



EFFICACY OF YOGIC PRACTICE WITH COMBINED PLYOMETRIC AND RESISTANCE TRAINING ON EXPLOSIVE POWER AMONG WOMEN VOLLEYBALL PLAYERS

C. KALA¹ & Dr. D. GOKULAKRISHNAN²

¹Ph.D., Research Scholar, Research and Development Centre, Bharathiar University, Coimbatore, Tamilnadu, India.

²Physical Director, SSM Polytechnic College, Komarapalayam, Namakkal, Tamilnadu, India.

ABSTRACT

The purpose of the study was to find out the effect of yogic practices with resistance training and yogic practices with plyometric training on explosive power among volleyball players. To achieve the purpose of the present study, forty five women volleyball players from Vivekanandha College for Women, Elayampalayam, Tiruchengode, Tamilnadu, India was selected as subjects at random and their ages ranged from 18 to 25 years. The subjects (N=45) were randomly assigned to three equal groups of fifteen subjects each. The requirement of the experiment procedures, testing as well as exercise schedule was explained to the subjects so as to get full co-operation of the effort required on their part and prior to the administration of the study. Pre test was conducted for all the subjects on explosive power. This initial test scores formed as pre test scores of the subjects. The groups were assigned as Experimental Group I, Experimental Group II and Experimental Group III in an equivalent manner. Experimental Group I was exposed to yogic practices with plyometric training, Experimental Group II was exposed to yogic practices with resistance training and Experimental Group III was exposed to yogic practices with combined plyometric and resistance training. The duration of experimental period was 12 weeks. After the experimental treatment, all the forty five subjects were tested on their physical, physiological and psychological variables. This final test scores formed as post test scores of the subjects. The pre test and post test scores were subjected to statistical analysis using dependant 't' test and 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 significance was fixed to test hypotheses. The yogic practice with combined plyometric and resistance training improved explosive power better than the yogic practice with plyometric training and yogic practice with resistance training on explosive power among women volleyball players.

KEYWORDS: Yogic Practices, Plyometric, Resistance, Volleyball.

INTRODUCTION

Yoga is a most antiquated framework or instruction, in view of a higher philosophical learning and an otherworldly idea of man, for the agreeable improvement of the body and psyche. It perceives the need of creating sound, essential and all around controlled body for the achievement of a high request of mental life. While, wellbeing is a condition of life form in which all organs work uninterruptedly and overwhelmingly and in full co-operation with each other for a more extended survival and the best improvement of the body. It causes the man to express his best through his savvy person, good, otherworldly and physical exercises. An imperative body and dynamic personality are personally connected with essential wellbeing when wellbeing is built up, the body turns into a fitter machine, additionally persisting ,

all the more capable better created and better controlled, the mine winds up plainly ready, more inventive better adjusted and more pondering and the feelings more standardized.

Resistance training is a sort of physical exercise gaining practical experience in the utilization of imperviousness to actuate strong compression which assembles the quality, anaerobic continuance, and size of skeletal muscles. At the point when legitimately performed, resistance preparing can manage the cost of critical utilitarian advantages and change in general wellbeing and prosperity, including expanded bone, muscle, ligament and tendon quality and strength, enhanced joint capacity, diminished potential for damage, expanded bone thickness, expanded digestion, expanded wellness, enhanced heart work, and enhanced lipoprotein lipid profiles, including

raised HDL ("great") cholesterol. Preparing ordinarily utilizes the strategy of continuously expanding the power yield of the muscle through incremental weight increments and utilizations an assortment of activities and sorts of hardware to target particular muscle gatherings. Quality preparing is basically an anaerobic movement, albeit a few defenders have adjusted it to give the advantages of vigorous exercise through high-intensity aerobics.

Plyometric training is control change exercises outlined particularly for competitors and propelled exercisers who have a very much molded body. Preparing with this method of activity increment strong quality and enhance a particular aptitude whether it is to hop higher, bounce longer, toss more remote or hit harder. Methodical plyometric practices take after a particular example of muscle constrictions. These activities utilize developments that build up the capacity to produce a lot of power rapidly. The most widely recognized activities from common exercisers for this sort are bouncing rope, hopping jacks, tossing and getting ball on divider, and boxing with a punching sack. These are generally rehearsed under supervision by wellness specialists or by competitors' mentors. There are methods and standards to take after when preparing with plyometrics particularly on the off chance that you are preparing for a particular game.

