International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 07 Issue: 04 | April - 2023 Impact Factor: 8.176 ISSN: 2582-3930

THE EFFECTS OF PRE-SEASON TRAINING PACKAGE ON SELECTED SKILL PERFORMANCE VARIABLES OF BADMINTON PLAYERS

Dr. Prabhakar Reddy Thumma

Associate Professor, Department of Physical Education, Indira Gandhi National Tribal University, Regional Campus Manipur, Imphal, Manipur

ABSTRACT:

Badminton is a very simple and an easy game to learn. With a little practice, one can become an outstanding player of this game. One has to hit the shuttlecock in such a way that it crosses the net and reaches on other side of the court. Main aim of every player is to serve or return the shuttle in such a way that the opponent player finds it difficult to hit it. For this study, thirty inter-collegiate men badminton players were selected as subjects. They were selected from Sports Authority of Manipur (SAM) Badminton Academy, Imphal, Manipur. The age of the subjects ranged from 16 to 19 years. Independent variables are Specific pre-season training (ST) and Traditional training (TT), Dependent variables are Short serve and Long serve. Short serve was measured by French short service test and Long serve was measured by Poole long service test. The subjects were tested for short serve and long serve Twelve weeks of intervention was given to the specific pre-season training group and to the traditional training group. The ultimate goal of the researcher was to examine the significant differences between the specific pre-season training and traditional training to improve the selected skill performance variables of badminton players. The results on short serve and long serve showed that there were significant effects due to the influence of specific pre-season training (ST) and traditional training (TT).

INTRODUCTION:

The developing tendencies in international sports, especially in team games are identified as the increase in game tempo, tougher body game and greater variability in technique and tactics. An increased performance level can only be achieved by working and training of all major components i.e. technique, coordination, tactics, physical fitness, physiological qualities and psychological qualities **(Srinivasan M, 2012).** Badminton is a very simple and an easy game to learn. With a little practice, one can become an outstanding player of this game. One has to hit the shuttlecock in such a way that it crosses the net and

reaches on other side of the court. Main aim of every player is to serve or return the shuttle in such a way that the opponent player finds it difficult to hit it. In this manner, this game becomes very enjoyable and full of excitement. Thus, basic equipment a player uses is a racket, shuttlecock and the net **(PriyankaNarang, 2001).**

Badminton needs technical ability which is the proper execution of a variety of strokes such as drop, clear, smash, receive, and drive and so on. It also demands tactical ability and judgment in selecting the appropriate stroke for a certain situation, and strong physical and mental strength which can sustain the athlete until the end of the match **(Han-Kook Sung, & Yeon-Ja Kim, 2001).**

Sport training is the total process of preparation of a sportsman, through different means and forms for better performance. Sports performance is the result and expression of the total personality of the sportsman. The educational aspect of sports training is unfortunately overlooked by coaches and physical education teachers in India **(Hardayal Singh, 1997).**

METHODOLOGY

SELECTION OF SUBJECTS:

For this study, thirty inter-collegiate men badminton players were selected as subjects. They were selected from Sports Authority of Manipur (SAM) Badminton Academy, Imphal, Manipur. The age of the subjects ranged from 16 to 19 years.

SELECTION OF VARIABLES

INDEPENDENT VARIABLES

The data on the skill performance variables were collected from two groups. The selected groups are given below:

- Specific pre-season training (ST)
- Traditional training (TT)

DEPENDENT VARIABLES

SKILL PERFORMANCE VARIABLES

- Short serve
- Long serve

CRITERION MEASURES

- Short serve was measured by French short service test.
- Long serve was measured by Poole long service test.

EXPERIMENTAL DESIGN

For this study, thirty inter-collegiate men badminton players were selected as subjects. They were selected from Sports Authority of Manipur (SAM) Badminton Academy, Imphal, Manipur. The age of the subjects ranged from 16 to 19 years. The study was formulated as a true random group design. The subjects (n=15) were randomly assigned to two equal groups of fifteen (men) badminton players each namely, specific pre-season training (ST, Group I), traditional training (TT, Group II). The subjects were tested for short serve and long serve Twelve weeks of intervention was given to the specific pre-season training group and to the traditional training group.

