

The Effect of Zig-Zag Run Training on Increasing the Agility of Soccer Players

Ramadhan Arifin

*Department of Sport Education and Health
Lambung Mangkurat University
Banjarbaru, Indonesia
ramadhan.arifin@ulm.ac.id*

Gumilar Mulya

*Faculty of Teacher Training Education
Siliwangi University
Tasikmalaya, Indonesia
gumilarmulya@unsil.ac.id*

Edwin Wahyu Dirgantoro

*Department of Sport Education and Health
Lambung Mangkurat University
Banjarbaru, Indonesia
edwin.dirgantoro@ulm.ac.id*

Abstract - The purpose of this study is to determine the effect of Zig-zag run training on increasing agility in soccer players Department of sport education and health ULM Banjarbaru, Factors affecting the age, sex and body weight, being overweight can reduce the speed of muscle contraction, which will reduce the speed of movement and directly reduce agility. From the above background, the researcher wanted to conduct a study on the effect of zig-zag run training on increasing the agility of the soccer player department of sport education and health ULM Banjarbaru. The method used in this study is the Pre-Experimental Design method, experimental results which are the dependent variable, this can occur, because there are no control variables and the sample is not chosen randomly. The design of this study was using One-Group Pretest-Posttest Design. Conclusions from the results of the research that has been done, it can be concluded that there is an effect of zig-zag run training on increasing agility on the soccer players of department of sport education and health ULM Banjarbaru

Keywords: *zig-zag run, football, agility*

I. INTRODUCTION

Football is one of the favorite sports in the world, as is Indonesia, from the age of children to parents, as this sport, in the form of team games, each team consists of eleven players, and one of them is a goalkeeper. According to Nurfalalah et al a soccer player must master the basic techniques that are correct must also have good physical conditions, physical conditions in football that are indispensable include strength, speed, flexibility, balance, coordination, agility, endurance, explosive power, accuracy and reaction. One that is needed by athletes in soccer is agility [1]. Agility is the ability to change the direction or position of the body quickly, which is done together with other movements [2]. As a soccer athlete, having good agility has several advantages, including easy to do difficult movements, not easy to fall or injury, and supports the techniques he uses, especially dribbling techniques [3].

Several factors affect the physical condition of a sports athlete including: Development of age (children, adolescents, adults, parents), Congenital genetic organs (especially the heart, blood circulation and exchange systems of substances and muscles), Mechanisms for controlling the coordination of the central nervous system, collaboration between the brain, nervous system and muscles, psychic to realize

physical abilities, and the most important are: strong will, self-confidence, achievement motivation, age of training [4].

Adolescence is part of an individual's life phase, which is a transition period from childhood to adulthood marked by accelerated physical, mental, emotional, social development, and takes place in the second decade of life. The age of students entering adulthood, in this phase, really need more nutrition for growth to run optimally, physical development can be seen from the growth of limbs and hands, leg bones and hands, and muscles that develop rapidly [5].

Agility is not a single physical ability but is composed of components of coordination, power, strength, flexibility, and speed. According to Holmberg agility is a form of movement that requires a person or player to move quickly and change direction and agile. An agile player is a player who moves without losing balance and awareness of his body position [6].

Factors that affect agility, according to Ismayarti are composed of several components consisting of speed, coordination, flexibility, reaction time, and strength. In addition, agility is also influenced by age, sex, and weight [7]. Being overweight can reduce the speed of muscle contraction, which will reduce the speed of movement and will directly reduce agility. From the above background, the researcher wanted to conduct a study on the effect of zig-zag run training on increasing the agility of the soccer player department of sport education and health ULM Banjarbaru.

II. METHODOLOGY

The method used in this study is the Pre-Experimental Design method. According to Sugiyono Pre-Experimental Designs, namely "experimental results which are the dependent variable, this can occur, because there are no control variables and the sample is not randomly selected" [8]. The design of this study was using One-Group Pretest-Posttest Design.

III. RESULTS AND DISCUSSION

The results of the study after going through the normality test and homogeneity test and hypothesis testing are two-average tests or t-test showed that the Combination zig-zag drill exercise had an effect on increasing agility compared to before being treated with the Combination zig-zag drill

exercise. It is known that the value to start or -207> 5.74> 207. In the initial test, the ability of the soccer player department of sport education and health FULM can be taken with an average initial test time of 14.08 seconds while in the final test the ability of the soccer player department of sport education and health ULM agility can be reached with an average final test time of 12.99 seconds.

