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EFFECT OF COMBINATION OF PLYOMETRIC AND SKILL TRAINING IN THE IMPROVEMENT OF SPEED, LEG EXPLOSIVE POWER AND PASSING ABILITY OF THE FEMALE VOLLEYBALL PLAYERS

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Abstract

The intention of the report was to discovery out the personal effects of the aggregation of PSTG in the development of speed, Leg explosive power and passing quality of school level volleyball game players. 60 volleyball players from the different schools of Bangaluru in Karnataka were designated as capable and their age scope from 14 to 17 years. The dependent were separated into 3 equivalent unit. The 1st group underwent PSTG (n=20), the 2nd group underwent STG (n=20) and the 3rd group acted as the CG they did not exercise any particular training. The designated changeable were measure by the velocity (50mts run test), leg explosive power (vertical jump test) and passing ability (Brady volleyball game test) behavior earlier and later the 12 weeks of activity program. The information was unanalyzed by the analysis of co-variance. The PSTG showed greater improvement in the speed, leg explosive power and passing power than the other three groups of the STG and CG.

Keywords: Speed, leg explosive power and passing ability, Plyometric training, Skill training.

Introduction

Plyometric training is considered to be more effectively used to improve performance in a wide variety of track and field events. Plyometric training may also have a long lasting influence which can be performed on wooden boxes, resilient surface with only body weight, medicine ball for upper body and legs. It includes bounce, hops, jumps, leaps, skips and ricochets that significantly improve speed, explosive strength and anaerobic power (David. W. Thomas, 1988). A well-structured volley ball preparation system definite quantity the explosive power, vertical jump height, stamina, speed and lightness in the tribunal. Ability preparation so much as practicing sports equipment, will not create the fleshly attribute which essential to play with contestant full possible (Gabbett T et al 2006) Powerfulness in the stamina is requisite to jump volatile in the physical object to sports equipment, artifact, fit and cabaret (Smith DJ 1992, Fleck SJ, 1985). Several studies used the plyometric training and have shown the improvement quality product and plication explosiveness (Adams, et. al.,

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2000) by training the muscular tissue to do much activity in a shortened period (Holcomba, 1996).Wallace BJ, et al,(2010). The aim of the learning was to identify the Restriction of perpendicular land response military unit of the favorite symmetric plyometric physical exercise. To specify the perpendicular land response power (VGRFs) defined during the execution of the favorite symmetrical plyometric motion. 14 powers orientated path and tract work force of collegiate and domestic steady were haphazardly performed in the 3 attempt of 9 various symmetric plyometric workout in a individual experiment term.

Methodology:

Randomly sixty school level female volleyball game players from different schools stand for inter educational institution level competition had chosen as dependent for the study from Bangaluru district, Karnataka. The subjects were apart into 3 equivalent groups. The 1st group (n=20, PSTG) performed the PSTG, the 2nd group (n=20, STG) performed the STG alone, and the 3rd group (n=20, CG) they did not act any activity. The covariant same as speed was plumbed by the 50mts run trial The leg explosive power was measured by the VJ test and the passing power was plumbed by Brady volleyball test. The test was occurred earlier and later 12 weeks regimen.

Analytic thinking of the data and result of the examination:

A matched example of pupil t-test was utilised to find out the importance of the average contrast betwixt the Pre-test and Post-test values of a covariant in the selfsame group. Investigation of variant was utilised to live the important didpute betwixt the groups. Applied mathematics importance was recognized as $p \leq 0.05$ level of self-assurance.

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A matched example of pupil t-test was utilised to find out the importance of the mean contrast betwixt the Pre-test and Post-test values of a covariant in the selfsame group. Investigation of variant (ANOVA) was utilised to live the important didpute among the groups. Applied mathematics importance was recognized as $p \leq 0.05$ level of self-assurance.

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Table-1

Results of t-test between the Pre-test and Post-test of thePSTG

Variables	Pretest		Posttest		S_{Ed}	MD	t-value
	Mean	SD	Mean	SD			
Speed	8.94	0.39	8.32	0.42	0.12	0.62	5.17*
Leg explosive power	28.25	2.00	33.50	2.06	0.64	5.25	8.20*
Passing ability	10.90	2.86	19.20	3.46	1.00	8.30	8.30*

From the outcome of the above table, it can be seen that, the Pre-test and Post-test differ statistically in the speed, leg explosive power and passing ability scores (t=5.17*, 8.20*, 8.30*, $p \leq 0.05$) higher than the table worth 2.093at 95% level and it was significant.

