

COMPARATIVE EFFECT OF PLYOMETRIC TRAINING YOGIC EXERCISES AND GAME SPECIFIC TRAINING ON SELECTED PHYSICAL FITNESS VARIABLES AMONG COLLEGE MEN VOLLEYBALL PLAYERS

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Abstract

The purpose of the study was to compare the effects of plyometric training, yogic exercises and games specific training on selected physical fitness variables of men volleyball players. To achieve the purpose of the study, totally sixty college men volleyball players were selected as subjects. In that, 15 players each selected from SACS MAVMM Engineering College, Vaigai College of Engineering, Latha Mathavan Engineering College and Vellammal College of Engineering and Technology, Madurai, Tamilnadu, India and their age ranged from 17 to 23 years. The subjects were divided into four equal groups of fifteen men volleyball players each. Group I acted as Experimental Group I (Plyometric training), Group II acted as Experimental Group II (Yogic exercises), Group III acted as Experimental Group III (Game-specific training) Group IV acted as and Control Group. The duration of experimental period was 12 weeks. The pre test and post test scores were subjected to statistical analysis using Analysis of Covariance (ANCOVA) to find out the significance among the mean differences, whenever the 'F' ratio for adjusted test was found to be significant; Scheffe's post hoc test was used. In all cases 0.05 level of confidence was fixed to test hypotheses. In comparing the effect of experimental groups on speed and agility from the obtained f-ratios, it was observed that all the groups produced similar effect.

Key Words: Plyometric Training, Yogic Exercises, Game Specific Training, Volleyball.

Introduction

Plyometrics alludes to practice that empowers a muscle to achieve most extreme power in the briefest conceivable time. With a concentric muscle development, the muscle abbreviates while it contracts. With an offbeat muscle compression, the muscle protracts while it is applying power. The muscle is stacked with a whimsical (extending) activity, pursued quickly by a concentric (shortening) activity. A muscle that is extended before a concentric constriction, will contract all the more mightily and all the more quickly. An exemplary model is a plunge only preceding a vertical hop. By bringing down the focal point of gravity rapidly, the muscles engaged with the hop are quickly extended delivering an all the more dominant development (Chu, 1998).

Yoga can be rehearsed by all ages and it very well may be taken up at any phase of life. It is never past the point where it is possible to start. Through yoga one can make the progress of life. The reality, yoga assumes a significant job for lessening pressure, strain and tension of basic to all just as players. Mostly the pressure and uneasiness assume a significant job in sports, as these are a vital piece of the "inspiration for pinnacle performance". In later aggressive circumstance, force huge pressure and strains on players while pointing of winning an award. The abnormal state of sports nervousness exasperates body mindfulness and influence physiological capacities which oppose the smooth development of muscles, joints and so on. Different types of yogic exercise increase the flexibility of back, spine, hip, improve the concentration and balancing ability, improve the efficiency of liver and digestive system, cure the neurosis and cardiac diseases, remove the blood pressure problems, strengthen the back and shoulder muscles, improve breath and release the mental tension and centering emotions of the sportsmen, which are the main essentials related to the performance of the players in different games and sports of immense use in improving the sense of aesthetics in sports. Yoga can contribute to enhance the aesthetic aspects. So that players improves ease in movements and skill performance. Sports specific training can improve quality, adaptability and stamina whereby the players can improve his presentation in specific sports. For this particular training is deprived to about creating physical molding to improve execution and aptitudes at a specific game. Likewise, understanding the necessities of the game at the right pace so as to meet sports prerequisites. Sports specific is the new pattern with regards to quality and molding programs for competitors.

Methodology

The purpose of the study was to compare the effects of plyometric training, yogic exercises and games specific training on selected physical fitness variables of men volleyball players. To achieve the purpose of the study, totally sixty college men volleyball players were selected as subjects. In that, 15 players each selected from SACS MAVMM Engineering College, Vaigai College of Engineering, Latha Mathavan Engineering College and Vellammal College of Engineering and Technology, Madurai, Tamilnadu, India and their age ranged from 17 to 23 years. The subjects were divided into four equal groups of fifteen men volleyball players each.

