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Effect of Plyometric Training on Jumping Ability of Volleyball Players in Secondary School

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1.1: INTRODUCTION:

Today sports has become a form of mass participation, many participate in sports activities, it is taking the shape of a profession to some with high skills, with ample financial benefits linked with high degree of popularity. Participation in games and sports provides a service to the individual by preparing him/her to the challenges of competition during later life in the society. This includes the development of mental and physical fitness, good character, discipline, competitiveness and courage, and opportunities to experience challenges leading to personal achievement and social recognition.

Volleyball is a team sport that requires great skill and can be very rewarding when played properly. Certainly considered to be both a competitive and leisurely activity, it can be played by school teams, professional athletes and families enjoying a day at the beach. Playing volleyball involves a lot of endurance. You have to be physically fit to play this sport. The skills you can develop during training. You can do open gyms for volleyball or you can do some clinics for adult volleyball teams before you go onto an actual team. Volleyball is a very demanding sport. You have to be a team player most of all. You need to communicate and go after every ball. You have to heave a heart or the game. As far as physical requirements, most people would say you have to have a strong arm, this is incorrect. You need to have strong legs and a strong core. The core (abs) is the base for your overall strength. Legs are important because you are constantly jumping and diving. You are also always in a squatting position so strong legs are a must. Modern volleyball requires for player a good physical endurance, parallel it is very important to develop speed and explosive power and force endurance. Successful sporting performance at elite levels of competition often depends heavily on the explosive leg power of the athletes involved.

Plyometrics, or plyos, is a kind of training that builds the explosive strength of your body using natural dynamic movements such as jumping. A plyometric exercise relies on this quick body action to attain the power required for the movement. Plyometric movement is based on the reflex contraction of the muscle fibers resulting from the rapid loading of these same fibers. Plyometric exercises involve hops, bounds, and depth jumping for the lower extremity and the use of medicine balls and other weighted equipment for the upper extremity. Depth jumping is an example of a plyometric technique in which an athlete jumps to the ground from a specified height and then quickly jumps again as soon as ground contact is made.

1.2: PURPOSE OF THE STUDY:

i) The main purpose of the present study was to find out the effects of plyometric training on jumping ability of Volleyball players in secondary school**.**

1.3: METHODOLOGY:

For the present study thirty (30) male volleyball players were selected randomly from Vivekananda vidyalaya of Yavatmal city (Maharashtra), who have participated in school volleyball tournament. Their age ranges varied from 12 to 16 years. All the subjects belong to 6^{th} to 10^{th} classes and different socio-economic conditions. The objective of the study 30 male subjects were divided into two equal groups of 15 (fifteen) subjects in each. One is treated as experimental group underwent plyometric training, the second one is control group. The experimental group was asked to practice selected plyometric training. The training schedule was four days per week for six weeks. the data were collected through administration of Sergeant vertical jump test on selected variable before and after the six weeks training programme. After the

collection of data scores were calculated by employed 't' test statistical technique to see the significant differences.

1.4: OBSERVSTIONS & DISCUSSION:

Table-1 Mean differences between the pre test scores of experimental and control groups on vertical jump (in cm)

Sr. no.	Group	Test	N	Mean	SD	MD	df	't' value
1	E.G	Pre test	15	43.4	1.52	0.4	28	1.15
2	C.G	Pre test	15	43.0	1.48			

*Significant at .05 level of confidence.
Table value .05(28) df= 2.04

Table-1 reveals that the pre test mean value of polyometric training group and control group were 43.4 & 43.0 respectively, as the calculated 't' value 1.15 was less than the require value of 't' 2.04 at 0.05 level of confidence. Therefore, it is indicated that there is no significant difference between the experimental and control groups.

Fig-1: Graphical representation of mean differences between the pre test score of experimental and control groups on vertical jump ability.

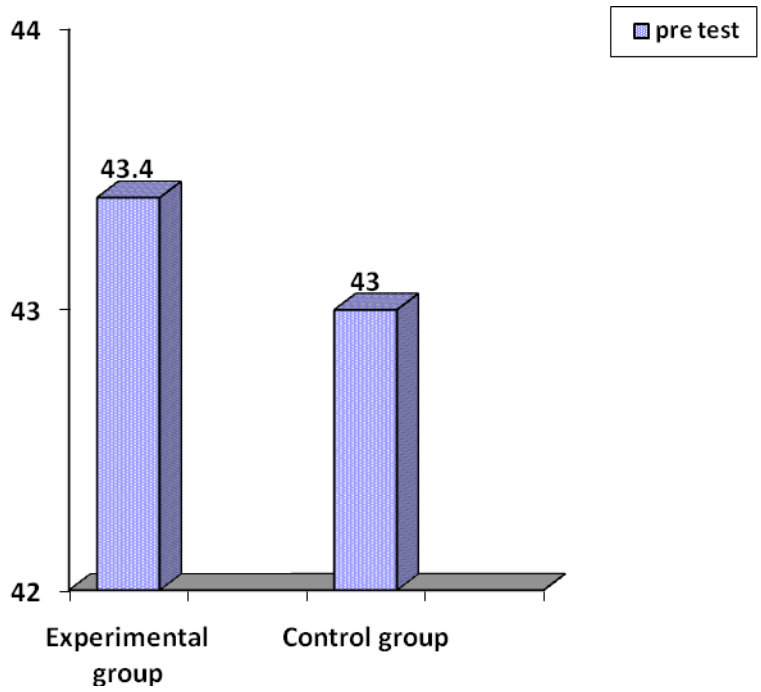


Table-2 Mean differences between the post test scores of experimental and control groups on vertical jump (in cm)

Sr. no.	Group	Test	N	Mean	SD	MD	df	't'value
1	E.G	Post test	15	47.6	1.73	3.9	28	8.44*
2	C.G	Post test	15	43.7	1.54			

*Significant at .05 level of confidence.
Table value .05(28) df= 2.04

Table-2 reveals that the mean of post test experimental and control groups are 47.6 and 43.7 and their calculated 't' value is 8.44 which is greater than that of tabulated value 2.04 (28 df at 0.05 level of confidence). It is indicates that there is significance difference between the post test of experimental and control groups. It is also indicated that plyometric training effects on muscular system of legs which improve the power of the legs.