Table-2

Result of t-test betwixt the Pre-test and Post-test of STG

Variables	Pretest		Posttest		S_{Ed}	MD	t-value
	Mean	SD	Mean	SD			
Speed	9.16	0.35	8.63	0.33	0.11	0.54	4.90*
Leg explosive power	28.60	1.98	23.85	2.37	0.69	5.25	7.61*
Passing ability	11.30	5.73	17.35	4.42	1.62	6.05	3.73*

From the outcome of the higher up table, it can be seen that, the Pre-test and Post-test differ statistically in the speed, leg explosive power and passing quality scores (t=4.90*, 7.61*,3.73*, $p \leq 0.05$) higher than the table value 2.093at 95% level and it was essential.

Table-3

Result of t-test between the Pre-test and Post-test of CG

Variables	Pretest		Posttest		S_{Ed}	MD	t-value
	Mean	SD	Mean	SD			
Speed	8.87	0.53	8.61	0.48	0.16	0.26	1.63
Leg explosive power	27.75	2.15	28.00	2.36	0.71	0.25	0.35
Passing ability	10.60	4.15	11.15	4.51	1.37	0.55	0.40

From the outcome of the higher up table, it can be seen that, the Pre-test and Post-test differ statistically in the speed, leg explosive power and passing ability scores (t=1.63*,0.35*,0.40*, $p \leq 0.05$) higher than the table value 2.093at 95% level and it was significant.

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Table-4

Results of test of the three groups (PSTG, STG and CG) at the school level volleyball female players of respect to speed scores.

	SOV	DF	SOS	MSS	F-value
Pre-test	Between groups	2	1.021	0.51	2.73
	Within groups	57	10.65	0.19	
Post-test	Between groups	2	3.28	1.64	8.93
	Within groups	57	10.48	0.18	

Table -4 display that the Pre-test means of speed for the PSTG, STG and CG were 8.94+ 0.39,9.16+ 0.35,8.87+ 0.53 several. The get F ratio value of 2.73 in the Pre-test scores of three groups in the speed was less than the required table value 3.15, hence it was not significant. The Post-test means of speed for the **PSTG, STG and CG** were 8.32+ 0.42, 8.63+ 0.33, 8.61+ 0.48 individual. The acquire F ratio value of 8.93* in the Post-test tons of three groups was higher than the needed table value 3.15 was significant with df 2 and 57 at 0.05 speed steady of assurance.

Table-5

Results of test of the three groups (PSTG, STG and CG) at the school level volleyball female players of respect to leg explosive power scores.

	SOV	DF	SOS	MSS	F-value
Pre-test	Between groups	2	7.30	3.65	0.87
	Within groups	57	238.30	4.18	
Post-test	Between groups	2	430.63	215.32	41.81
	Within groups	57	293.55	5.15	

Table -5 shows that the Pre-test means of leg explosive power for the **PSTG, STG and CG** were 28.25+ 2.00,28.60+ 1.98,27.75+ 2.15 respectively. The get F ratio value of 0.87 in the Pre-test scores of three groups in the speed was less than the needed table value 3.15, hence it was not significant. The Post-test means of leg explosive power for the **PSTG, STG and CG** were33.50+ 2.06, 33.85+ 2.37, 28.00+ 2.36 individual. The get F ratio value of 41.81* in the Post-test scores of three unit was greater than the needed table worth 3.15 was significant with df 2 and 57 at 0.05 leg explosive power plane of self-assurance.

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Table-6

Results of test of the three groups (PSTG, STG and CG) at the school level volleyball female players of respect to passing ability scores.

	SOV	DF	SOS	MSS	F-value
Pre-test	Between groups	2	4.93	2.47	0.13
	Within groups	57	1106.80	19.42	
Post-test	Between groups	2	711.10	355.55	20.59
	Within groups	57	984.30	17.27	

Table-6 shows that the Pre-test means of passing ability for the **PSTG, STG and CG** were 10.90+_2.86, 11.30+_5.73, 10.60+_ 4.15 respectively. The get F ratio value of 0.13 in the Pre-test scores of three groups in the speed was less than the needed table value 3.15, hence it was not significant. The Post-test means of passing ability for the PSTG, STG and control groups were 19.20+_ 3.46, 17.35+_4.42, 11.15+_4.51 individual. The get F ratio value of 20.59* in the Post-test scores of three groups was greater than the needed table value 3.15 was significant with df 2 and 57 at 0.05 passing ability plane of assurance.

Discussion

The statistical analysis of significance of the means gains or losses made in three research groups namely PSTG and STG were significantly (p>0.05) improved in performance variables such as speed, leg explosive power.

The statistical analysis of significance of the means gains or losses made in two experimental groups namely PSTG and STG were significantly (p>0.05) improved in skill performance variables such as passing ability. The statistical analysis of significance of the means gains or losses made in Control group were not significantly (p>0.05) improved in performance variables and Skill performance variables of the school level female volleyball players.

Conclusion:

* The plyometric with STG performed significantly better than the STG and the CG in speed, leg explosive power and passing ability.

* The STG performed significantly better than the CG in speed, leg explosive power and passing ability.

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