Group I acted as Experimental Group I (Plyometric training), Group II acted as Experimental Group II (Yogic exercises), Group III acted as Experimental Group III (Game-specific training) Group IV acted as and Control Group. The duration of experimental period was 12 weeks. The pre test and post test scores were subjected to statistical analysis using Analysis of Covariance (ANCOVA) to find out the significance among the mean differences, whenever the 'F' ratio for adjusted test was found to be significant; Scheffe's post hoc test was used. In all cases 0.05 level of confidence was fixed to test hypotheses.

Results

TABLE - I

COMPUTATION OF ANALYSIS OF COVARIANCE OF PLYOMETRIC TRAINING YOGIC EXERCISES GAME-SPECIFIC TRAINING AND CONTROL GROUPS ON SPEED (in Seconds)

	PT G	YE G	GST G	CG	Source of Varianc e	Sum of Square s	df	Means Square s	F- ratio
Pre-Test Means	7.08	7.02	7.05	7.00	BG	0.056	3	0.019	1.04
					WG	1.003	56	0.018	
Post-Test Means	6.74	6.76	6.75	6.98	BG	0.603	3	0.201	4.37*
					WG	2.573	56	0.046	
Adjusted Post-Test Means	6.73	6.76	6.75	6.99	BG	0.666	3	0.222	4.91*
					WG	2.483	55	0.045	

An examination of table - I indicated that the pre test means of plyometric training, yogic exercises, game-specific training and control groups were 7.08, 7.02, 7.05 and 7.00 respectively. The obtained F-ratio for the pre-test was 1.04 and the table F-ratio was 2.76. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 3 and 56. This established that there were no significant difference between the experimental and control groups indicating that the procedure of randomization of the groups was ideal while conveying the subjects to groups. The post-test means of the plyometric training, yogic exercises, game-specific

training and control groups were 6.74, 6.76, 6.75 and 6.98 respectively. The obtained F-ratio for the post-test was 4.37 and the table F-ratio was 2.76. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 3 and 56. This proved that the differences between the post test means of the subjects were significant. The adjusted post-test means of the plyometric training, yogic exercises, game-specific training and control groups were 6.73, 6.76, 6.75 and 6.99 respectively. The obtained F-ratio for the adjusted post-test means was 4.91 and the table F-ratio was 2.77. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 3 and 55. This proved that there was a significant difference among the means due to the experimental trainings on speed. Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table-II.

TABLE – II
THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE
ADJUSTED POST TEST MEANS ON SPEED

Adjusted Post-Test Means				Mean Difference	Confidence Interval
PTG	YEG	GSTG	CG		
6.73	6.76	---	---	0.03	0.22
6.73	---	6.75	---	0.02	
6.73	---	---	6.99	0.26*	
---	6.76	6.75	---	0.01	
---	6.76	---	6.99	0.23*	
---	---	6.75	6.99	0.24*	

* *Significant at 0.05 level of confidence*

The multiple comparisons showed in Table II proved that there existed significant differences between the adjusted means of plyometric training and control group (0.26), yogic exercises and control group (0.23), game specific training group and control group (0.24). There was no significant difference between plyometric training and yogic exercises (0.21), plyometric training and game specific training group (0.64) and yogic exercises and game specific training group (0.02) at 0.05 level of confidence with the confidence interval value of 0.22.

