



## EFFECT OF 7 WEEKS OF SAND SPECIFIC TRAINING ON SELECTED PHYSICAL PERFORMANCE OF VOLLEYBALL PLAYERS

**Dr. MERLIN THANKA DANIEL**

*Assistant Professor, YMCA College of Physical Education, Chennai, Tamilnadu, India.*

### ABSTRACT

*The effect of 7 weeks Sand Specific Training (SST) on selected physical performance of Inter Collegiate Volleyball Players (ICVBP). To achieve the purpose of this study thirty (n=30) ICVBP were selected from YMCA college of Phy., Edu., Nandanam, Chennai, Tamil Nadu (TN). The selected subjects age ranged between 14 to 18 years. Further they were classified at random in two equal groups of 15 (n=15) subjects each. Group - I (Ex. Gr.) underwent SST for thrice in a week of seven weeks, and each section lasted 45minutes and the Group - II - acted as a control group (CG) they did not participate in any kind of training programme apart from the daily activities apart from regular activities. The selected physical performance variable such as Explosive Power (EP) and Strength Endurance (SE) were analyzed using standardize test. The collected data were statistically analysed by using Analysis of Covariance (ANCOVA). The results of the study proved that there was a significant improvement on explosive power and strength endurance among the ICVBP.*

**KEYWORDS:** Sand Specific Training, Volleyball.

### INTRODUCTION

Sports are usually governed by a set of rules or customs, which serve to ensure fair competition, and allow consistent adjudication of the winner. Winning can be determined by physical events such as scoring goals or crossing a line first, or by the determination of judges who are scoring elements of the sporting performance, including objective or subjective measures such as technical performance or artistic impression (Hardayal Singh 1991). Training refers to specialized strategies and methods of exercise used in various sports to develop athletes and prepare them for performing in sporting events. Outside of professional sports, the quality of athletic training is dangerously inconsistent. Most athletes who compete on school teams, in community sports programs or just on their own do not receive the training needed to improve their performance and prevent serious game-ending injuries. (Frank 1992).

In highly competitive modern team sports such as soccer, volleyball, rugby and hockey, there is an increasing demand for scientific research into practical and cost effective methods of athlete preparation. On such avenue that has been scarcely explored in team sports is the use of alternate training surfaces, such as sand. The widespread accessibility of various natural beach and artificial indoor and outdoor sand surfaces makes sand training a viable option for coaches and sport science practitioners working with team sports (Binnie, Dawson, Arnot, Pinnington, Landers, & Peeling, 2014).

Sand is an amazing, organic training surface that allows one to perform extremely powerful movements with minimal joint impact. Sand also drives athletes to test the limits of their anaerobic thresholds. Running and jumping activities done on sand get results

faster than the same activities on any other surface. Sand power training is usually neglected by beach players that, for some odd reason, do most of their physical training in the gym, and by most indoor athletes who are simply confused as to why it feels as if the sand negates all of their athleticism (Kumar, 2015).

### METHODOLOGY

To achieve the purpose of this study thirty (n=30) ICVBP were selected from YMCA college of Phy., Edu., Nandanam, Chennai, Tamil Nadu (TN). The selected subjects age ranged between 14 to 18 years. Further they were classified at random in two equal groups of 15 (n=15) subjects each. Group - I (Ex. Gr.) underwent SST for thrice in a week of seven weeks, and each section lasted 45minutes and the Group - II - acted as a control group (CG) they did not participate in any kind of training programme apart from the daily activities apart from regular activities. The selected physical performance variable such as Explosive Power (EP) and Strength Endurance (SE) were analyzed using standardize test.

### TRAINING PROGRAMME

During the training period (Ex., Gr.) underwent SST for seven weeks training programmes on alternative days in a week in addition to their daily routine activities as per the schedule. The duration of training were planned for 60 minutes that is from 7.00am to 8.00am. The following exercise was followed in the training session, the schedule consist of 10min warm up (jogging and dynamic stretches) then hopping, bounding, high knee, speed repetition at the end of session the subjects involved cool down and stretches for 15min.