METHODOLOGY

The purpose of the study was to find out the effect of yogic practices with resistance training and yogic practices with plyometric training on explosive power among volleyball players. To achieve the purpose of the present study, forty five

women volleyball players from Vivekanandha College for Women, Elayampalayam, Tiruchengode, Tamilnadu, India was selected as subjects at random and their ages ranged from 18 to 25 years. The subjects (N=45) were randomly assigned to three equal groups of fifteen subjects each. The requirement of the experiment procedures, testing as well as exercise schedule was explained to the subjects so as to get full co-operation of the effort required on their part and prior to the administration of the study. Pre test was conducted for all the subjects on explosive power. This initial test scores formed as pre test scores of the subjects. The groups were assigned as Experimental Group I, Experimental Group II and Experimental Group I, Experimental Group III in an equivalent manner. Experimental Group I was exposed to yogic practices with plyometric training, Experimental Group II was exposed to yogic practices with resistance training and Experimental Group III was exposed to yogic practices with combined plyometric and resistance training. The duration of experimental period was 12 weeks. After the experimental treatment, all the forty five subjects were tested on their physical, physiological and psychological variables. This final test scores formed as post test scores of the subjects. The pre test and post test scores were subjected to statistical analysis using dependant 't' test and 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 significance was fixed to test hypotheses.

RESULTS

TABLE I
COMPUTATION OF ANALYSIS OF COVARIANCE OF MEAN OF YOGIC PRACTICES WITH PLYOMETRIC TRAINING, YOGIC PRACTICES WITH RESISTANCE TRAINING AND YOGIC PRACTICES WITH COMBINED PLYOMETRIC AND RESISTANCE TRAINING GROUP ON EXPLOSIVE POWER

	YPWPTG	YPWRTG	YPWCPRTG	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	23.98	24.35	24.30	BG	1.19	2	0.59	0.83
				WG	30.22	42	0.72	
Post-Test Means	28.00	28.08	30.86	BG	79.37	2	39.68	122.48*
				WG	13.60	42	0.32	
Adjusted Post-Test Means	28.01	28.07	30.85	BG	78.65	2	39.32	118.65*
				WG	13.58	41	0.33	

An examination of table - I indicated that the pre test means of yogic practices with plyometric training, yogic practices with resistance training and yogic practices with combined plyometric and resistance training group were 23.98, 24.35 and 24.30 respectively. The obtained F-ratio for the pre-test was 0.83 and the table F-ratio was 3.22. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that there were no significant difference between the experimental and yogic practices with combined plyometric and resistance training group indicating that the process of randomization of the groups was perfect while assigning the subjects to groups. The post-test means of the yogic practices with plyometric training, yogic practices with resistance training and yogic practices with combined plyometric and resistance training group were 28.00, 28.08 and 28.07 respectively. The obtained F-ratio for the post-test was 122.48 and the table F-

ratio was 3.22. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that the differences between the post test means of the subjects were significant. The adjusted post-test means of the yogic practices with plyometric training, yogic practices with resistance training and yogic practices with combined plyometric and resistance training group were 28.01, 28.07 and 30.85 respectively. The obtained F-ratio for the adjusted post-test means was 118.65 and the table F-ratio was 3.23. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41. This proved that there was a significant difference among the means due to the experimental trainings on explosive power. 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 PAIRED MEANS ON EXPLOSIVE POWER

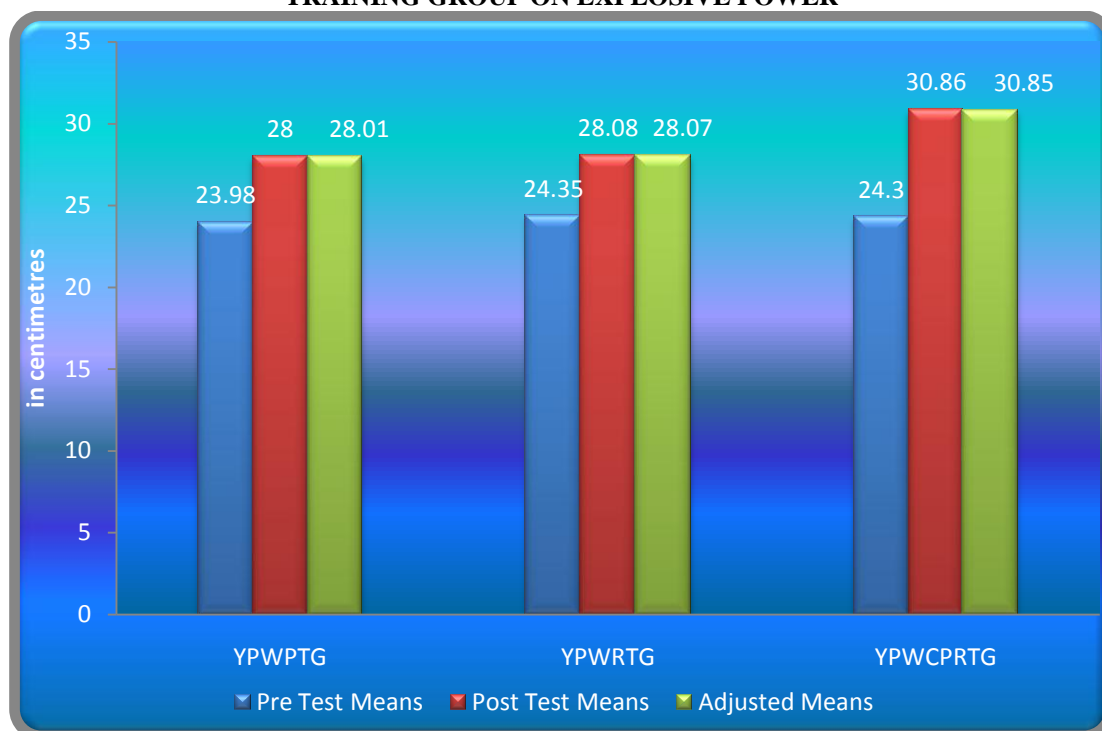
Adjusted Post-test means			Mean Difference	Required CI
YPWPTG	YPWRTG	YPWCPRTG		
28.01	28.07	---	0.07	0.53
28.01	---	30.85	2.84	
---	28.07	30.85	2.78	

