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# Consequence of plyometric training on speed and leg strength among volley ball players

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**Abstract**--Study participants were asked to determine the effect of plyometric training on speed and leg strength among volleyball players. In this experiment, 30 male volleyball players aged between 17 and 21 who are enrolled at PSNA Dindugal in Tamil Nadu were selected to participate. Each of the plyometric training and control groups was divided equally into fifteen individuals. With progressive increases in the load with subsequent weeks, the plyometric training group trained three days alternately in a week for eight with three sets of exercises per session at 60% to 80%. As criterion variables, speed and leg strength were assessed using 50 meter dashes and dynamometer leg lifts respectively. We used an ANCOVA to determine if there was a significant difference in speed and leg strength between the plyometric training group and the control group.

**Keywords**--Consequence, Plyometric, Speed, Strength, Dynamometer.

**Introduction**

Volleyball is an intense anaerobic sport that combines explosive movements (i.e., in both vertical and in horizontal directions) with short periods of recovery. Therefore, explosive strength, which is defined as the ability of an individual's neuro-muscular system to manifest strain in the shortest possible time, is considered a fundamental aspect of successful athletic performance. In fact, when speed and agility are combined with maximum strength, power is the outcome. Muscular power enables a given muscle to produce the same amount of work in less time, or a greater magnitude of work in the same time, which is important for sprinting, jumping and quick changes of direction. Indeed, studies have shown strong relationships between power measures and vertical jump performance, suggesting that power influences vertical jumping performance.

## Methodology

The reason for the review was discover the result of plyometric preparing on speed and leg strength among volley competitors. To accomplish this 30 volley competitors studding PSNA dindugal, in the age gathering of 17-21 years were chosen was subject aimlessly with their assent the chose subjects were partitioned into two equivalent gathering of 15 subjects each in particular plyometric preparing gathering and control bunch. Speed and strength were tried when the preparation program both test and control bunch by utilizing meter run and leg lift with dynamometer separately the chose subject had under gone the plyometric preparing for quite a long time with 3 days of the week on substitute dates. Following 10 to 15 moment of warm-up, the subjects were went through their individual plyometric preparing program and the subject performed six to twelve redundancy of plyometric work out, profundity bounce, medication ball toss with a recuperation distance of 22-40 meters on 1-2 min between reiteration the controlled gathering didn't partook any specific preparation during the time of this review.

Table-1  
Computation of analysis of covariance of means of plyometric training group i and control groups on speed and leg strength

Variables	Test	Plyometric training group	Control group	Source of variables	SS	Df	Mean square	'F' ratio
Speed	Mean	7.24	7.17	Between	0.03745	1	0.03745	0.520
	Pre test			Within	2.017	28	0.07202	
	S.D	0.26	0.28					
	Mean	6.69	7.12	Between	1.391	1	1.391	13.807
	Post test			Within	2.821	28	0.101	
	S.D	0.22	0.39					
Mean			Between	1.823	1	1.823	48.517	
Adj-post test			Within	1.014	27	0.03757		
S.D	6.65	7.15						
Leg Strength	Mean	88.8	86.26	Between	48.133	1	48.133	3.44
	Pre test			Within	391.33	28	13.976	
	S.D	3.39	4.06					
	Mean	93.13	86.26	Between	1.391	1	307.2	22.25
	Post test			Within	2.821	28	386.67	
	S.D	2.97	4.33					
Mean			Between	119.04	1	119.04	33.007	
Adj-post test			Within	97.374	27	3.606		
S.D	93.13	86.73						

## Result

The trial configuration utilized for the current examination was arbitrary gathering configuration including 30 subjects for preparing impact. Investigation of covariance was utilized as measurable method to decide the huge distinction, on the off chance that any current among present and post test information on chooses subordinate factors independently and introduced in table-I. (The table worth expected for importance at 0.05 level with df 1 and 1 abd 27 and are 4.20 and 4.215 individually)

The pre-test method for PTG and CG on speed (7.24 versus 7.17) brought about a 'F' proportion of 0.52 the post-test method for plyometric preparing gathering and control bunch (6.69 versus 7.2) brought about an 'F' proportion of 13.807 the changed posttest method for plyometric preparing gathering and control bunch (6.65 versus 7.15) bring about an 'F' proportion of 48.517. The consequences of the review show that there was a huge distinction between plyometric preparing gathering and control bunch on speed.

The pre-test method for PTG and CG on leg strength (88.8 versus 86.26) brought about a 'F' proportion of 3.44 the post-test method for plyometric preparing gathering and control bunch (93.13 versus 86.73) brought about an 'F' proportion of 22.25 the changed post-test method for plyometric preparing gathering and control bunch (93.13 versus 86.73) bring about an 'F' proportion of 33.007. The consequences of the review demonstrate that there was a critical contrast between plyometric preparing gathering and control bunch on leg strength.

## Conclusion

It is concluded that the plyometric training programme has resulted in significant increase selected physical fitness variables such as speed and leg strength.

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## The authors confirm contribution to the paper as follows:

**S. Deepa** conceptualized and accumulated the data with importance this work.

**Dr. D. Rajalakshmi and S. Deepa** broke down these information and vital data sources got towards the preparation of the composition. All creators referenced the technique and results and added to a definitive composition.

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