**STATISTICAL TECHNIQUE**

The collected data were analysed statistically through analyze of covariance (ANCOVA) to find the significance difference.

**RESULTS AND DISCUSSION**

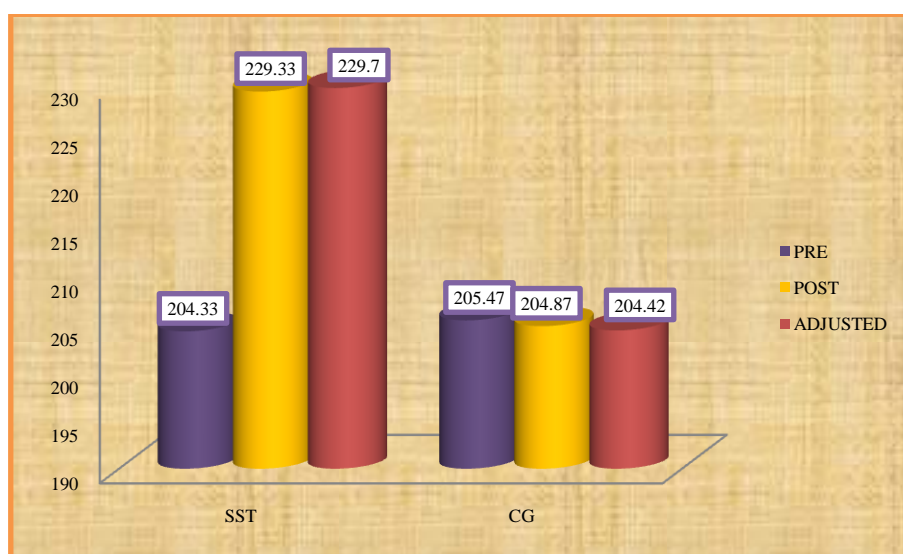
The data collected prior and after the experimental period on explosive power and strength endurance of SST Group and CG were analysed and presented in table – I and II.

**TABLE – I**  
**ANALYSIS OF COVARIANCE FOR PRE AND POST DATA ON EXPLOSIVE POWER**

Test	EX- G	CG	Source of variance	Sum of Squares	df	Mean square	F
Pre-test mean	204.33	205.47	Between	9.63	1	9.63	0.12
			Within	2235.06	28	79.82	
Post-test mean	229.33	204.87	Between	4489.63	1	4489.63	44.59*
			Within	2819.07	28	100.68	
Adjusted mean	229.77	204.42	Between	4800.57	1	4800.57	89.48*
			Within	1448.44	27	53.65	

An examination of table - I indicated that the pre test means of sand specific training group (SSTG) and control group (CG) were 204.33 and 205.47 respectively. The obtained F-ratio for the pre-test was 0.12 and the table F-ratio was 4.21. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 1 and 28. This proved that there were no significant difference between the sand specific training group (SSTG) and control group (CG) indicating that the process of randomization of the groups was perfect while assigning the subjects to groups. The post-test means of the sand specific training group (SSTG), control group (CG) were 229.33 and 204.87 respectively. The obtained F-ratio for the post-test was 44.59 and the table F-ratio was 4.21. Hence the post-test mean F-ratio was significant at 0.05 level of

confidence for the degree of freedom 1 and 28. This proved that the differences between the post test means of the subjects were significant. The adjusted post-test means of the game sand specific training group (SSTG), control group (CG) were 229.77 and 204.42 respectively. The obtained F-ratio for the adjusted post-test means was 89.48 and the table F-ratio was 4.19. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 1 and 27. This proved that there was a significant difference among the means due to the experimental trainings on explosive power (EP). The pre, post and adjusted means on Explosive Power (EP) 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 SAND SPECIFIC TRAINING (SST) AND CONTROL GROUP (CG) ON EXPLOSIVE POWER (EP)**