SPECIFIC PRE-SEASON TRAINING SCHEDULE

TRAINING AIM	WEEKS AND PERCENTAGE OF INTENSITY											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
WARM UPS												
FLEIBILITY TRAINING	**50%**	**50%**	**60%**	**70%**	**75%**	**70%**	**65%**	**70%**	**65%**	**80%**	**90%**	**70%**
ENDURANCE TRAINING	55%		65%		85%		70%	70%	70%		90%	
SPEED TRAINING		55%		75%		65%				85%		70%
STRENGTH TRAINING		55%		70%		65%		65%		80%		75%
TECHNIUE & TACTICS TRAINING	40%	55%	60%	75%	90%	70%	75%	70%	75%	70%	95%	70%
COORDINATIVE ABILITIES TRAINING	40%	50%	60%	70%	70%	65%	70%	65%	70%	85%	90%	70%
PLYOMETRIC EXERCISES	40%	50%	60%	75%	80%	65%	70%	70%	70%	85%	95%	70%
LADDER DRILLS	40%	50%	55%	70%	80%	60%	70%	70%	70%	85%	95%	65%
ACTIVE RECOVERY												
WARM DOWN												

STATISTICAL TECHNIQUE

The following statistical techniques were used for the analysis of data in this study. Analysis of Covariance (ANCOVA) was applied to determine the significance of mean difference between the two group's namely specific pre-season training and traditional training. In all cases, the criterion for statistical significance was set at 0.05 level of confidence (P<0.05).

RESULTS

TABLE- I

COMPUTATION OFANALYSIS OF COVARIANCE OF SPECIFIC PRE-SEASON TRAINING GROUP AND TRADITIONAL TRAINING GROUP ON SHORT SERVE

	ST Group	TT Group	Source of Variance	Sum of Squares	df	Mean Squares	F-ratio
Pre-Test Means	58.20	57.00	**BG**	10.80	1	10.80	0.11
			WG	2766.40	28	98.80	
Post-Test Means	71.67	60.87	**BG**	874.80	1	874.80	7.95*
			WG	3081.07	28	110.04	
Adjusted Post-Test Means	71.09	61.43	**BG**	697.78	1	697.78	31.22*
			WG	603.51	27	22.35	

BG- Between Group Means *Significant

WG- Within Group Means (Table Value for 0.05 Level for df1&28 = 4.19)

df- Degrees of Freedom (Table Value for 0.05 Level for df 1&27 = 4.21)

ST- Specific pre-season training TT- Traditional training

RESULTS ON SHORT SERVE

An examination of Table – I indicates the results of ANCOVA for pretest scores of the specific pre-season training group and traditional training group. The obtained F-ratio for the pre-test was 0.11 (P>0.05) indicating that the random sampling was successful and the table F-ratio was4.19. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 1 and 28.

The obtained F-ratio for the post-test was 7.95 (P<0.05) and the table F-ratio was4.19. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 1 and 28.

The adjusted post-test means of specific pre-season training group and traditional training group were 71.09 and 61.43 respectively. The obtained F-ratio for the adjusted post-test means was 31.22 ($P < 0.05$) and the table F-ratio was4.21. Hence the adjusted post-test mean short serve F-ratio was significant at 0.05 level of confidence for the degree of freedom 1 and 27.

Pre-test, post-test and adjusted post-test mean difference of the specific pre-season training group and traditional training group on short serve was presented in Figure I.

FIGURE - I

BAR DIAGRAM SHOWING PRE-TEST, POST-TEST AND ADJUSTED POST-TEST MEAN DIFFERENCES OF SPECIFIC PRE-SEASON TRAINING GROUP AND TRADITIONAL TRAINING GROUP ON SHORT SERVE