The results of the initial test and final test measuring the agility of futsal players in SMP Negeri 6 Banjarbaru, the fastest time for agility is 13.3 seconds, and the longest time is 15.58 seconds. While the final time test is the fastest agility of 11.74 seconds, and the longest time is 14.98. After being treated, zig-zag drill Combination exercise. The results of the comparison of the initial test and the final test showed an increase in agility in soccer players department of sport education and health ULM where the highest increase was 1.9 seconds, and the lowest increase was 0.05 seconds. And yields a 9.15% reminder. In this study, the training program is based on clear training principles and training components. The individual principles related to treatment can be seen from the different maximum test abilities. Then on the principle of adaptation to increasing physical abilities, that is, the agility of the players carried out during 18 meetings (training) for six weeks, and physiological improvement on this principle is, an increase in muscle meaning, strength, flexibility, and endurance of the muscles will increase. In this study, the principle of weight is used more for exercise intensity. Every two weeks the intensity of the exercise is increased and reps every week increases according to the intensity of the exercise. They have added again to the principle of readiness and the principle of specifications. Training that can be an injury, injured, or overtraining is dangerous for themselves.

As described, the treatment that was only carried out for six weeks, implementation three times a week experienced a significant increase. If the longer time for the treatment of this exercise will increase will be higher, but due to limitations and costs that do not allow given a longer treatment, the researcher can only examine up to here. Researchers believe that the results of the data obtained in this study if the treatment is given longer will achieve satisfactory results in physical form, especially agility.

In this study, the preparation of training components must also be correct. The training components in this research are intensity, set, repetition, volume, recovery, interval, duration, rhythm, and frequency, and speed (travel time). The training intensity for agility in this study is 80-95% with the determination of the maximum intensity using the reps per each individual, and with three sets. In the rhythm of the exercises use fast rhythms, because to increase agility. The rest of this exercise is 3 minutes between sets. In this study, the duration ranged from 1-2 hours, consisting of warm-up, core training, cooling. In this study, the frequency of treatment was three times a week. To make a profit in training agility performance, athletes must apply dynamic strength when training on the field. Lower intensity will not produce profits. Thus a slight positive transfer to performance in athletes. To find out the ideal intensity to use in training, coaches must regularly test athletes to determine their maximum capacity to carry out a given exercise, as stated by Bompa and Carrera mentions the intensity and duration of agility training at a young age. namely: For

agility and speed training must be done with high intensity ie at 80 - 95 percent of the best performance athletes [9].

The neuromuscular system on the quality of agility training depends on the nerve response and reactivity of the neuromuscular system, the agility of this type of training is often referred to as neuromuscular exercise. The ability of the central nervous system to send fast, strong and high impulses into the muscle fibers involved in conducting agility exercises (ie, the level of muscle contraction). So the intensity in training is very influential in increasing agility.

To avoid the potentially detrimental effects of fatigue on high agility training performance, the total time of the training session must be between 5 and 10 minutes. When considered a rest interval (often lasting 2-3 minutes), the total agility training time per session can be as high as 35 minutes. For example, if during an agility training session the number of repetitions of the alactic system and lactic acid exercises 10 seconds, 5 exercises 15 seconds, and 5 exercises 30 seconds (Total 5 minutes and 25 seconds), then the number of rest intervals will be around 27 minutes (1 minute for a 10-second exercise, 1.5 minutes for a 15-second exercise, and 2 minutes for a 30-second exercise). It is the coach's responsibility to monitor the athlete in his development properly.

At the time of the exercise in the field, the researchers gave treatment by conducting initial tests in advance with a maximum test to determine the individual training load. In the exercise of the athlete's pulse, training is always calculated to find out the achievement of the 80% training dose. Researchers gave zig-zag run exercises for 6 weeks with a frequency of exercise 3 times a week, this is in agreement with Bompa about the duration of the exercise, namely: "The volume of anatomical adaptation sessions will fall between 16 and 32 total sets, hypertrophy sessions between 16 and 24 (and less than one hour in duration), a maximum strength session between 16 and 24, a power session between 10 and 16, and a power endurance or nuclear endurance short session between 4 and 12 "[10]. It can be concluded that in conducting an exercise to be able to change physical conditions in this case agility required a large number of exercises between 16 and 24 meetings, in this study the researchers took 18 meetings (6 weeks) in the treatment of exercises to improve agility using zig-zag run exercises. In the initial test, the department of sport education and health soccer player ULM Banjarbaru reached an average of 7.18 seconds and at the final test, an average of 6.75 seconds meant that there was an increase in agility in the soccer player department of sport education and health ULM Banjarbaru.

Thus that the results of research conducted by researchers about the form can provide a positive influence on increasing agility, Zig-Zag run training can be used as a form of agility training but with the correct training principles so that there are no errors in training and also fatal, injury or overtraining that endanger the player or athlete itself.

IV. CONCLUSION

The conclusion of the results of the research that has been done can be concluded that there is an effect of zig-zag run training on increasing agility in the soccer player department of sport education and health ULM.

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