*** 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 yogic practices with resistance training with yogic practices with combined plyometric and resistance training group (1.12), yogic practices with plyometric training with yogic practices with combined plyometric and resistance training group

(0.81). There was no significant difference between yogic practices with resistance training and yogic practices with plyometric training (0.31) at 0.05 level of confidence with the confidence interval value of 0.53. The pre, post and adjusted means on explosive power were presented through bar diagram for better understanding of the results of this study in Figure I.

FIGURE I
PRE POST AND ADJUSTED POST TEST DIFFERENCES OF THE, YOGIC PRACTICES WITH PLYOMETRIC TRAINING, YOGIC PRACTICES WITH RESISTANCE TRAINING AND YOGIC PRACTICES WITH COMBINED PLYOMETRIC AND RESISTANCE TRAINING GROUP ON EXPLOSIVE POWER



CONCLUSION

From the analysis of the data, the following conclusions were drawn:

1. The yogic practice with plyometric training improved the explosive power among women volleyball players.
2. The yogic practice with resistance training improved the explosive power among women volleyball players.
3. The yogic practice combined with plyometric and resistance training improved the explosive power among women volleyball players.
4. The yogic practice with combined plyometric and resistance training improved explosive power better than the yogic practice with plyometric training and yogic practice with resistance training on explosive power among women volleyball players.

REFERENCES

1. Ashok, K. R., Balamurugan, B. & Karthik, R. V. (2012). Combined Effect of Plyometric Training and Skill Training on the Development of Fitness Related Parameters and Skill Performance variables among Male Volleyball Players. *International Journal of Health, Physical Education and Computer Science in Sports*, 8, 1.15-17.
2. Baechle, T.R. (1994). *Essentials of Strength Training and Conditioning*. Champaign, IL: Human Kinetics.
3. Barrow, H. M. & McGee, R. M. (1979). *A Practical Approach to Measurement in Physical Education*, Philadelphia: Lea andFebiger, p. 1.
4. Blair, I. C. (1990). *The Promise of Plyometrics*. Martial Arts Training.
5. Chu, Dorald, A. (1996). *Explosive Power and Strength: Complex Training for Maximum Strength*. 2nd Edition. Human Kinetics Publishers, Inc. United States.
6. Chu, Dorald, A. (1998). *Jumping Into Plyometrics*. 2nd Edition. Chicago, IL: Human Kinetics Publishers, Inc. United States.
7. ChunduVenkata Rao, & Kishore, Y. (2014). Combined Effect of Strength and Plyometric Training Programme on Selected Motor Fitness Components of Male Kabaddi Players. *International Journal of Recent Research and Applied Studies*, 2 (11), 43-45.
8. Gobikrishnan, S. Rajendran, K. & Murugavel, K. (2014). Influence of Isotonic and Isometric Strength Training on Selected Physical Fitness Variables among College Football Players. *International Journal of Recent Research and Applied Studies*, 1, 3(17), 65 - 71.
9. Lakshmikrishnan, R. & Sivakumar., K. (2014). Effect of Weight Training and Plyometric

- Training on Explosive Power and Speed. International Journal of Recent Research and Applied Studies, 2 (4), 16 -18.
10. Manikandan, S. (2014). Effect of conventional resistance training on selected Motor components among University Athletes. International Journal of Physical Education, Sports and Health, 1(1): 23-25.
 11. Manikandan, S. (2014). Effect of Different Intensities of Resistance Training on Selected Strength Parameters among Men Handball Players. International Journal of Physical Education, Sports and Health, 1(2): 09-11.
 12. Karthikeyan, P. (2014). Effects of Varied Loads of Resistance Training on Selected Strength Parameters. International Journal of Recent Research and Applied Studies, 1 (13), 48 - 51.