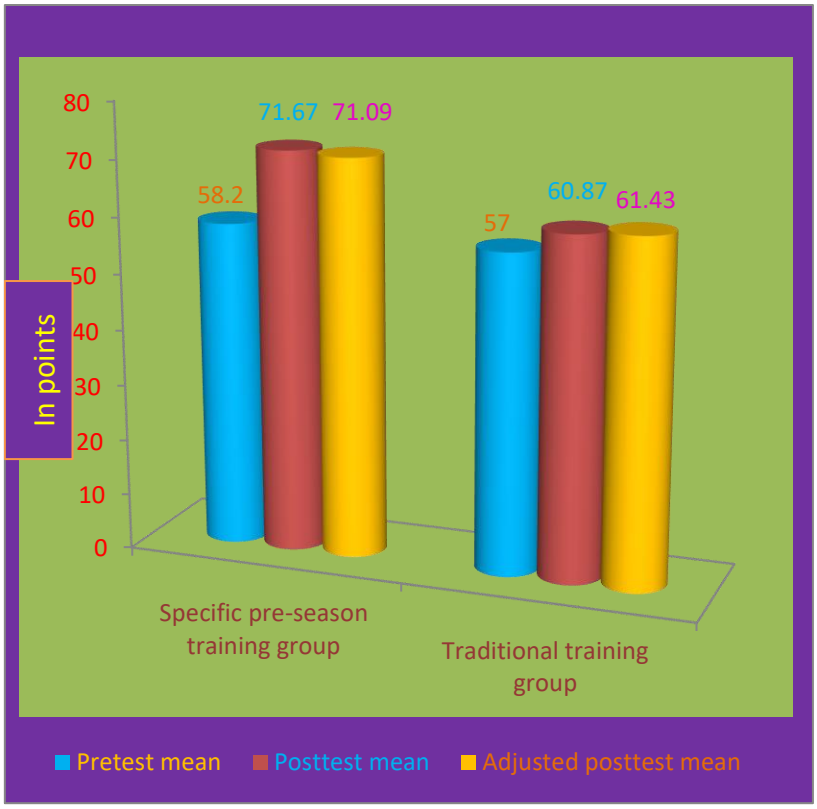


TABLE- II

COMPUTATION OFANALYSIS OF COVARIANCE OF SPECIFIC PRE-SEASON TRAINING GROUP AND TRADITIONAL TRAINING GROUP ON LONG SERVE

	ST Group	TT Group	Source of Variance	Sum of Squares	df	Mean Squares	F-ratio
Pre-Test Means	31.27	31.40	**BG**	0.133	1	0.13	0.005
			WG	704.533	28	25.16	
Post-Test Means	40.47	35.93	**BG**	154.133	1	154.13	7.56*
			WG	570.667	28	20.38	
Adjusted Post-Test Means	40.52	35.88	**BG**	161.532	1	161.53	40.14*
			WG	108.647	27	4.02	

RESULTS ON LONG SERVE

An examination of Table – II indicates the results of ANCOVA for pretest scores of the specific pre-season training group and traditional training group. The obtained F-ratio for the pre-test was 0.005 (P>0.05) indicating that the random sampling was successful and the table F-ratio was4.19. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 1 and 28.

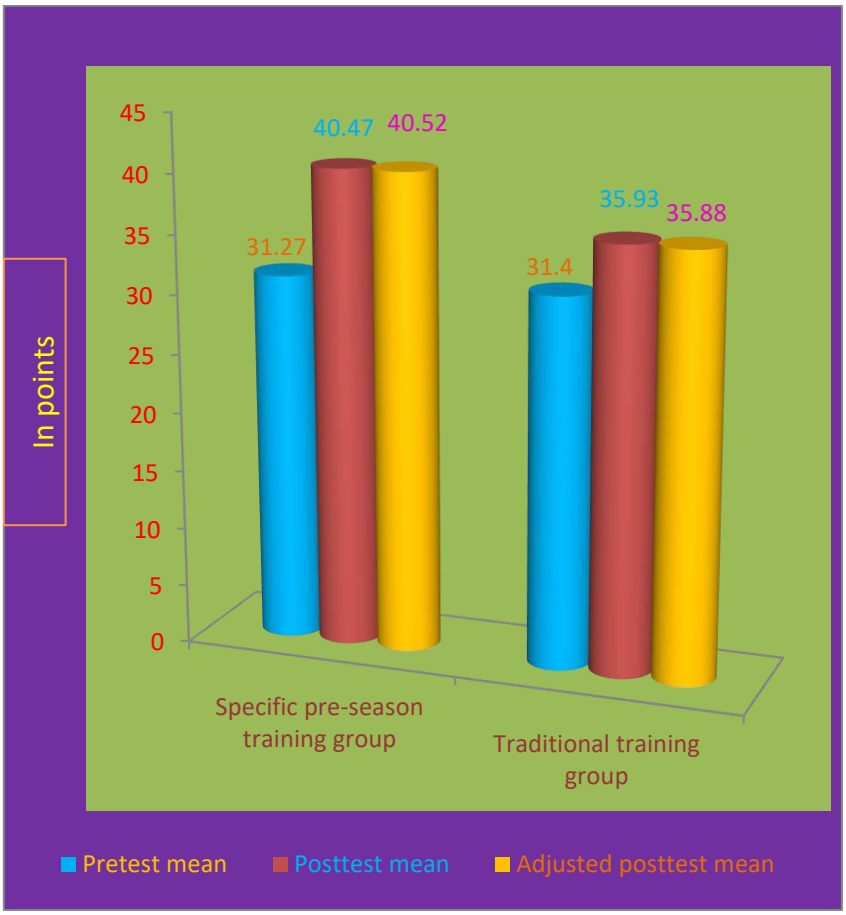
The obtained F-ratio for the post-test was 7.56 (P<0.05) and the table F-ratio was 4.19. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 1 and 28.