Fig-2: Graphical representation of mean differences between the post test score of experimental and control groups on vertical jump ability.

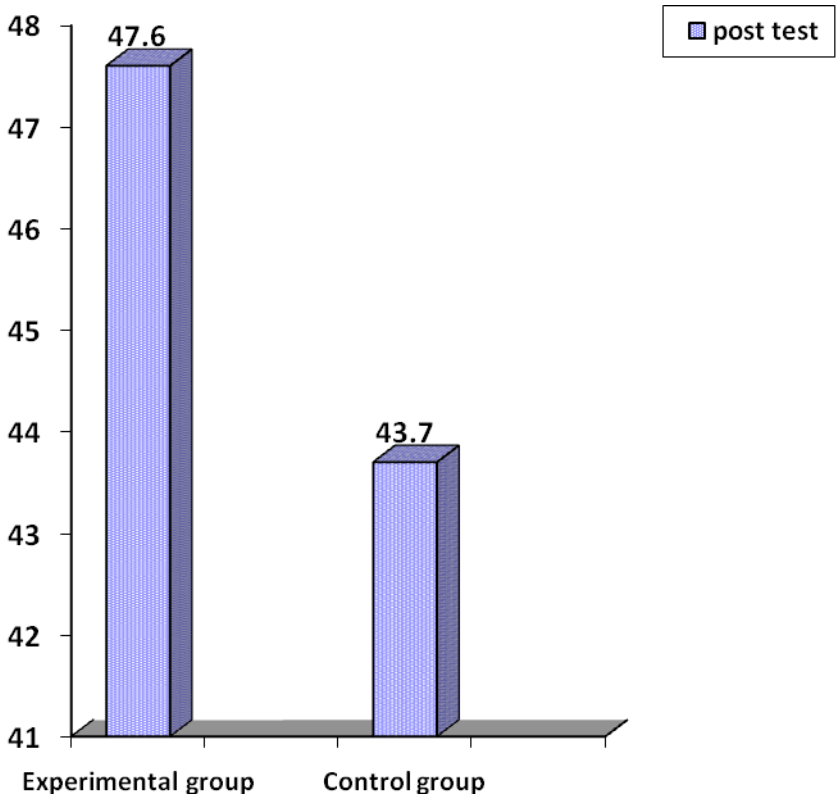


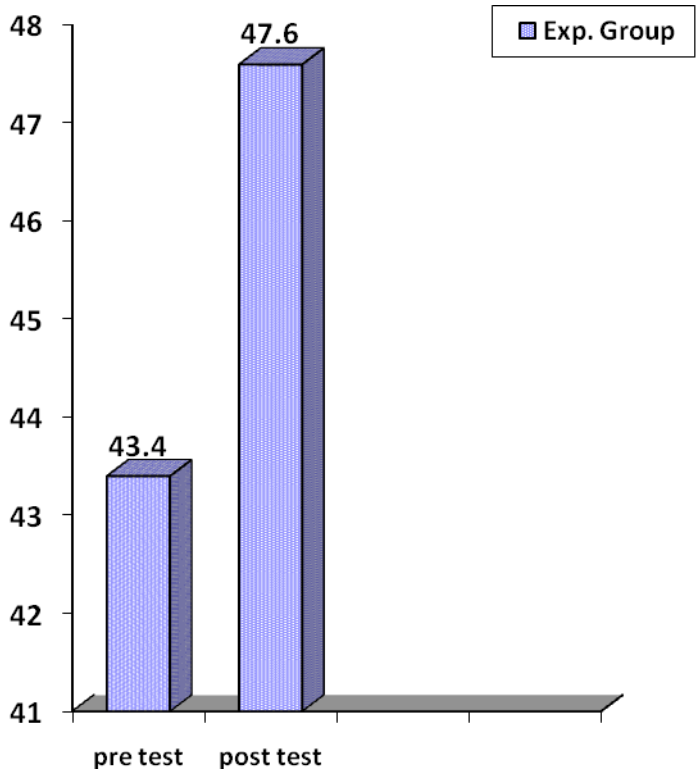
Table-3 Mean differences between the pre and post test scores of experimental group on vertical jump(in cm**)**

Sr. no.	Group	Test	N	Mean	SD	MD	df	't'value
1 2	E.G E.G	Pre test Post test	15 15	43.4 47.6	1.52 1.73	4.2	28	7.24*

*Significant at .05 level of confidence.
Table value .05(28) df= 2.04

Table-3 reveals that the mean of pre and post test experimental group are 43.4 and 47.6 and their calculated't' value is 7.24 which is greater than that of tabulated value 2.04 (28 df at 0.05 level of confidence). It is indicates that there is significance difference between the pre and post test of experimental group. It is also indicated that plyometric training effects on muscular system of legs which improve the power of the legs.

Fig-3: Graphical representation of mean differences between the pre and post test of experimental group on vertical jump ability.



Conclusions:

The present study shows that there exist significant effects on jumping ability of Volleyball players in secondary school students after the plyometric training of six weeks on the experimental group. The researcher found that jumping ability was improved after giving the 6 weeks of plyometric training programme. Finally researcher concluded that ploymetric training have significantly improved jumping ability of the Volleyball players in secondary school.

References:

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