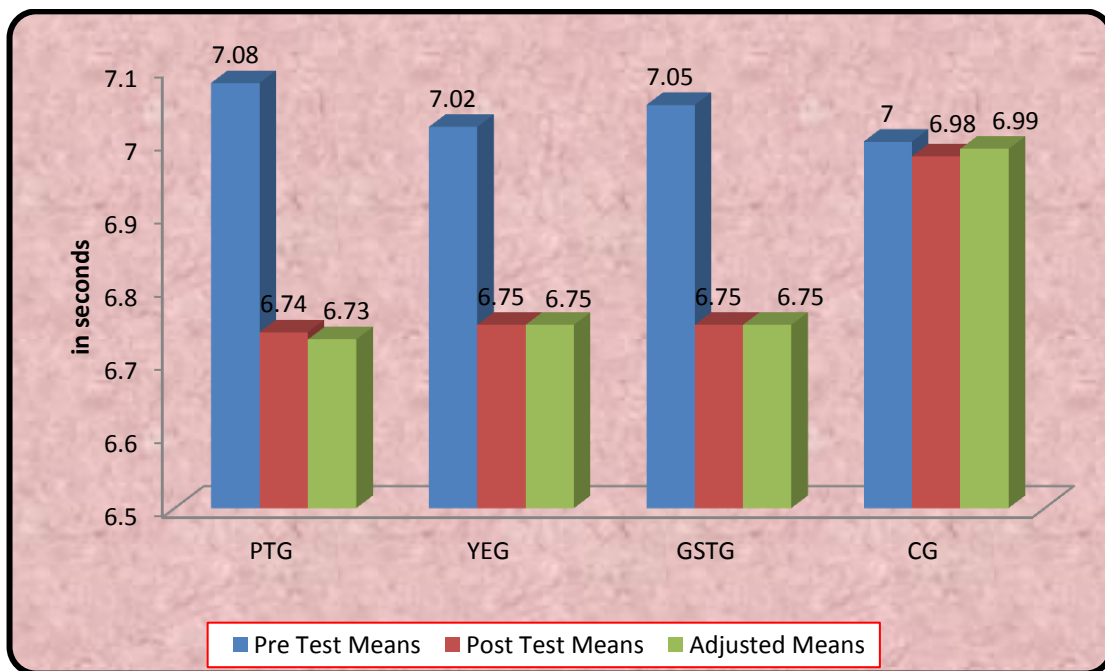


FIGURE - I

PRE POST AND ADJUSTED POST TEST DIFFERENCES OF THE, PLYOMETRIC TRAINING YOGIC EXERCISES GAME-SPECIFIC TRAINING AND CONTROL GROUPS ON SPEED

TABLE - III

COMPUTATION OF ANALYSIS OF COVARIANCE OF PLYOMETRIC TRAINING YOGIC EXERCISES GAME-SPECIFIC TRAINING AND CONTROL GROUPS ON AGILITY (in Seconds)

	PTG	YEG	GSTG	CG	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	11.21	11.16	11.19	11.18	BG	0.014	3	0.005	1.15
					WG	0.234	56	0.004	
Post-Test Means	10.94	10.93	10.92	11.17	BG	0.666	3	0.222	16.00*
					WG	0.777	56	0.014	
Adjusted Post-Test Means	10.94	10.93	10.92	11.17	BG	0.669	3	0.223	16.12*
					WG	0.761	55	0.014	

An examination of table - III indicated that the pre test means of plyometric training, yogic exercises, game-specific training and control groups were 11.21, 11.16, 11.19 and 11.18 respectively. The obtained F-ratio for the pre-test was 1.15 and the table F-ratio was 2.76. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 3 and 56. This established that there were no significant difference between the experimental and control groups indicating that the procedure of randomization of the groups was ideal while conveying the subjects to groups. The post-test means of the plyometric training, yogic exercises, game-specific training and control groups were 10.94, 10.93, 10.92 and 11.17 respectively. The obtained F-ratio for the post-test was 16.00 and the table F-ratio was 2.76. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 3 and 56. This proved that the differences between the post test means of the subjects were significant. The adjusted post-test means of the plyometric training, yogic exercises, game-specific training and control groups were 10.94, 10.93, 10.92 and 11.17 respectively. The obtained F-ratio for the adjusted post-test means was 16.12 and the table F-ratio was 2.77. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 3 and 55. This proved that there was a significant difference among the means due to the experimental trainings on agility. Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table-IV.

