Efforts To Improve The Quality of Agility

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EFFORTS TO IMPROVE THE QUALITY OF AGILITY THROUGH ROPE JUMP EXERCISE (PLYOMETRIC) WITH INTERVAL TRAINING METHOD 1 : 2 AND INTERVAL TRAINING METHOD 1 : 3

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Abstract

The purpose of this study was to analyze whether the agility can be enhanced through the rope jump exercises a form of plyometric exercises with interval training method 1 : 2 and interval training method 1 : 3. Agility is the dominant component of the physical conditions in some sports. This research method is quasi experimental and design using Randomize Group Pre-Test Post-Test Design. Sample in this study were young or athlete that has the characteristics of male gender, age 18 s/ d 20 years old, able-bodied and as many as 24 people.

The results of data analysis using t-test showed that in group 1(one) were treated the rope jump with interval training method 1 : 2 between the data pre-test and post-test shows that the value of (t = 14.745) and a probability value (p = 0.000 < 0.05). In group 2 (two) were treated the rope jump with interval training method 1 : 3 between the data pre-test and post-test shows that the value of (t = 15.501) and a probability value (p = 0.000 <0.05).While the between group 1 and group 2 shows that the value of (t = 0.338) and a probability value (p = 0.742 > 0.05). Conclution: Rope jump exercises with interval training method 1 : 2 and 1 : 3 both provide significant improvements in agility. But statistically show that the rope jump exercises with interval training method 1 : 2 and 1 : 3 gives effect did not differ significantly on agility.

Keywords: Rope Jump, Agility, Interval Training.

Introduction

some sports movement for example dribble the ball while running and moving directions as quick as in the game of basketball, football, hockey is performed at high speed and many times, or the movement of taking the shuttle cock in a game of badminton, the physical elements like agility, reaction speed, and endurance especially anaerobic endurance must be completely owned by the athlete.

Agility is one component of physical condition that must be maintained quality in some sports. So far attempts to define the agility in the aspect or scope exercise less scrupulous. The term agility is often synonymous with the ability to coordinate movements of the skills, abilities feinting or dexterity. Agility is a very modest quality of the relationship that involves physical components such as reaction time, speed, strength, flexibility, motor skills, and others who move in together.

To improve the agility needed to be made a special exercise program which is expected to accelerate mastery of the techniques of sports. So it is necessary to find a suitable form of exercise to improve agility, one of which is a plyometric exercise. plyometric can be considered as one important tool for those who want to add a dimension to its training program (Ebben W.P 2007). Maximizing the plyometric training program effectively and prevent the occurrence of injury depends on the intensity of workout progress logically. This is done to prevent injuries from exercise. Vossen J.F. et al (2000) stated that the athletes and coaches should be careful when entering plyometric exercises into their training programs. If not careful, the high potential for injury.

Many training methods used in efforts to improve the physical condition, but the physiological training method leads to improvements in aerobic and anaerobic capacity is the method of interval training. Within 12 weeks, interval training long and short physiologically can improve endurance capacity, but the workout with short intervals more effective to increase anaerobic capacity, so the exercise short intervals of high intensity may be recommended for the physical preparation of the players field hockey and several sports teams another considers that both aerobic and anaerobic capacity is important (Stagno KM, et al 2004) .

Bompa (1994) says that the dominant energy system used in the game of basketball is the anaerobic energy system. This is in accordance with the dominant element of the physical conditions in basketball such as power, agility and anaerobic endurance. To get the special abilities of the physical condition, a form of exercise that matches one of which is a plyometrics

workout. Form of plyometric exercises a lot of variety among others depth jump, jump cone, box jump, rope jump, and much more.

Objectives

This study aimed to analyze the rope jump exercises with interval training method 1 : 2 and 1 : 3 in order to increase agilityof youth or athletes who has the characteristics of male gender, aged 18-20 years old and able-bodied

Methods

This type of research quantitatively using quasi-experimental and research design randomize group pre-test post-test design (Nasir, 2003). Using a quasi-experimental method because the researcher can not control all the outside studied fariabel that can affect the results of the research, such as: food intake of each subject every day, other activities outside the research is conducted activities, and so on.

Subject

sample in this study were young or athlete that has the characteristics of male gender, age 18 s / d 20 years old, able-bodied and as many as 24 people. The subjects were divided into two groups by random. Each group consisted of 12 people. Group 1 was treated rope jump with interval training method 1:2 while the group 2 was treated rope jump with interval training method 1:3.

