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Effect of basketball specific training on explosive power among inter-collegiate men basketball players of Mangalore University

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Abstract
The purpose of present study was to find out the effect of Basketball Specific Training on explosive power among intercollegiate men Basketball players of Mangalore University. For this purpose, thirty men basketball players in the age group of 18 - 25 years were selected as subjects. The selected subjects were divided into two equal groups, in which, Group-I: Basketball Specific Training Group (BSTG) (n=15) underwent specific training and Group–II: Control Group (CG) (n=15) acted as control group in which they did not participate in any training but allowed to take part in their regular basketball training and playing programme. The training programme was carried out for this study was five days per week for twelve weeks. Prior to and after the training period the subjects were tested for explosive power. These were assessed by administering Vertical Jump test respectively. The statistical tool used for the present study was 't' test. After applying the 't'test, it was found that there was significant improvement in the selected explosive power for Basketball Specific Training Group when compared with control group. Based on the results it was concluded that the Basketball Specific Training was significantly improved the Explosive power of male basketball players.

Keywords: Basketball specific training, Explosive power

1. Introduction
The game 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. Thus, the player not only gets great enjoyment from the game, but also an opportunity to contribute to the success of the team. The special foul rules of the game are intended to keep this game as a game with no body contact but a game of controlled aggression and confrontations suitable for players of any age and both sexes (Mathewman 1985, Taylor 1989)
In India, the game of basketball started its journey in 1930 when it was played for the first time. The first Indian National Championship for men was conducted in 1934 in New Delhi. The Basketball (BFI), which controls the game in India was formed in 1950. Throughout history, Indians learned to appreciate the game because of its fast scoring and intense activity from the beginning until the end.
Nowadays, it is considered as one of the widely played sports in India. India is one those first few countries in the history of basketball that adopted the game within a few years of its inception and its teams actually consisted of five players on the court.

2. Methodology
To achieve the purpose of this study, 30 Inter collegiate men basketball players were selected from Mangalore University, Mangalore, Karnataka, India. They were divided into two equal groups namely Group-I BSTG (Basketball Specific Training Group) and Group-II CG (Control Group). After assigning the subjects in groups, 't'- test was conducted to assess the explosive power. This was considered as a pre-test. After the pre-test, the Group-I (SBTG) underwent specific basketball training program for training for 12 weeks, and Group-II (CG) did not engage any training. After 12 weeks, post-test was conducted for both groups, and score were recorded accordingly. The collected data was evaluated using 't' test analysis. The proposed hypothesis was tested at 0.05 level of confidence.

3. Analysis of Data
The data collected prior to and after the experimental period on explosive strength of group-I Basketball Specific Training Group; group-II Traditional Training Group and control groups have been statistically analyzed and presented in Table-1.
The table value for significance at 0.05 and 0.01 levels with df 2 and 57 and 2 and 56 are 3.15 and 4.98 respectively.
As shown in Table-1, the pre-test means value of explosive power of Basketball Specific Training Group; Traditional Training Group and Control Group are 21.550; 21.400 and 21.200 respectively. The obtained 'F' ratio of 0.18 for pre-test means is less than the table value 3.15 for df 2 and 57 required for significance at 0.05 level.
The post-test means value of explosive power of Basketball Specific Training Group; Traditional Training Group and Control Group are 26.350; 23.750 and 21.500 respectively. The obtained 'F' ratio of 27.60 on post-test means is greater than the table value 4.98 for df 2 and 57 required for significance at 0.01 level.

Table 1: ANCOVA for the pre-test and post-test data on explosive power (Inch) of Basketball Specific Training Group (BSTG); Traditional Training Group (TTG) and Control Group (CG).

		BSTG	TTG	CG	Source of variance	df	Sum of square	Means square	'F' ratio
Pre-test	Mean	21.550	21.400	21.200	B	2	1.233	0.617	0.18
	S.D.	1.877	1.875	1.735	W	57	190.950	3.350	
Post-test	Mean	26.350	23.750	21.500	B	2	235.633	117.817	27.60
	S.D.	2.033	2.099	2.064	W	57	243.300	4.268	
Adjusted Post-test mean		26.269	23.742	21.589	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(df-2, 57) =3.15; at 0.01(df-2, 57) =4.98
Table value at 0.05(df-2, 56) =3.15; at 0.01(df-2, 56) =4.98
**Significant at 0.01 level; *Significant at 0.05 level; ^{NS}Not Significant

The adjusted post-test means value of explosive power of Basketball Specific Training Group; Traditional Training Group and Control Group are 26.269; 23.742 and 21.589 respectively. The obtained 'F' ratio of 30.85 for adjusted post-test means is higher than the table value 4.98 for df 2 and 56 for significance at 0.01 level.

