



Effect of Varied Intensity Plyometric Training on Vertical Jumping Ability of College Soccer Players

KEYWORDS

Basketball, Anthropometry, Physiological and Psychological Characteristic

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Introduction

The cornerstone to success is not just hard work, it is relevant hard work, not working for the sake of it. Thousands of press-ups or lots of passing drills won't create a winning team. Each unit of training needs to be focused on moving the player and team forward. A good coach can create a good work ethic which includes players understanding the benefits of their work and why it makes a difference. When players see success or near-success from set pieces, it motivates them to keep playing in a manner that increases their chances of gaining set pieces. Most of the goals are scored through their heads from the set pieces. That needs players vertical jumping ability combined with a good technique. Plyometrics is the one of the best method of training to improve the vertical jumping ability of the soccer players. . This study aims at finding out the effect of medium and high intensity plyometric training on vertical jumping ability of soccer players.

Methods

Thirty men college soccer players of age 17 to 25 years from Nazareth Margoschis College, Nazareth were selected as subjects at random to undergo the training. They were divided in to three groups namely moderate intensity plyometric training group (Experimental group I), high intensity plyometric training group (Experimental group II), and control group (group III) each consists of 10 subjects. The experimental groups (I & II) were subjected to six weeks of moderate and high intensity plyometric training respectively, and the group III acted as control. The experimental groups I and II used 45cms boxes for depth jumps and the load given were progressively increased from 100 foot contacts up to 250 foot contacts of moderate intensity plyometric drills and high intensity plyometric drills respectively. The training was given 3 days per week (alternate days) and every training session lasted for 45 to 60 minutes. The subjects of all the three groups were tested on vertical jumping ability prior to and after the training period.

Data Collection

The data on vertical jumping ability were collected by administering Sargent vertical jump test. The pre-test data were collected two days before the training program and the post-test data were collected two days after the training program.

Analysis of the Data

The data collected from thirty men subjects (i.e. the three groups) from pre-test and post-test experimentation on vertical jumping ability were statistically examined for significant difference, if any, applying the analysis of co-variance (ANCOVA). Whenever the 'F' ratio was found to be significant for adjusted post-test means, Scheffe's test was followed as the post-hoc test to determine which of the paired means difference was significant.

Discussion on Findings

ANALYSIS OF COVARIANCE FOR THE PRE AND POST TESTS DATA ON VERTICAL JUMPING ABILITY OF Low INTENSITYPLYOMETRIC TRAINING, HIGH INTENSITY PLYO-

METRIC TRAINING AND THE CONTROL GROUPS

Criterion Variable	Adjusted Post Test Means			Source of Variance	Sum of Square	df	Means Square	F-ratio
	Moderate intensity plyometric training group (cms)	High intensity plyometric training group (cms)	Control Group					
Vertical Jumping Ability	61.366	55.468	51.265	B	438.52	2	219.26	44.90*
				W	147.53	27	147.53	

* Significance at .05 level

The analysis of the data showed that there was significant variance among the adjusted post-test means of moderate intensity plyometric training group, high intensity plyometric training group and control groups. Further, to determine which of the three paired means had a significant difference, scheffe's test was applied.

Scheffe's test for the differences between the adjusted post-test paired means of vertical jumping ability

Adjusted post-test means				Mean Difference
Moderate Intensity Plyometric Training Group (cms)	High Intensity Plyometric Training Group (cms)	Control Group (cms)		
61.366	55.468			5.898*
61.366		51.265		10.101*
	55.468	51.265		4.203*

Significance at .05 level.

The scheffe's test showed that, the adjusted post-test mean difference in vertical jumping ability between moderate intensity plyometric training group and high intensity plyometric training groups 5.898 was insignificant at .05 level, the adjusted post-test mean difference between moderate plyometric training and control group 10.101 was significant at .05 level and the adjusted post-test means of high intensity plyometric training group and control group 4.203 was also significant at .05 level. So, from the analysis of data it was understood that vertical jumping ability was improved on moderate intensity plyometric training group than the control group up to significant level. The post-test mean value between high intensity plyometric training group and control group shows significance at .05 level, so the improvement on vertical jumping ability, was up to the significant level. Since there was a vast difference between moderate intensity plyometric training group and high intensity plyometric training group, the improvement of vertical jumping ability between these two groups was significant difference at .05 level.

CONCLUSION

On the basis of findings of the study the following conclu-

sions were drawn.

The vertical jumping ability was significantly improved by moderate plyometric training when compared to the control group.

The vertical jumping ability was significantly improved by

moderate intensity plyometric training group than the high intensity plyometric training group.

Vertical jumping ability was significantly improved due to high intensity plyometric training when compared to control group.

REFERENCE

1. Jumping into Plyometrics, Donald A. Chu, Human Kinetics, 1998, | | 2. High-Powered Plyometrics, James C. Radcliffe and Robert C. Farentinos, Human Kinetics, 1999.