The adjusted post-test means of specific pre-season training group and traditional training group were 40.52 and 35.88 respectively. The obtained F-ratio for the adjusted post-test means was 40.14 (P < 0.05) and the table F-ratio was 4.21. Hence the adjusted post-test mean long serve F-ratio was significant at 0.05 level of confidence for the degree of freedom 1and 27.

Pre-test, post-test and adjusted post-test mean difference of the specific pre-season training group and traditional training group on long serve was presented in Figure II.

FIGURE - II

BAR DIAGRAM SHOWING PRE-TEST, POST-TEST AND ADJUSTED POST-TEST MEAN DIFFERENCES OF SPECIFIC PRE-SEASON TRAINING GROUP AND TRADITIONAL TRAINING GROUP ON LONG SERVE



DISCUSSION ON FINDINGS

The ultimate goal of the researcher was to examine the significant differences between the specific pre-season training and traditional training to improve the selected skill performance variables of badminton players. The theme behind this study was to observe the effects of pre-season training package on selected skill performance variables of badminton players. To achieve this, two different training groups were designed as specific pre-season training (ST) group and traditional training (TT) group. The study indicates that the specific pre-season training (ST) group and traditional training (TT) group significantly improved the selected dependent variables short serve and long serve.

The results on short serve and long serve showed that there were significant effects due to the influence of specific pre-season training (ST) and traditional training (TT). The results of the study are supported by the following authors.

Manikandan and Suresh kumar (2012) concluded that the ladder training group showed significant improvement on volley pass and serve.

Jayachandra (2012) indicated that the upper body plyometric training with skill movement training improved the cricket ball throwing ability better than the upper body plyometric training without skill movement training.

Ashok Kumar (2012) showed that aerobic training followed by strength training yielded a positive influence on speed, flexibility, aerobic capacity and dribbling performance of male basketball players.

Gurmeet Singh and Yogesh. (2011) concluded that the three different feedback methods significantly increased the clear and smash of badminton beginners.

O'keeffe et al. (2007) evaluated that the fundamental throw teaching programme showed significant learning effects in the fundamental overarm throw but also in the specific sport skills of the badminton overhead clear.

Perez-Gomez et. al. (2008) indicated that a 6 week of strength training combined with weight lifting and plyometric exercises resulted in significant improvements in kicking performance in football (soccer).

CONCLUSION

Based on the findings the following conclusions were derived

1. It was concluded that effect of specific pre-season training and traditional training showed a statistically positive sign over the course of the training period on the selected short serve and long serve of badminton players.
2. It was concluded that the effect of specific pre-season training showed significant improvement in short serve and long serve than the traditional training.

RECOMMENDATIONS

1. It is recommended that the specific pre-season training be utilized as a useful training tool to improve the skill performance variables such as short serve and long serve.
2. It is also recommended that similar pre-season training program be evaluated for women badminton players.
3. It is also recommended that various types of variables such as bio chemical and psychological variables be included in the future research.

REFERENCES:

Anujain.(2005). *Badminton coaching manual*. Delhi: Sports publication.

Callow Nichola., Hardy Lew., & Hall Craig. (2001). The Effects of a Motivational General-Mastery Imagery Intervention on the Sport Confidence of High-Level Badminton Players. *Research Quarterly for Exercise and Sport.*

Chin, M. K., Wong, A. S., So, R. C., Siu, O. T., & Steininger, K. (1995). Sports specific fitness testing of elite badminton players. *British Journal of sports Medicine*, pp. 153-157.

Dietrich Harre. & Jürgen Barsch.(1982). *Principles of sports training. Introduction to the theory and methods of training*. USA: Michigan.

