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Effects of 3 months skill based drills training on volley pass, spike and service of volleyball players

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Abstract

The purpose of the study was to find out the “effects of 3 months skill-based training on volley pass, spike and service of volleyball players”. For this purpose sixty subjects were selected as players at random and their age was ranged between 14 to 18 years. They were divided into two equal groups of thirty players each. Group I underwent skill based drills training (Passing Drills, Hit and Block Drills, Service Drills for three days per week for 3 months. Group II acted as a control group that did not participate in any special training programme apart from their regular activities as per their curriculum. The following skill related physical fitness components namely explosive power and agility were selected as dependent variables. All the players of the two groups were tested on dependent variables, prior to and immediately after the training programme. The analysis of covariance (ANCOVA) was used to analyse the significant the differences, if any, among the groups on selected dependent variables separately. Whenever they obtained ‘F’ ratio for adjusted post-test was found to be significant, if any the.05 level of confidence was fixed as the level of significance to test the ‘F’ ratio obtained by the analysis of covariance, which was considered as an appropriate. The result of the study revealed that 3 months volleyball skill based training method has produced significant improvements in skill components such as volley pass, spike and service.

Keywords: Skill based drills training, volleyball, volley pass, spike, service

Introduction

Volleyball - Team Play

Volleyball is essentially a game of transition from one of the above skills to the next, with choreographed team movement between plays on the ball. These team movements are determined by the teams chosen serve receive system, offensive system, coverage system, and defensive system.

The serve receive system is the formation used by the receiving team to attempt to pass the ball to the designated setter. Systems can consist of 5 receivers, 4 receivers, 3 receivers, and in some cases 2 receivers. The most popular formation at higher levels is a 3 receiver formation consisting of two left sides and a libero receiving every rotation. This allows middles and right sides to become more specialized at hitting and blocking.

Offensive systems are the formations used by the offense to attempt to ground the ball into the opposing court (or otherwise score points). Formations often include designated player positions with skill specialization. Popular formations include the 4-2, 6-2, and 5-1 systems. There are also several different attacking schemes teams can use to keep the opposing defense off balance.

Coverage systems are the formations used by the offense to protect their court in the case of a blocked attack. Executed by the 5 offensive players not directly attacking the ball, players move to assigned positions around the attacker to dig up any ball that deflects off the block back into their own court. Popular formations include the 2-3 system and the 1-2-2 system. In lieu of a system, some teams just use a random coverage with the players nearest the hitter. Defensive systems are the formations used by the defense to protect against the ball being grounded into their court by the opposing team. The system will outline which players are responsible for which areas of the court depending on where the opposing team is attacking from. Popular systems include the 6-Up, 6-Back-Deep, and 6-Back-Slide defense. There are also several different blocking schemes teams can employ to disrupt the opposing teams offense.

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Volleyball Drills Conditioning and Skills with Tactics

Volleyball drills are used to enhance various performance factors such as ball control, footwork, and timing on approach jumps or blocks. Volleyball drills are specialized exercises that enhance teams and players volleyball skills. There are numerous volleyball drills that teams and players can utilize in order to improve and further develop their skills in all areas of the game such as passing, serving, attacking, setting, blocking, and digging. From beginners to well-seasoned players, drills can help all players gain repetitions in various skills and positions; the more repetitions, the better a player can become.

Methods and Materials

To achieve the purpose of the study the investigator met the volleyball players (girls) from SDAT in Chennai. Their age ranged between 14 to 18 years. The study was formulated as a true random group design in which Sixty players were divided into two equal groups. The Experimental group I (n=30, SBT) underwent skill based (drills) Training, group II acted as a control group (n=30, CG) and did not undergo any specific training programme but they practiced the regular volleyball game. The following skill components namely volley pass (High wall volley test), spike (wall spike test), service (Russell lange service test) were selected as dependent variables. All the players of the two groups were tested on dependent variables. The subjects were made to perform tests and data was collected prior and after the study of 3 Months drills Training program.

Experimental Group: Volleyball Skill Based Drills Training

The training schedule, given below, exhibits the volleyball skill based drills training given to the experimental group for a period of 3 months. For the first month the group was given 4 sets, each consisting of 6 times in each drill. In the second month the group was given 3 sets, each consisting of 8 times in each drill. Next last month 3 sets, each consisting of 10 times in each drill. Following drills were selected for execution of this experimental

- 1. Passing Drills (Set (volley pass) and Underarm Pass):** 1. Self / Partner Passing, 2. Passing Circle, 3. Pipe line Passing, 4. Set and Follow, 5. 3-Station Passing, 6. Around the World, 7. Butterfly Passing, 8. M-Passing, 9. Deep Pass Drill, 10. Net save Drill
- 2. Hit and Block Drills:** 1. Hits Drill, 2. Corner Tip drill, 3. Wipe Off, 4. Find the Hole, 5. Apex Ball Catch, 6. Tennis Ball Throw, 7. Back Attack 8. Tip, Cross, Line, 9. Blind Blocking, 10. Over Pass Drill.
- 3. Service Drills:** 1. Serving Tape, 2. Miss The Chair, 3. Target Serve, 4. Serve against the Wall.

