



EFFECT OF PLYOMETRIC TRAINING ON VERTICAL JUMP AMONG VOLLEYBALL PLAYERS

Smt. S. Bhavani Rajeswari

Lecturer, Rayalaseema College of Physical Education, Proddatur, Andhra Pradesh, India.

ABSTRACT

The purpose of the study was to find out the effect of plyometric training on vertical jump among volleyball players. To achieve the purpose of the present study, thirty players from Rayalaseema College of Physical Education, Proddatur, Andhra Pradesh were selected as subjects and their age shall ranged from 18 to 25 years. The subjects were divided into two equal groups. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=30) were randomly assigned to two equal groups of fifteen players each. The groups were assigned as plyometric training group and control group in an equivalent manner. The experimental group were participated the training for a period of six weeks to find out the outcome of the training package. The initial and final scores in vertical jump were put in to statistical treatment using paired 't' test to find out the significant mean differences. There was significant improvement on vertical jump of volley ball players due to plyometric training.

KEYWORDS: Plyometric Training, Vertical Jump, Volleyball Players.

INTRODUCTION

Plyometric exercises train the muscles to effectively carry out the stretch-shorten cycle (SSC) which is a pattern of muscle contraction involving a stretch of the muscle followed immediately by an explosive contraction. Plyometric training is a method of developing explosive power and ultimately, improving athletic performance. Plyometric exercises include jumps, hops, skips, bounds and throws. Although plyometrics have long been utilized in athletic training and conditioning, the term did not begin to appear in literature until the 1960's. Often an "innovative" training method such as this will be met with some skepticism; however, plyometric training has been adopted by coaches and athletes of all

sports and disciplines from pure power athletes to team sports to endurance events such as rowing and long distance running (Carlson et al. 2009).

METHODOLOGY

The purpose of the study was to find out the effect of plyometric training on vertical jump among volleyball players. To achieve the purpose of the present study, thirty players from Rayalaseema College of Physical Education, Proddatur, Andhra Pradesh were selected as subjects and their age shall ranged from 18 to 25 years. The subjects were divided into two equal groups. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=30) were randomly assigned to two equal groups of fifteen players each. The

groups were assigned as plyometric training group and control group in an equivalent manner. The experimental group were participated the training for a period of six weeks to find out the

outcome of the training package. The initial and final scores in vertical jump were put in to statistical treatment using paired ‘t’ test to find out the significant mean differences.

RESULTS

**TABLE - I
COMPUTATION OF ‘T’- RATIO FOR THE MEAN DIFFERENCE ON PRE AND POST-TEST OF EXPERIMENTAL GROUP ON VERTICAL JUMP**

	Mean	MD	SD (±)	Standard Error of Mean	‘t’ ratio
Pre-Test	23.34	5.79	2.08	0.38	15.21*
Post-Test	29.13				

*significant at 0.05 level 2.04

The above table indicates that the mean value for pre test was 23.34 and post test was 29.13. The mean difference for the pre test and post test was 5.79. The standard deviation for the pre test and post test was 2.08. The standard error of the different between the means was found out and the value was 0.38. The obtained ‘t’ ratio was 15.21. The table value of ‘t’ ratio was 2.04 at 0.05 level. The obtained t-ratio was greater than the table value. Hence, the obtained ‘t’ – ratio was significant at 0.05 level of confidence. The pre test and post test means of experimental group on vertical jump was presented the figure I.

