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Effect of Varied Packages of Combination Training on Field Goal Speed of Men Basketball Players

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Abstract – The present study was undertaken to analyze the effect of varied packages of combination training on field goal speed of basketball players. Total N=48, inter collegiate level participated men basketball players chosen from National Institute of Technology, Tadepalligudem, Andhra Pradesh, India. Their age ranged from 18-25 years. The basket players chosen for the study were divided into four equal groups n=12 and designated as experimental group 'A' experimental group 'B' experimental group 'C' and control group 'D'. combined weight - plyometric training [Package I]were given to group 'A' combined plyometric - speed training [Package II]were given to group 'B' combined basketball training with yoga practice treatment [Package III] were given to group 'C' and the 'CG' control group 'D' were restricted to participate in any activities. The trainings were given for a period of twelve weeks. The data were collected before and after the training on field goal speed through Johnson basketball test. The obtained data's were analyzed by Analysis of Covariance (ANCOVA). The level of significant was fixed at 0.05 levels. The results of the study showed that training Package I, II, & III significantly increased self field goal speed of the basketball players when comparative with control group. The fore there is no significant differences found between three experimental groups' basketball players.

Keywords – Plyometric, Speed, Weight, Yoga, Basketball, Goal, Speed

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INTRODUCTION

Basket ball is game, basically aerobic and anaerobic in activity. Basket ball game stands as the third fastest game played in short court surfaces and played with continuous flow of movements. Basketball specific training can enhance the performance of physical abilities, physiological and skill related performance parameters of basketball players. Sports specific training is in need to all about developing performance and skills (Ponkumar and Kaleewaran 2017).

Basketball also involves many lateral movements and jumps in game, squatting and sinking, which require strong leg muscles and stability of the core. Strength training using weights to perform squat or leg curl allows you to build quadriceps and strong calves muscles of legs. Finally you can build the strength of the core with core exercises (Ashutosh 2019).). Plyometric exercises induce neuromuscular adaptations to the stretch reflex, elasticity of the muscle and golgi tendon organs of muscles. Muscle action of eccentric to concentric or deceleration to rapid acceleration is known as Stretch-Shortening Cycle (Nicole 2004). Asanam- the posture of the body. The posture should be stable and easy. Asana discipline the body, but they are not without any effect on mind: and in turn, the mind affects the body. This interdependency needs to be considered. Thus an individual can accept the full responsibility for their mental – emotion reactions, as well as for the development of their body, i.e., interdependence of body and mind. The lotus, the sitting, heron, elephant, camel, snake, fish, peacock etc., are all poised and steady (Mrunalini 2015).

STATEMENT OF THE PROBLEM:

The purpose of the study was to investigate the "Effect of varied packages of combination training on field goal speed of basketball players"

HYPOTHESIS:

- It was hypothesis that there will be a significant increase number on field goal speed of basketball players with the impact of combined weight - plyometric training,

combined plyometric - speed training and combined basketball training with yoga practice treatment when compared with control group basketball players.

- It was hypothesis that combined basketball training with yoga practice treatment would be superior to combined weight - plyometric training and combined plyometric - speed training

METHODOLOGY:

The purpose of this study was to find out the effect of effect of varied packages of combination training on field goal speed of basketball players. To achieve the purpose of this study investigator has selected Total N=48, inter collegiate level participated men basketball players chosen from National Institute of Technology, Tadepalligudem, Andhra Pradesh, India .Their age ranged from 18-25 years. The basket players chosen for the study were divided into four equal groups n=12 and designated as experimental group 'A' experimental group 'B' experimental group 'C' and control group 'D'. combined weight - plyometric training [Package I] were given to group 'A' combined plyometric - speed training [Package II]were given to group 'B' combined basketball training with yoga practice treatment [Package III] were given to group 'C' and the 'CG' control group 'D' were restricted to participate in any activities. The trainings were given for a period of twelve weeks. The data were collected before and after the training on field goal speed through Johnson basketball test. The obtained data's were analyzed by Analysis of Covariance (ANCOVA). The level of significant was fixed at 0.05 levels. The analysis of data on self concept have been examine by ANCOVA in order to determine the differences if any among the group at pre and posttest.

Table – I

Analysis of Covariance for Field Goal Speed on Pre Test and Post Test Data of Three Experimental groups and Control Groups basketball players (In Numbers)

Tests	CWTPTGBP GROUP	CPTSTGBP GROUP	CBTYPBP GROUP	CONG GROUP	Source of variance	Sum of Squares	df	Mean Squares	'F' Ratio
Pre Test Mean	18.00	18.01	17.91	18.91	B	8.08	3	2.69	2.05
SD	1.20	1.21	1.24	0.90	W	57.83	44	1.31	
Post Test Mean	23.50	23.50	25.50	17.58	B	424.08	3	141.36	119.99*
SD	1.00	0.90	0.90	1.44	W	51.83	44	1.17	
Adjusted Post Test Mean	23.53	23.61	25.54	17.47	B	389.94	3	129.98	110.88*
					W	50.40	43	1.17	

Table F-ratio at 0.05 level of confidence for 3 and 44 (df) =2.83, 3 and 43 (df) =2.83
*Significant

The above table-I shows that there is a significant difference on self concept level among the four groups such as combined weight - plyometric training [CWTPTGBPG], combined plyometric - speed training [CPTSTGBPG], combined basketball training with yoga practice treatment [CBTYPBPG] and control group (CONG). Since the calculated 'F' value required being significant at 0.05 levels for 3, 44 d/f and 3, 43 are 2.83 and 2.83, but the calculated values of self concept level for post and adjusted posttest 'F' values are 119.99 and 110.88 respectively. Which are higher than the tabulated value? Since the obtained 'F' ratio is found significant.