Statistical Procedure

They were statistically analyzed by using the analysis of covariance (ANCOVA) to determine the differences, if any, among the groups on selected dependent variables separately. Whenever they obtained 'F' ratio for adjusted post-test was found to be significant, if any the .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered as an appropriate.

Results and Discussions

Table I: Significance of Mean Gains / Losses Between Pre-Test and Post-test on Selected Variables of Skill Based Drills Training Group

S. No	Variables	Pre-Test mean	Post-Test mean	Mean diff.	Std. Dev	Std. Er. of mean	"r"	't' ratio
Skill Performance Variables								
1	Volley Pass	21.70	26.53	4.83	2.80	0.51	0.24	9.43
2	Spike	13.73	16.90	3.17	0.79	0.14	0.87	21.91
3	Serve	33.53	40.93	7.4	5.60	1.02	0.10	7.23

*Significant at 0.05 level

An examination of table – I indicates that the obtained 't' ratios are 9.43, 21.91 and 7.23 for Volley pass, Spike, Service respectively. The obtained 't' ratios on the selected variables come out to be greater than the required table value of 2.04 at 0.05 level of significance for 29 degrees of freedom. This is found to be significant. Thus the results of this study are

found to be statistically significant. In short, the effects of the training imparted to the subjects are positive. Pre- test and post -test mean values of experimental group on selected skill performance variables of Volley pass, Spike, Service presented in figure 2.

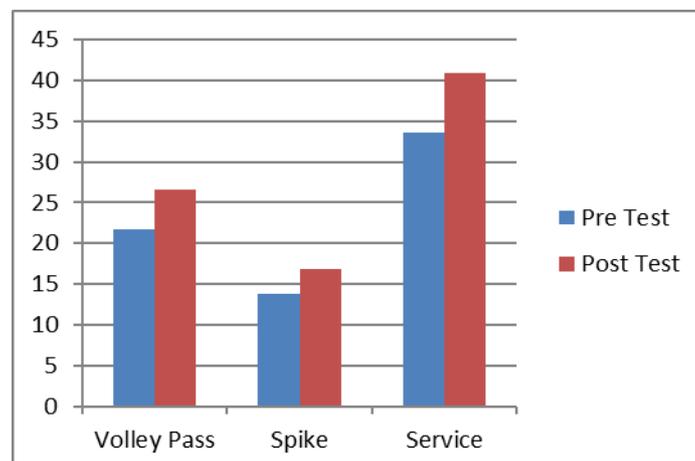


Fig 1: Pre-Test and Post-test Mean Values of Skill Based Drills Training Group on Skill Performance Variables

Table II: Significance Of Mean Gains / Losses Between Pre Test And Post-test On Selected Variables Of Control Group

S. No	Variables	Pre Test mean	Post-test mean	Mean diff.	Std. Dev	Std. Er. of mean	"r"	't' ratio
Skill Performance Variables								
1	Volley Pass	21.60	21.93	0.33	3.27	0.59	0.08	0.55
2	Spike	13.50	13.86	0.36	1.35	0.24	0.67	1.48
3	Serve	33.00	33.63	0.63	2.44	0.44	0.75	1.42

*Significant at 0.05 level

An examination of table –II indicates that the obtained 't' ratios are 0.55, 1.48, 1.42 for volley pass, spike, service ability respectively. The obtained 't' ratios on the selected variables are found to be lesser than the required table value of 2.04 at 0.05 level of significance for 29 degrees of

freedom. This is found to be insignificant. Thus the results of this study are found to be statistically no significant. Pre- test and post -test mean values of control group on selected skill performance variables of volleyball players stand presented in figure 3.

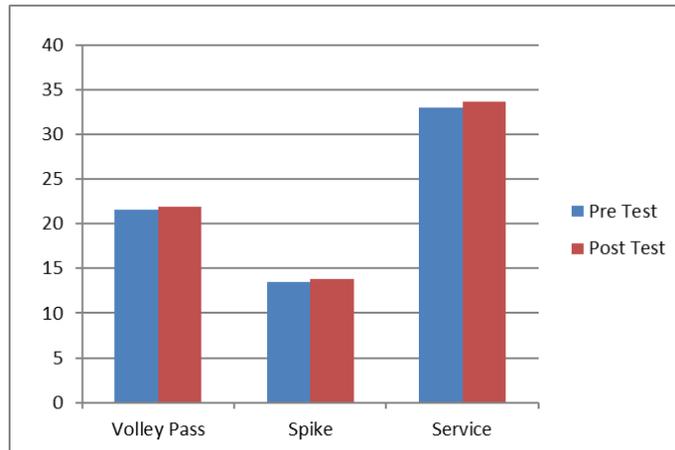


Fig 2: Pre-Test And Post-test Mean Values Of Control Group On Skill Performance Variables