Edwards Ben., Lindsay Kelly.& Waterhouse Jim. (2005). Effect of time of day on the accuracy and consistency of the badminton serve. *Ergonomics,* Taylor and Francis Ltd, Volume 48, Numbers 11-14, pp. 1488-1498(11).

EvangelosBebetsos. & Panagiotis Antoniou. (2012). Competitive state anxiety and gender differences among youth Greek badminton players. *Journal of Physical Education and Sport,* 12(1), Art 17, pp. 107 - 110, 2012.

Gurmeet Singh.& Yogesh.(2011). Effects of different feedback methods on badminton skills learning. *Journal of Physical Education and Sport*, 11(3), Art 38, pp.245 - 248.

Hardayal Singh. (1997). *Science of sports training*. New Delhi: D. V. S. Publication.

Jeong.(2011). Quantification of the physiological loading of one week of "pre-season" and one week of "in-season" training in professional soccer players. *Journal of Sports Science,* 29(11):1161-6.

Jeyaraman. (2011). Predict the playing ability form selected anthropometric and physical fitness parameters of University Badminton players. *Emerging trends in physical education and sports sciences. Bharathidasan University*, Tamil Nadu, India.Pp. 29.

Kerry, A. van Lieshout., &Adrian, J.J. Lombard. (2003). Fitness profile of elite junior South African badminton players.*African Journal for Physical, Health Education, Recreation and Dance*, pp. 114-120.

Knoepfli,B., Riddell, M. C., Ganzoni, E.,Burki, A., Villiger, B., & Duvillard,S. (2004). Off seasonal and pre-seasonal assessment of circulating energy sources during prolonged running at the anaerobic threshold in competitive triathletes. *British Journal of Sports Medicine*;38:402-407

Koon KiatTeu., Wangdo Kim., John Tan., &FranzKonstantin Fuss. (2005). Using dual Euler angles for the analysis of arm movement during the badminton smash. *Sports Engineering*, Volume 8, pp. 171-178.

KuntzeGregor., Mansfield Neil.,& Sellers William. (2010). A biomechanical analysis of common lunge tasks in badminton. *Journal of Sports Sciences*, Volume 28, Number 2, pp. 183-191(9).

Lin, H., Tong, T. K., Huang, C., Nie, J., Lu, K., &Quach, B. (2003). Specific inspiratory muscle warm-up enhances badminton footwork performance. *Physical Education Department, Liaoning Normal University*, China.

Minna Blomqvist.,PekkaLuhtanen.,& Lauri Laakso.(2001). Comparison of Two Types of Instruction in Badminton. *Physical Education & Sport Pedagogy*, Volume 6, Issue 2 , pp. 139 - 155

Panagiotis Kazakas.,& Evaggelia Gantiraga. (2006). The effect of two different methods of feedback in qualitative and quantitative characteristics of forehand clear service in badminton. *Inquiries in Sport & Physical Education*, Volume:4 Issue:3, pp. 390- 398.

Pearce, A. J. (2002). A physiological and notational comparison of the conventional and new scoring systems in badminton. *Journal of Human Movement Study*, pp. 43:49–67.

Peter, A. Hastie., Oleg, A. Sinelnikov.,& Guarino. (2009). The development of skill and tactical competencies during a season of badminton. *European Journal of Sport Science*, Volume 9, Issue 3, pp. 133 – 140.

Priyanka Narang. (2007). *Teach Yourself Badminton*. New Delhi: Sports Publication.

Radhikasoni.(2004). *The game of Badminton*. New Delhi: Goodwill Publishing House.

Sakurai, S., &Ohtsuki, T. (2000). Muscle activity and accuracy of performance of the smash stroke in badminton with reference to skill and practice. *Journal of Sports Sciences*, Volume 18, Number 11, pp. 901-914(14).

Srinivasan.M. (2012). Influence of specific ladder drills on selected physical fitness and skill performance variables of inter-collegiate badminton players. Journal of Physical and Sports Sciences.Vol. 3, Issue. 2, pp. 55-64.

Srinivasan.M. (2012). Influence of video analysis on the selected skill performance variables of school level badminton players. International Journal of Health, Physical Education & Computer Science in Sports. Vol. 8, No. 3, pp. 12-14

Wang, J., Liu, W., &Moffit, J. (2009).Steps for arm and trunk actions of overhead forehand stroke used in badminton games across skill levels.*Perceptual Motor Skills*, 109(1): pp. 177-86.