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Impact of Plyometric Training On Speed, Strength And Ball Control Ability of Male Basketball Players

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Abstract

The aim of the study was to find out the impact of plyometric training on the speed, power and ball control of male basketball players. For this purpose, 12 boys studying at Lucknow University, Lucknow were selected as subjects for this study. The subjects were regular members of the varsity's basketball team. The experimental group underwent 12 weeks of plyometric training in addition to regular practice. The top performing player must have superior ball control activity and dynamic bio motor fitness to integrate them for outstanding performance. In this study, speed, power and ball control were selected as dependent variables. Plyometric training is a relatively new training concept and encompasses the principles of specificity regarding the pre-stretch state of muscles prior to explosive contraction. For example, plyometric exercise was selected as independent variables (training tools) to test the speed, power and ball control of male basketball players. According to the available literature, 50 meters of running, vertical jump and Johnson basketball test were used to collect relevant data on speed, power and ball control, respectively. It is concluded that plyometric training significantly impacted certain criteria variables, such as speed, power, and ball control, which are the foundation of male basketball players.

Keywords: Speed,Strength,Ball Controlling Ability,Plyometric Training.

Introduction

Training is not a recent discovery. In ancient times, people were trained for military and Olympic endeavours. Today, athletes systematically prepare for a goal through effort. Athletes do not develop overnight and a coach cannot work miracles by ignoring scientific and methodological theories (Bompa, 1999).

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Sports training is a basic preparation for better performance through exercise. It is based on the scientific principle of focusing on education and performance improvement. Sports activities consist of motor movements and actions and their success largely depends on how well they are performed. Training techniques and improving tactical efficiency play a crucial role in a training process. The main components that influence an athlete's physical performance are strength, speed, agility, endurance, strength and coordination. The potential for action depends on the natural abilities and at the same time the foundations act as the foundation for excellence (Singh, 1990).

Plyometric Training

Plyometric also called jumping training in which muscles exert maximum force in a short time interval with the aim of increasing power (speed and power). The term plyometrics was coined by Fred Wilt after watching a Soviet athlete prepare for his track and field events, he felt it was the key to his success. He started a collaboration with Soviet (Russian) trainer Michael Yessis to promote Plyometric. Since its introduction in the early 1980s, two forms of plyometrics have been developed. In the original version of plyometrics, created by the Russian scientist Yuri VerthoShansky, it was defined as the shock method. Plyometric training improves the athlete's ability to apply more force faster. This ability to generate maximum power can be converted into sport-specific power in sports such as martial arts, soccer, tennis, basketball, and track and field. This is achieved through plyometric exercises that repeatedly stimulate muscle elasticity with movements that mimic the chosen sport.

Statement of the Problem

The study was intended to investigate the effect of plyometric exercise on speed, power and ball controlling ability among Men Basketball players.

Hypothesis

There may be a significant improvement in speed, strength and ball controlling ability due to plyometric training

Method

The purpose of the study was to find out the effect of plyometric exercises on speed, power and ball controlling ability of women basketball players. For this purpose 12 Boys studying at Lucknow University, Lucknow were selected as subjects for this study. The

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subjects were regular members of the University men basketball team. The experimental group underwent plyometric exercises for duration of 12 weeks in addition to the regular practice.

The most successful player should have superior ball controlling ability and dynamic bio motor fitness to integrate them for excellent performance.So, in this study speed, power and ball controlling ability was selected as dependent variables.Plyometric exercise is relatively new concept of training and its implies the specificity principles regarding the pre stretch condition of the muscles prior to explosive contraction. So, plyometric exercise was selected as independent variables (Training means) to test speed, power and ball controlling ability of men basketball players. As per the available literature, 50 meter run, vertical jump and Johnson basketball test were used to collect relevant data on speed power and ball controlling ability respectively.

Training Program and Collection of the Data

During the training period, the experimental group underwent the plyometric exercise program, three days per week(alternate day) over 12 weeks in addition to the regular practice.Every training on lasted for 45 to 60 minutes approximately, including up and cool down.Pre-test data were collected two days before training program and post test data two days after the training program on speed, strength, and ball controlling for the experimental group.

Experimental Design and Statistical Technique

The experimental design used in this study was similar to single group design. The concept of dependent-test and magnitude of improvement were used to analysis the data for significant difference. The confidence interval was fixed at0.05 level.

Discussions of Findings

Summary of Dependent t-ratio and Magnitude of Improvement of Pre&Post Test Data on Speed, Strength & Ball Controlling Ability of Men Basketball Players

Variables	Pre-test	Post-Test	t-ratio	M.I.
Speed	6.6	6.3	5.39*	4.5%
Power	38.45	42.15	7.14*	10.2%
Ball Controlling Ability	55.26	58.74	6.88	5.9%

Significant at0.05 level. Tabulated value required for significance with df 15 if 2.14

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The obtained t-ratio values of speed,strength and ball controlling ability are 5.39, 7.14 and 6.88 respectivelywhich are greater than the tabulated value of 2.14 at 0.05 level of confidence. The magnitude of improvement of speed, strength and ball controlling ability are 4.5%, 10.2% and 5.9% respectively due to the influence of plyometric training over 12 weeks.

Conclusion

It is inferred that plyometric training had significantly influenced on selected criterion variables, such as speed, strength and ball controlling ability which are the basis for men Basketball player.

Recommendation

It is recommended from the result of the study that plyometric training should be included in the preparation of basketball players for highest performance.

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