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Effect of Plyometric Training on Selected Motor Variables among Volleyball Players

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Abstract

The purpose of the study was to investigate the effects of plyometric training on Agility and Explosive power among volleyball players. Twenty four (12 experimental group and 12 control group) male volleyball players were selected as subjects form Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu, India. The age of the participants were ranged from 21 to 25 years. Agility and explosive power were selected as variables for this study and they were tested by shuttle run test and standing broad jump test. The experimental group underwent plyometric training for the period of six weeks with alternate three days in a week. The data was collected before and immediately after the training period. The collected data was statistically analyzed by dependent t test and it was tested by 0.05 level of confidence to find the significant difference between the selected groups. The result shown that, there was a significant difference exists on agility and explosive power among Volleyball players.

Keywords: Agility, Explosive power, Plyometric Training, Volleyball Players.

Introduction

Volleyball is a team sport that can be played both indoors and outdoors. People at any age and skill levels can be play and benefits. It improves muscle strength of all body parts, improves hand-eye coordination, balance and provides enjoyment through relaxation. Agility is the quality of a muscle to contract forcefully in the quickest possible time (Hardayal singh, 1991). The rate of force development is at the maximum for any type of muscle action is explosive power. Agility and explosive power is essential for utmost development of all skills in Volleyball. To increase strength and explosiveness most of the athletes uses Plyometrics training techniques in all types of sports (Chu, 1998). Plyometrics consists of a rapid stretching of a muscle (eccentric action) immediately followed by a concentric or shortening action of the same muscle and connective tissue (Baechle and Earle, 2000). Hence the researcher wants to analysis the effects of Plyometric training on motor variables among volleyball players.

Purpose of the Study

The purpose of the study was to investigate the effects of Plyometric training on Agility and Explosive power among volleyball players.

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Methodology

To achieve the purpose, Twenty four (12 experimental group and 12 control group) male volleyball players were selected as subjects form Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu, India. The age of the participants were ranged from 21 to 25 years. Agility and lower body explosive power were selected as variables for this study and they were tested by shuttle run test and standing broad jump test. The experimental group underwent Plyometrics training for the period of six weeks with alternate three days in a week. The data was collected before and immediately after the training period. The collected data was statistically analyzed by dependent t test and it was tested by 0.05 level of confidence to find the significant difference between the selected groups. The result shown that, there was a significant difference exists on agility and explosive power among Volleyball players due to the effects of Plyometric training.

Analysis of the Data

The selected variables were compared between Experimental and Control players and presented in the table.

Table I: The analysis of the effect of plyometric training on agility and explosive power among volleyball players

Variables	Mean value'		't' test
Agility/ Shuttle run	Pre test	9.96	5.84*
	Post test	9.56	
Explosive power/ Standing broad jump	Pre test	2.22	
	Post test	2.33	

*Significant at .05 level. Table values required for at 0.05 level of significance with df 22 is 2.07

The above table the dependent 't' test values of agility between the pre and post tests means of experimental groups were greater than the table value of 2.07 with df 22 at .05 level of confidence, it was concluded that experimental group had significant improvement in the agility compared to control group.

From the above table the dependent 't' test values of explosive power between the pre and post tests means of experimental groups were greater than the table value of 2.07 with df 22 at .05 level of confidence, it is concluded that experimental group had significant improvement in the explosive power compared to control group.

Discussion on Findings

The result of the present study pointed out that there was a significant difference in agility and Explosive power due to six weeks of Plyometric training. The findings are also in agreement with the findings of Robinson & Owens used vertical, lateral and horizontal plyometric jumps and showed improvements in agility, Brown that plyometric exercises improve the agility. Renfro measured agility using the T-test with plyometric training while. From the results of the present study it is concluded that dependent variable such as agility and explosive power were significantly improved due to the Plyometric training.

Conclusion

There was significant difference between the two groups on Agility and Explosive power. This indicates that the plyometric training programme have significant effect to improve Agility and Explosive power. Plyometric training is a method of developing explosive power and agility, an important component of Volleyball performances. Volleyball have recognized the potential improvements which Plyometric training can bring about in sports performance, they have integrated it into the overall training programme in many sports and made it a significant factor in planning the scope of skill development in Volleyball.

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