Instrument

The instrument used for data collection in this study both the data pre-test and post test is TKK 1272 Beam Type Repetitive Side Step Test

Results

Description of Data

The results of measurements and descriptive analysis of data pre-test variable agility in the group given exercise rope jump with interval training method 1:2 is the number of subjects (n = 12), the minimum value (27.00), maximum value (38.00), average value (32.83), and the standard deviation (3.27). The results of measurements and descriptive analysis of data pre-test variable agility in the group given exercise rope jump with interval training method 1:3 is the number of subjects (n = 12), the minimum value (29.00), maximum value (37.00), average value (32.33), and the standard deviation (2.50).The results of measurements and descriptive analysis of data post-test variable agility in the group given exercise rope jump with interval training method 1:2 is the number of subjects (n = 12), the minimum value (38.00), maximum value (43.00), the value average (40.42), and the standard deviation (2.07). The results of measurements and descriptive analysis of data post-test variable agility in the group given exercise rope jump with interval training method 1:3 is the number of subjects (n = 12), the minimum value (37.00), maximum value (44.00), the value average (40.75), and the standard deviation (2.60).

T- test

From the calculation of the t-test statistics (paired sample t-test) in group 1 (one) were treated the rope jump with interval training method 1:2 between the data pre-test and post-test shows that the value of (t = 14.745) and a probability value ($p = 0.000 < 0.05$). This indicates that there is a significant effect of training rope jump with interval training method 1:2 to increase agility. In group 2 (two) were treated the rope jump with interval training method 1:3 between the data pre-test and post-test shows that the value of (t = 15.501) and a probability value ($p = 0.000 < 0.05$). This indicates that there is a significant

effect of training rope jump with interval training method 1:3 to increase agility. While the between group 1 and group 2 shows that the value of (t = 0.338) and a probability value (p = 0.742 > 0.05). This suggests that there are not differences of significantly in the effect between group 1 (one) and group 2 (two) to increase of agility.

Discussion

Rope jump is one type of plyometric exercises. In this study using a different method of interval training. Group 1 (one) using interval training 1:2 and group 2 (two) interval training 1:3. its implementation was preceded by a sample stand beside the rope that extends to a height of 40 cm from the ground, then jumped in with two feet together the right and left laterally. The leap is done with both feet together continuously for 15 seconds (one repetition) and the number of replications between 28-30 times. The exercise program carried out for 8 weeks with a frequency of 3 times/week. Whenever the samples do as much exercise 4-5 times repetitions and 3-5 sets. Break between reps accordance with predetermined intervals, and the break between sets for 5 minutes. Increased load exercise performed every 2 (two) weeks

Rope jump is one form of plyometric exercises. Plyometric exercises allow the muscles to reach maximum strength in a short time (Chu, 1998; Fiallo, 2001). This occurs because the type of plyometric exercise is an exercise that combines isometric and isotonic exercises (eccentric-concentric) that use dynamic loading, the strain that occurs suddenly before happens to muscles contraction.Statistically based on the results of analysis using t-test, rope jump exercises with interval training method 1:2 and interval training method 1:3 showed no significant difference. However, if seen an increase in average rope jump exercises with interval training method 1:3 provide greater improvement than the rope jump exercises with interval training method 1:2. Rope jump exercises with interval training method 1:3 increase agility average of 8.42 times, while the rope jump exercises with interval training method 1:2 increases agility average of 7.58 times.Rope jump is a form of plyometric exercises that can be used to improve the physical condition, especially power. Bompa (1999) says that the power and agility have a relationship are interrelated and influence each other positively. Thus plyometric exercise is a type of exercise that can be used to improve agility. In accordance with the opinion of Ebben (2007) if the purpose of the exercise is to improve the physical conditions such as speed, jumping ability, power, and agility, then plyometric is a type of exercise that is suitable for use.

When viewed from the movement, agility is an element of physical condition using anaerobic energy systems. Bompa (1999) says that the method is a good exercise in accordance with the required energy system. Thus the exercise must be adjusted to the intensity of work, long a phase of work in progress or the distance covered in a working phase. Method of interval training had to decide between working time and rest regularly. The timing of a relatively insufficient rest can lead to increased blood lactate. Method of interval training increases the ability of the runner to adapt to blood lactate, helping to increase your lactate threshold, especially in anaerobic activity. A form of exercise should be adjusted to the intensity of work, long a phase of work in progress or the distance covered in a working phase.

So when applied plyometric exercises with interval training method 1:2 and 1:3 can improve the physical condition of the elements, one of which is agility. Based on the analysis of data, although the difference was not significant statistically, but it is recommended to use interval training method 1:3 to increase agility. Conclution: Rope jump exercises with interval training method 1 : 2 and 1 : 3 both provide significant improvements in agility. But statistically show that the rope jump exercises with interval training method 1 : 2 and 1 : 3 gives effect did not differ significantly on agility.

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