Table III: Analysis Of Covariance For The Pre Test Post-test And Adjusted Post-test Means On Volley Pass Of Skill Based Drills Training And Control Groups

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	F-ratio
Pre-Test Means	21.70	21.60	BG	0.15	1	0.15	0.05
			WG	165.50	58	2.85	
Post-Test Means	26.53	21.93	BG	317.40	1	317.40	39.90
			WG	461.33	58	7.95	
Adjusted Post-Test Means	26.52	21.94	BG	313.45	1	313.45	39.73
			WG	449.63	57	7.88	

BG- Between Group Means
WG- Within Group Means
df- Degrees of Freedom

* - Significant
(Table Value for 0.05 Level for df 1 & 58 =4.01)
(Table Value for 0.05 Level for df 1 & 57 = 4.01)

Results on Volley Pass

A perusal of table – III showed that the pre-test mean values on volley pass of skill based drills training and control group are 21.70 and 21.60 respectively. The obtained 'F' ratio 0.05 for pre-test scores is lesser than the table value 4.01 for df 1 and 58 required for significance at 0.05 level of confidence on volley pass. The results of the study indicated that there is no significant difference among the pre-test means of skill based drills training and control group on volley pass.

The post-test mean values on volley pass of skill based drills training and control group come out to be 26.53 and 21.93 respectively. The obtained 'F' ratio 39.90 for post-test scores is greater than the table value 4.01 for df 1 and 58 required for significance at 0.05 level of confidence on volley pass. The results of the study indicated that there is significant difference among the pre-test means of skill based drills training and control group on volley pass.

The adjusted post-test means values on volley pass of skill based drills training and control group come out to be 26.52 and 21.94 respectively. The obtained 'F' ratio of 39.73 for adjusted post-test means is greater than the table value of 4.01

for df 1 and 57 required for significance at 0.05 level of confidence on volley pass. The results of the study indicated that there is a significant difference among the adjusted post-test means of skill based drills training and control group on volley pass.

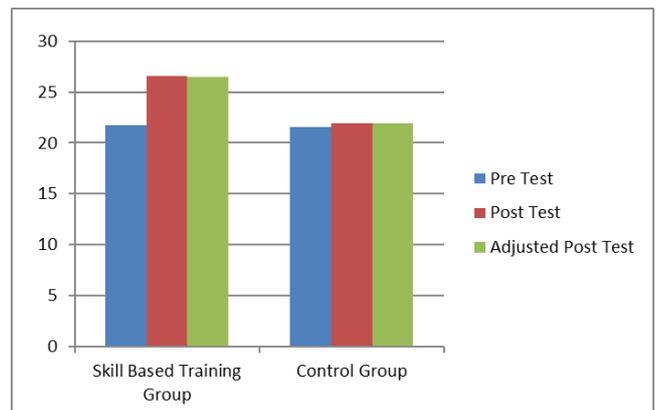


Fig 3: Mean Values of Skill Based Drills Training and Control Group on Volley Pass

Table IV: Analysis of Covariance for the Pre Test Post-test and Adjusted Post-test Means on Spike of Skill Based Drills Training and Control Groups

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	F-ratio
Pre-Test Means	13.73	13.50	BG	0.81	1	0.81	0.41
			WG	113.36	58	1.95	
Post-Test Means	16.90	13.86	BG	138.01	1	138.01	47.04
			WG	170.16	58	2.93	
Adjusted Post-Test Means	16.79	13.97	BG	117.99	1	117.99	95.15
			WG	70.68	57	1.24	

BG- Between Group Means
 WG- Within Group Means
 df- Degrees of Freedom

* - Significant
 (Table Value for 0.05 Level for df 1 & 58 = 4.01)
 (Table Value for 0.05 Level for df 1 & 57 = 4.01)

Results on Spike

A perusal of table – IV showed that the pre-test mean values on spike of skill based drills training and control group are 13.73 and 13.50 respectively. The obtained ‘F’ ratio 0.41 for pre-test scores is lesser than the table value 4.01 for df 1 and 58 required for significance at 0.05 level of confidence on spike. The results of the study indicated that there is no significant difference among the pre-test means of skill based drills training and control group on spike.

The post-test mean values on spike of skill based drills training and control group come out to be 16.90 and 13.86 respectively. The obtained ‘F’ ratio 47.04 for post-test scores is greater than the table value 4.01 for df 1 and 58 required for significance at 0.05 level of confidence on spike. The results of the study indicated that there is significant difference among the pre-test means of skill based drills training and control group on spike.

