617	0.18 ^{NS}
	S.D.	1.735	1.875	1.877	W	57	190.950	3.350	
Post-test	Mean	36.500	38.750	41.350	B	2	235.633	117.817	27.60**
	S.D.	2.064	2.099	2.033	W	57	243.300	4.268	
Adjusted Post-test mean		36.589	38.742	41.269	B	2	218.037	109.019	30.85**
					W	56	197.859	3.533	

Note: B- Between Groups; W- Within Groups; S.D.– Standard Deviation

Table value at 0.05=3.15; 0.01=4.98 (df-2, 57/2, 56)

**Significant at 0.01 level; ^{NS}Not Significant

As shown in Table-1, the pre-test mean values of explosive power of CG; TMTG and BSTG are 36.200, 36.400 and 36.550 respectively. The obtained 'F' ratio of 0.18 for pre-test mean was less than the table value 3.15 for df 2 and 57 required for significance at 0.05 level.

The post-test mean values of explosive power of CG; TMTG and BSTG are 36.500, 38.750 and 41.350 respectively. The obtained 'F' ratio of 27.60 on post-test mean was greater than the table value 4.98 for df 2 and 57 required for significance at 0.01 level.

The adjusted post-test mean values of explosive power of CG; TMTG and BSTG are 36.589, 38.742 and 41.269 respectively. The obtained 'F' ratio of 30.85 for adjusted post-test mean was higher than the table value 4.98 for df 2 and 56 for significance at 0.01 level.

To determine which of the paired means had a significant difference, Scheffe's post-hoc test was applied and the results are presented on the Table-2.

Table-2: Scheffe's Post Hoc Test for the differences between the adjusted post-test paired means of explosive power

Adjusted post-test mean			Mean difference	Confidence interval
CG	TMTG	BSTG		
36.589	38.742	-	2.153*	1.492
-	38.742	41.269	2.527*	
36.589	-	41.269	4.680*	

*Significant at 0.05 of confidence.

Table-2 shows that the adjusted post-test mean differences on explosive power between CG & TMTG was 2.153; TMTG & BSTG was 2.527 and CG & BSTG was 4.680 which was higher than the confidence interval value of 1.492 at 0.05 level of confidence. It was concluded that there was significant difference on explosive power between CG & TMTG; TMTG & BSTG and CG & BSTG groups. The comparison of pre, post and adjusted post-test mean values on explosive power between CG; TMTG and BSTG groups are graphically depicted in Fig.1.

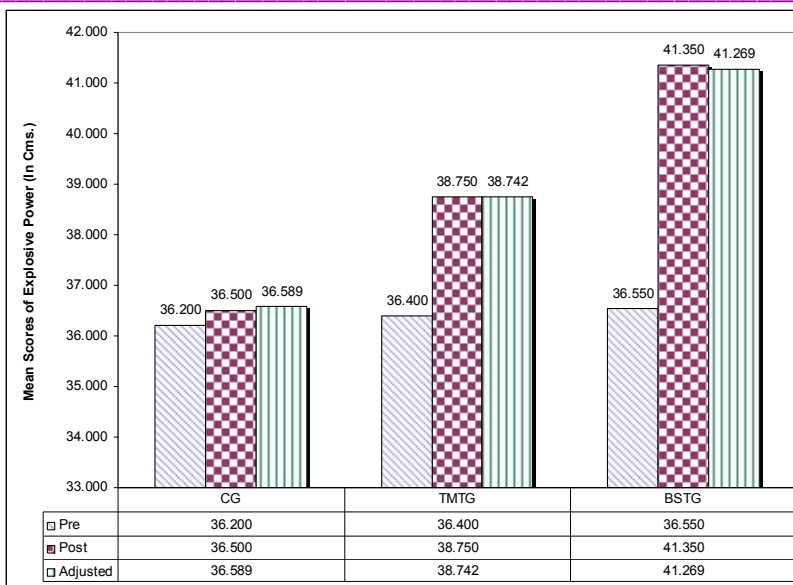


Fig.1: Bar Diagram of Pre, Post and Adjusted Post-test Means on Explosive power between Basketball Specific Training Group; Traditional Method Training Group and Control Group.

VI. DISCUSSION ON RESULTS

The present study evaluated the values of the experimental and control groups namely Basketball Specific Training Group (BSTG), Traditional Method Training Group (TMTG) and Control Group (CG). The BSTG and TMTG significantly improved the explosive power from pre test to post test. The explosive power increased in BSTG group from pre test (36.550 ± 1.877) to post test (41.350 ± 2.033); Traditional Method Training Group from pre test (36.400 ± 1.875) to post test (38.750 ± 2.099), the explosive power significantly improved from pre test to post test in all the two experimental groups with no change in control group.

The present study demonstrated that improvement in explosive power owing to the treatment through BSTG was 13.13%, whereas the improvement of TMTG was 6.46% estimated with vertical jump. In case of Control, no significant improvement (0.83%) was observed. Comparison of adjusted post test mean among the groups showed that BSTG (41.269) and TMTG (38.742) had better improvement in explosive power than Control Group (36.589). The result of the present study is in line with previous studies Gill et. al.; Shaker; Süel (2015) and Yilmaz (2014) found that the aerobic and anaerobic training with specific basketball skills can improve the athlete's explosive power.

VII. CONCLUSION

It was concluded that explosive power is significantly improved by Basketball Specific Training with aerobic and anaerobic training of male Basketball players. The study suggested that coaches and physical educationists should give basketball specific training to enhance the explosive power among Basketball players.

VIII. REFERENCES

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