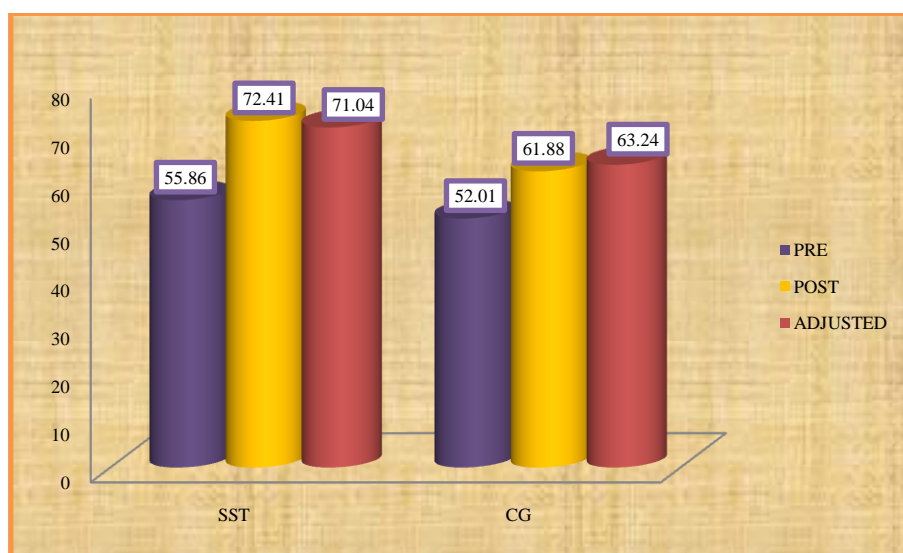
**TABLE – II**  
**ANALYSIS OF COVARIANCE FOR PRE AND POST DATA ON STRENGTH ENDURANCE (SE)**

Test	EX- G	CG	Source of variance	Sum of Squares	df	Mean square	F
Pre-test mean	55.86	52.01	Between	112.14	1	112.13	2.64
			Within	1189.74	28	42.49	
Post-test mean	72.41	61.88	Between	832.14	1	832.13	25.74
			Within	905.34	28	32.33	
Adjusted mean	71.04	63.24	Between	417.07	1	417.07	36.19
			Within	311.13	27	11.52	

An examination of table - II indicated that the pre test means of sand specific training group (SSTG) and control group (CG) were 55.86 and 52.01 respectively. The obtained F-ratio for the pre-test was 2.64 and the table F-ratio was 4.21. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 1 and 28. This proved that there were no significant difference between the sand specific training group (SSTG) and control group (CG) indicating that the process of randomization of the groups was perfect while assigning the subjects to groups.

The post-test means of the sand specific training group (SSTG) and control group (CG) were 72.41 and 61.88 respectively. The obtained F-ratio for the post-test was 25.74 and the table F-ratio was 4.21. Hence the post-

test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 1 and 28. This proved that the differences between the post test means of the subjects were significant. The adjusted post-test means of the game sand specific training group (SSTG) and control group (CG) were 71.04 and 63.24 respectively. The obtained F-ratio for the adjusted post-test means was 36.19 and the table F-ratio was 4.19. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 1 and 27. This proved that there was a significant difference among the means due to the experimental trainings on strength endurance (SE). The pre, post and adjusted means on strength endurance (SE) were presented through bar diagram for better understanding of the results of this study in Figure-II.



**FIGURE II**  
**PRE, POST AND ADJUSTED POST TEST DIFFERENCES OF THE SAND SPECIFIC TRAINING (SST) AND CONTROL GROUP (CG) ON STRENGTH ENDURANCE (SE)**

## CONCLUSION

1. The explosive power was significantly increased due to seven weeks of sand specific training (SST) of Inter collegiate volleyball players (ICVBP).
2. The strength endurance was significantly increased due to seven weeks of sand specific training (SST) of Inter collegiate volleyball players (ICVBP).

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