The adjusted post-test means values on spike of skill based drills training and control group come out to be 16.79 and 13.97 respectively. The obtained ‘F’ ratio of 95.15 for adjusted post-test means is greater than the table value of 4.01 for df 1 and 57 required for significance at 0.05 level of confidence on spike. The results of the study indicated that

there is a significant difference among the adjusted post-test means of skill based drills training and control group on spike.

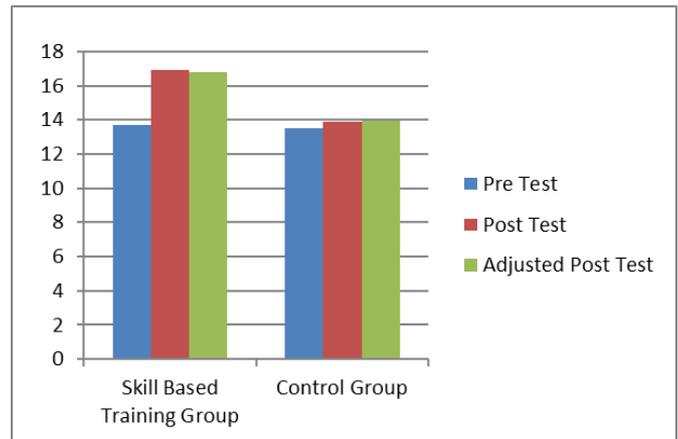


Fig 4: Mean Values of Skill Based Drills Training and Control Group on Spike

Table V: Analysis of Covariance for the Pre Test Post-test and Adjusted Post-test Means on Service of Skill Based Drills Training and Control Groups

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	F-ratio
Pre-Test Means	33.53	33.00	BG	4.26	1	4.26	0.29
			WG	835.46	58	14.40	
Post-Test Means	40.93	33.63	BG	799.35	1	799.35	53.36
			WG	868.83	58	14.98	
Adjusted Post-Test Means	40.83	33.73	BG	752.74	1	752.74	56.92
			WG	753.75	57	13.22	

BG- Between Group Means
 WG- Within Group Means
 df- Degrees of Freedom

* - Significant
 (Table Value for 0.05 Level for df 1 & 58 = 4.01)
 (Table Value for 0.05 Level for df 1 & 57 =4.01)

Results on Service

A perusal of table – V showed that the pre-test mean values on service of skill based drills training and control group are 33.53 and 33.00 respectively. The obtained ‘F’ ratio 0.29 for pre-test scores is lesser than the table value 4.01 for df 1 and 58 required for significance at 0.05 level of confidence on service. The results of the study indicated that there is no significant difference among the pre-test means of skill based drills training and control group on service.

The post-test mean values on service of skill based drills training and control group come out to be 40.93 and 33.63 respectively. The obtained ‘F’ ratio 53.36 for post-test scores is greater than the table value 4.01 for df 1 and 58 required for significance at 0.05 level of confidence on service. The results of the study indicated that there is significant difference

among the pre-test means of skill based drills training and control group on service.

The adjusted post-test means values on service of skill based drills training and control group come out to be 40.83 and 33.73 respectively. The obtained ‘F’ ratio of 56.92 for adjusted post-test means is greater than the table value of 4.01 for df 1 and 57 required for significance at 0.05 level of confidence on service. The results of the study indicated that there is a significant difference among the adjusted post-test means of skill based drills training and control group on service.

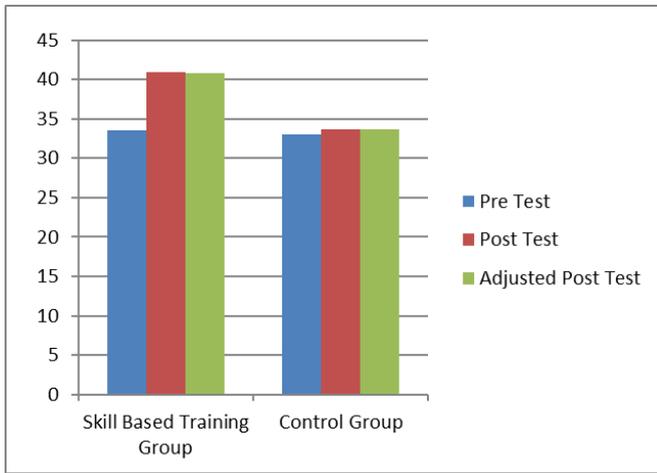


Fig 5: Mean Values of Skill Based Drills Training and Control Group on Service

Conclusions

It can be concluded that 3 months volleyball skill based training method may lead to greater improvements in skill components such as volley pass, spike, service of volleyball players.

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