TABLE – IV
THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE
ADJUSTED POST TEST MEANS ON AGILITY

Adjusted Post-Test Means				Mean Difference	Confidence Interval
PTG	YEG	GSTG	CG		
10.94	10.93	---	---	0.01	0.12
10.94	---	10.92	---	0.02	
10.94	---	---	11.17	0.23*	
---	10.93	10.92	---	0.01	
---	10.93	---	11.17	0.24*	
---	---	10.92	11.17	0.25*	

* *Significant at 0.05 level of confidence*

The multiple comparisons showed in Table IV proved that there existed significant differences between the adjusted means of plyometric training and control group (0.23), yogic exercises and control group (0.24), game specific training group and control group (0.25). There was no significant difference between plyometric training and yogic exercises (0.01), plyometric training and game specific training group (0.02) and yogic exercises and game specific training group (0.01) at 0.05 level of confidence with the confidence interval value of 0.12.

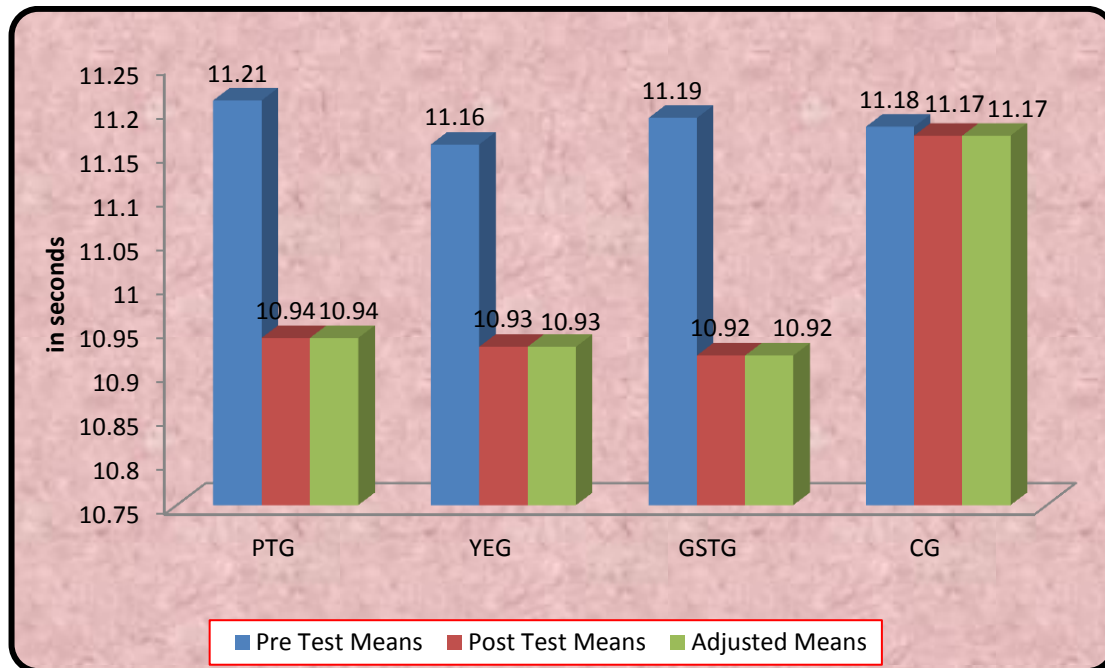


FIGURE - II
PRE POST AND ADJUSTED POST TEST DIFFERENCES OF THE,
PLYOMETRIC TRAINING YOGIC EXERCISES GAME-SPECIFIC
TRAINING AND CONTROL GROUPS ON
AGILITY

Conclusion

1. The significant mean difference does not exist among all the four groups in the pre test on speed and agility.
2. The significant mean difference exist among all the four groups in the post test on speed and agility. In testing the post adjusted mean among the four groups also predicts the above result.
3. In comparing the effect of experimental groups on speed and agility from the obtained f-ratios, it was observed that all the groups produced similar effect.

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