Table – II

The Scheffes Test for the Mean Differences between Paired Mean of Groups on Field Goal Speed

Mean Values				Mean difference	CI
CWTPTGBP GROUP	CPTSTGBP GROUP	CBTYPBP GROUP	CONG GROUP		
23.53	23.61	-		0.12	
23.53	-	25.54		2.01*	
23.53	-	-	17.47	5.06*	1.28*
	23.61	25.54	-	1.93*	
	23.61	-	17.47	6.14*	
	-	25.54	17.47	8.07*	

Significant

The above table shows that there existed significant differences between the adjusted means of combined weight - plyometric training group basketball players [CWTPTGBP] and Combined Basketball training with yoga practice treatment [CBTYPBP], combined weight - plyometric training group basketball players [CWTPTGBP] and control basketball players group [CONG], Combined Basketball training with yoga practice treatment [CBTYPBP] and Combined Plyometric - speed training group basketball players [CPTSTGBP], Combined Plyometric - speed training group basketball players [CPTSTGBP] and control basketball players group [CONG], Combined Basketball training with yoga practice treatment [CBTYPBP] and control basketball players group [CONG]. Whereas calculated mean difference values 2.01, 5.06, 1.93, 6.14 and 8.07 higher than CI value 1.28.

There was no significant difference between combined weight - plyometric training group basketball players [CWTPTGBP] and Combined Plyometric - speed training group basketball players [CPTSTGBP]. Whereas calculated mean difference values 0.12 lower than CI value 1.28.

The pre scores in centimeters means values, post score in centimeters means values and adjusted means values in numbers on field goal speed were presented through bar diagram for better understanding of the results of this study in Figure -I.

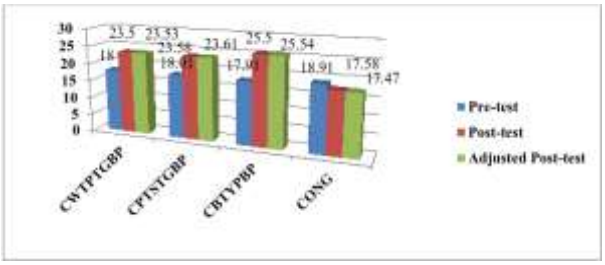

Figure 1: Graphical Illustration Showing the Pre-Test Post-Test and Adjusted Post-Test Mean Values on field goal speed.

DISCUSSION ON HYPOTHESIS:

- In the first hypothesis it was stated that there will be a significant increase on field goal speed of basketball players with the impact of combined weight - plyometric training, combined plyometric - speed training and combined basketball training with yoga practice treatment when compared with control group basketball players. The result of the study found that experimental group's basketball players field goal speed improved when compared with control group. Hence the research hypothesis is accepted.

- In second hypothesis mention that combined basketball training with yoga practice treatment would be superior to combined weight - plyometric training and combined plyometric - speed training. The result found that combined basketball training with yoga practice treatment was superior to combined weight - plyometric training, combined plyometric - speed training in improving field goal speed. Hence the research hypothesis is accepted.

DISCUSSION AND FINDINGS:

The research study found that Basketball skill related performance variables namely field goal speed**,** basketball throw for accuracy and basketballs dribble of Basketball players improved with the impact of Combined weight - plyometric training treatment [Package I], Combined Plyometric - speed training treatment [Package II] and Combined Basketball training with yoga practice treatment [Package III]. The supportive studies related to basketball skill related performance variables result were Parimalam and Pushparajan (2014) study observed that 12-weeks of Basketball specific training such as skill related drills and specific skill practices had develop the agility, explosive power, dribbling ability and overall performance of women basketball players. Joji Vargheese and Shelvam (2015) study result reveals that 12-weeks of resistance training significantly improved passing ability of basketball players. Pramod (2019) observed that intervention for six weeks Yoga plus basketball training are effective in improving agility, flexibility, muscular strength, power, speed, passing accuracy, shooting ability, and dribbling of novice basketball players. Akila (2016) result derived from training that playing ability of basketball players positively improved with Isolated and combined basketball skill training and yoga training. Sertac (2018) study found that physical fitness and mental hardness training positively improved the performance of elite basketball players. Shiv et al., (2012) study found that inclusive plyomeric training drills to experimental group basketball players had higher improvement in throwing ability in compression to control group basketball players..

CONCLUSIONS:

It was concluded that 12-weeks of combined basketball training with yoga practice treatment was more effective than combined weight - plyometric training and combined plyometric - speed training to score more goals in basketball field goal speed test. Whereas there is no significant difference found between combined weight - plyometric training and combined plyometric - speed training in field goal speed test.

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