The results of the study on explosive power indicate that there is a significance difference among the Basketball Specific Training Group; Traditional Training Group and Control Groups. To determine which of the paired means had a significant difference. LSD post-hoc test was applied and the results are presented on the Table-2.

Table 2: LSD Test for the differences between the adjusted post-test paired means of explosive power.

Adjusted post-test mean				
BSTG	**TTG**	**CG**	**Mean difference**	**Confidence interval**
26.269	23.742	-	2.527*	
-	23.742	21.589	2.153*	
26.269	-	21.589	4.680*	

*Significant at 0.05 of confidence.

The table-2 shows that the adjusted post-test means difference on explosive power between Basketball Specific Training Group (BSTG); and Traditional Training Group (TTG) is 2.527; Traditional Training Group (TTG) and Control Group (CG) is 2.153 & Basketball Specific Training Group (BSTG); and Control Group (CG) is 4.680 which are higher than the confidence interval value of 0.195 at 0.05 level of confidence

It may be concluded from the results that there is significant difference on explosive power between Basketball Specific Training Group; and Traditional Training Group (TTG); Traditional Training Group (TTG) and Control Group (CG) & Basketball Specific Training Group (BSTG); and Control Group (CG).

The comparison of pre, post and adjusted post-test mean values on explosive power between Basketball Specific Training Group; Traditional Training Group and Control Group are graphically depicted in Fig.1.

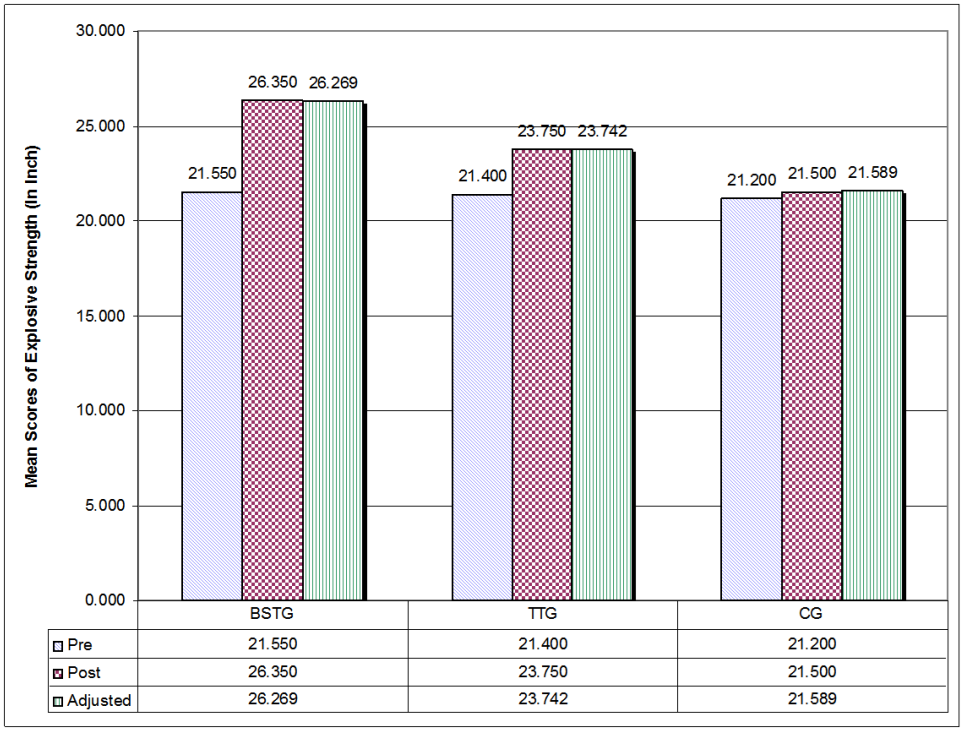

Fig 1: Bar Diagram of Pre, Post and Adjusted Post-test Means on Explosive power between Basketball Specific Training Group; Traditional Training Group and Control Group.

4. Discussion on Findings

The present study find out the effect of Basketball Specific Training programme on explosive power of Mangalore University Basketball men players after administration of test for collection and data and appropriate statistical analysis. The researcher has made an attempt to discuss the findings based on the obtained results. The researcher examined the effect of basketball specific exercises on explosive power of basketball players. The results found that specific exercises improved selected criterion variable. This may be due to subjects participated in a specific basketball training programme such as jumping exercises.

5. Conclusion

Hence, it was concluded from the results of the study, that twelve week basketball specific training schedule is efficient enough to improve explosive power ability.

6. Reference

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