**FIGURE 1
BAR DIAGRAM SHOWING THE MEAN DIFFERENCE ON PRE AND POST-TEST OF EXPERIMENTAL GROUP ON VERTICAL JUMP**

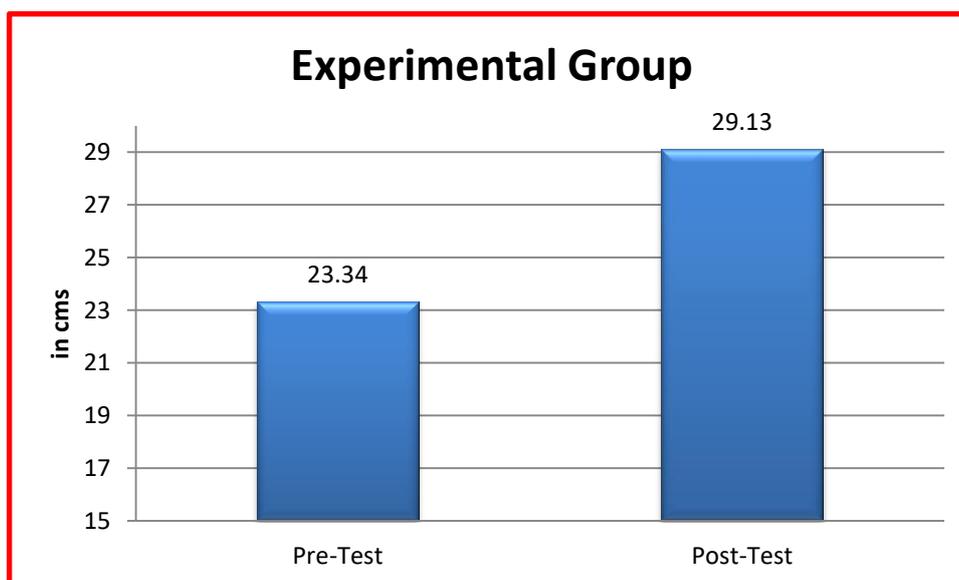
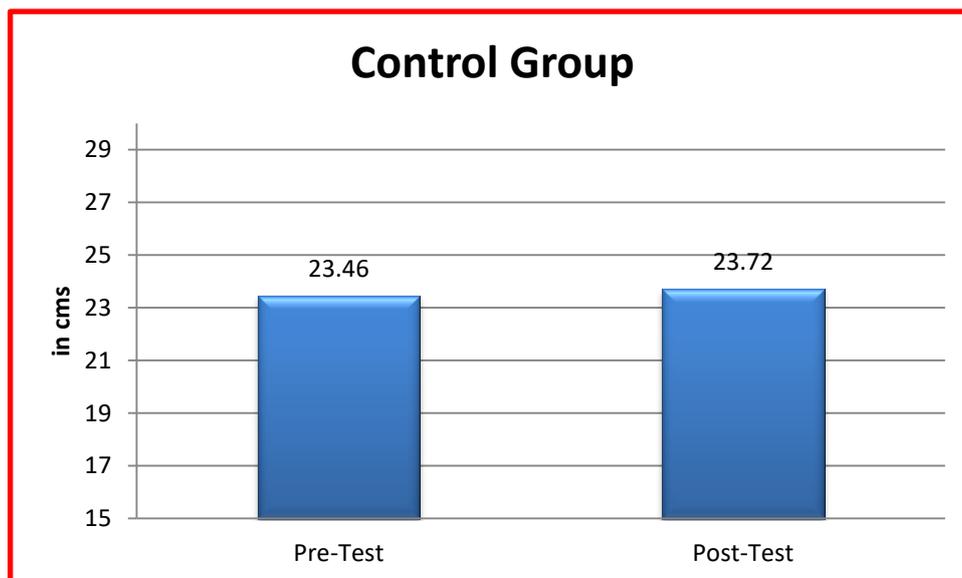


TABLE - II
COMPUTATION OF 'T'- RATIO FOR THE MEAN DIFFERENCE
ON PRE AND POST-TEST OF CONTROL
GROUP ON VERTICAL JUMP

	Mean	MD	SD (±)	Standard Error of Mean	't' ratio
Pre-Test	23.46	0.26	0.95	0.17	1.49
Post-Test	23.72				

The above table indicates that the mean value for pre test was 23.46 and post test was 23.72. The mean difference for the pre test and post test was 0.26. The standard deviation for the pre test and post test was 0.95. The standard error of the different between the means was found out and the value was 0.17. The obtained 't' ratio was 1.49. The table value of 't' ratio was 2.04 at 0.05 level. The obtained t-ratio was greater than the table value. Hence, the obtained 't' – ratio was insignificant at 0.05 level of confidence. The pre test and post test means of control group on vertical jump was presented the figure II.

FIGURE - II
BAR DIAGRAM SHOWING THE MEAN DIFFERENCE ON
PRE AND POST-TEST OF CONTROL GROUP
ON VERTICAL JUMP



CONCLUSION

There was significant improvement on vertical jump of volley ball players due to plyometric training.

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