



EFFECT OF PLYOMETRIC TRAINING ON EXPLOSIVE POWER OF VOLLEYBALL PLAYERS

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Abstract

The purpose of the study was to find out the "Effect of Plyometric Training on Explosive Power of Volleyball Players". Twenty four Female subjects aged between 18 to 22 years were selected randomly. They were divided into two groups the experimental group I was given Plyometric training for twelve weeks and control group was not allowed to participate in any training programme. Pre-test was conducted dependent variables such as Explosive Power at the beginning before the experimental treatment and post-test was taken after the experimental treatment. The data were analyzed by applying dependent mean and 't' test. The results revealed that the Plyometric training had significantly developed the Explosive Power.

Keywords: *Plyometric training, Explosive Power, Volleyball Players.*

Introduction

Plyometrics is a method of developing explosive power, an important component of most athletic performances. As coaches and athletes have recognized the potential improvements which Plyometrics can bring about in performance, they have integrated it into the overall training programme in many sports and made it a significant factor in planning the scope of athletic development.

Plyometrics is a new form of isotonic training which became popular during the late 1970s and early 1980s. Proposed to bridge the gap between speed and strength, plyometrics uses the stretch reflex to facilitate the recruitment of additional motor units and loads both the elastic and contractile components of muscle and hence, plyometrics has been referred to as bounce loading or rebound jumping.

The word Plyometrics is derived from the Greek word pleythyein meaning "to increase" or from the Greek roots plio and metric meaning 'More' and 'means'. Plyometrics refers to exercises that enable a muscle to reach maximal strength in as shorter time as possible. Plyometrics exercises are important in sports requiring high levels of speed strength (ability to exert maximum force during high speed activity) to complete movement such as sprinting, jumping and throwing.

Hypothesis

- It was hypothesized that there would be a significant improvement between pre and post-test due to 12 weeks of Plyometric training on Explosive Power of Volleyball Players.
- It was hypothesized that there would not be a significant improvement between pre and post-test for control group on Explosive Power of Volleyball Players.
- It was hypothesized that there would be a significant difference between experimental and control group on Explosive Power of Volleyball Players.



Delimitations

- The following delimitations are considered in this study. 24 Volleyball Players were selected randomly.
- The experimental group was given Plyometric training for a period of 12 weeks.
- The subject's age group ranged from 18-22 years.
- The study was restricted to Explosive Power of Volleyball Players.

Methodology

The purpose of the study was to find out the "Effect of Plyometric Training on Explosive Power of Volleyball Players". To achieve the purpose of the study 24 women Volleyball Players subject in the age group 18 to 22 years were selected at random from National level Volleyball Players in Vijayapura District of Karnataka. Selected subjects were divided in to two groups of experimental I and control group II, Experimental group I Plyometric training group for the training period twelve weeks Six day per week. The control group were maintained their daily routine activities and no special training was given.

Selection of Variables Plyometric Training

- Squat Jump
- Burpee
- Combination Bound
- Drop Push-up
- Plyometric Sit Ups
- Depth Jump

Analysis and Interpretation of Data

The purpose of the study was to find out "Effect of Plyometric Training on Explosive Power of Volleyball Players". To achieve this purpose the data collected for the study were put into analysis and results of which are presented in the table.

Table 1: Showing the Pre-test and Post-test for Explosive Power performance

Variable	Group	Test	Mean	SD	t- Value
Explosive Power	Experimental Group	Pre-test	26.4082	2.45174	9.756*
		Post-test	37.6628	10.70715	
	Control Group	Pre-test	26.9082	2.87274	1.86
		Post-test	25.1737	2.48109	

The level of significant 0.05=Table value =1.96

Table 1 Shows that the experimental group's mean performance value of Explosive Power of pre-test is 26.4082 and the post test is 37.6628 the post-test Explosive Power performance is more than pre-test Explosive Power performance and also the 't'- value is more than the table value. Hence it indicates significant developed of Explosive Power. The control group's mean performance value of pre and post-test values are 26.9082 and 25.1737 respectively. The 't'- value is less than the table value. Hence the pre and post-test values indicate insignificant.



Figure No.1.The Pre-test and Post-test for Plyometric training Experimental Group and Control Group on Explosive Power performance.

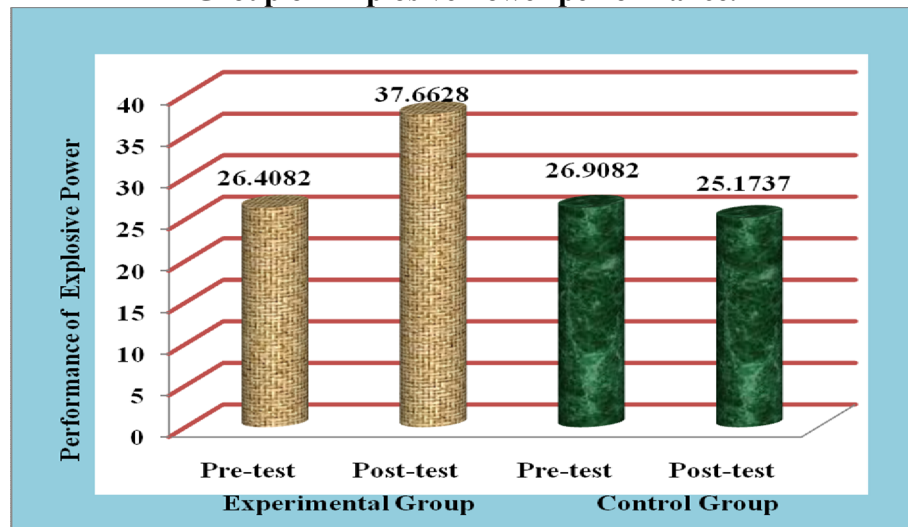


Figure1. (a) Indicates that the post test values of Experimental group significantly improved the performance of Explosive Power and also the post-test values of Explosive Power were more than the pre test values due to twelve weeks of Plyometric training. The Control group pre- test and post- test performance of Explosive Power shows no improvement.

Summary

The purpose of this study was to find out the “Effect of Plyometric Training on Explosive Power of Volleyball Players”. To achieve this purpose twelve weeks Plyometric training was given to selected Volleyball Players. To know the Plyometric training developed Explosive Power performance.

Conclusion

The Plyometric training group had shown significant improvement in Explosive Power. The control group had not shown any significant changes on Explosive Power.

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