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THE EFFECT OF ZIG ZAG TRAINING ON DRILLING ABILITY IN EXTRACURRICULAR FOOTBALL STUDENTS, CENTRAL SULAWESI

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Abstract

Introduction.
The main problem in this research is that there are still types of exercises and basic techniques for dribbling soccer players, causing low dribbling abilities.

Objectives of the study.
While the purpose of this study, namely to determine the effect of agility on the ability to dribble in soccer extracurricular students in Central Sulawesi.

Research methods..
The type of research used is quantitative with a pre-experimental method using a Matching-Only Design design. The sample in this study was taken from the total population of 20 people using the total sampling technique. Furthermore, the samples were separated from the two groups, namely the experimental group (dribbling) with a total of 10 people, and the control group (comparison) with a total of 10 people using the AB-BA formula. Data collection techniques and research instruments using a herding ability test. The data analysis technique in this study uses statistical techniques which include: descriptive analysis, prerequisite test, and research hypothesis testing.

Research results andConclusion.
Based on the analysis of the results of the research and discussion, it can be concluded that: "There is an effect of agility training on the ability to dribble in soccer extracurricular students in Central Sulawesi". This is evidenced by the value of tcount = 1.91 seconds at df (degrees of freedom) = N – 1 or 10 – 1 = 9, namely the value of ttable = 2.268. So it can be concluded that the value of tcount = 1.91 > t table = 2.268. So it can be concluded that the application of agility training has a significant effect on the ability to dribble in soccer extracurricular students in Central Sulawesi.

Keywords: Agility training, Dribbling, Students

Introduction

Youth sports coaching or at school is one aspect that must be considered and carried out to foster physical fitness and also the talents possessed by each student and must be adapted to the characteristics of students in terms of intellectual and emotional development of students through activities to improve sports skills and physical fitness in overall educational environment for the whole person (TO Bompa, 2015) (Navarro, van der Kamp, Schor, & Savelsbergh, 2018).

Football is a sport that is very well known and loved by people all over the world. Likewise in Indonesia, this game is known and played by most people from children, teenagers, and parents, even women like and play it (Müller, Simons, & Weinmann, 2017). So it is not wrong if in Indonesia football is called a people's sport. Football is a team game, so good teamwork is needed in that team. It also demands the ability of each individual so that in a match they can play well. Achievement is increasing because it is supported by individual abilities (Fenner, Doncaster, McCrobert, Ford, & Iga, nd). Individual abilities, namely techniques, tactics, and other physical needs to be nurtured and developed. As Sukatamsi 1988 (AD Hartono, 2010:1) said, a football player who does not master the basic techniques of playing football is unlikely to become a good and prominent player. Furthermore (in Hartono, 2010: 4) reveals that no matter how good they are at playing soccer, and no matter how good the technical coach is, if it is not supported by the physical conditions needed during 90 minutes of playing, the achievement will not stand out (Fernandez Ortega, los Reyes, & Garavito Peña, 2020) (Modric, Versic, & Sekulic, 2020).

Physical condition is an important factor that must be owned by a football player. In addition to physical conditions, basic skills, namely the ability to dribble in soccer games, are skills that must be mastered by soccer players. Dribbling is a movement in a soccer game that contains art, because of the use of several parts of the foot that touch the ball by rolling the ball on the ground while running. In football games, in order to be able to dribble well, it is necessary to give special training or physical training, and one of the dribbling exercises is agility training. Physical condition training, especially agility, is needed by players when dribbling, outwitting the ball, etc. This is in line with the opinion (Reilly, 2007) that in carrying out game skills such as dribbling, blocking opponents, and overcoming physical challenges, speed and agility are needed. Therefore, agility plays an important role in playing football (Bullock, Panchuk, Broatch, Christian, & Stepto, 2012).

In general, football games run at a fast tempo. Therefore a soccer player must have good skills. Players must be able to run quickly, have agility, can receive the ball steadily,

and can feed the ball correctly to the target (friends) and be able to make accurate shots towards the opponent's goal to score (Bullock et al., 2012). In addition, players must have good body coordination in order to coordinate every soccer movement technique well too.

Modern football is done with running skills and passing the ball is done with simple movements, with speed and accuracy. Dribbling is defined as the movement of the foot using the foot to push the ball so that it rolls continuously on the ground. Dribbling is only done when it is advantageous, namely free from the opponent. Basically dribbling is kicking intermittently or slowly (Sucipto, et al. 2000). Therefore the part of the foot used in dribbling the ball is the same as the part of the foot used for kicking the ball. Dribbling aims, among other things, to approach the target distance, pass the opponent and hinder the game. Players can be famous for having good dribbling skills (Navarro et al., 2018) (Ievoli, Palazzo, & Ragozini, 2021).

The uses of dribbling techniques include (Sukatamsi, 2001): To get past opponents, To find opportunities to pass the ball to friends correctly, To hold the ball in control, to save the ball if there is no possibility or opportunity to immediately pass the ball to a friend . The basic technical quality of players apart from tactical and physical factors will determine the level of play of a football team. The better the technical skill level of the players in playing and controlling the ball, the faster and more careful collective cooperation will be achieved. Thus, the team will take longer to control the ball or control the game, but gain physical, moral and tactical advantages. Therefore, novice players must master various basic playing techniques which are factors for playing (Ievoli et al., 2021).

There are several elements of physical condition that play a significant role in dribbling, namely; endurance, strength, speed, and agility, which are said to be the components of biomotor (TO Bompa, 2015) (Tudor O. Bompa, 2019) (Fernandez Ortega et al., 2020) (Modric et al., 2020). Speed is related to whether or not a player brings the ball forward quickly, while flexibility has to do with how a player's flexibility in handling the ball with his feet and how flexible he is in going through obstacles, and agility is related to the speed of changing directions to avoid obstacles.

*Dribbling*can be interpreted as a technique of dribbling the ball. It was said by (Csanadi Arpad, 1972) that dribbling is rolling the ball continuously on the ground while running. According to (Hughes Charles, 1980) dribbling is the ability of an attacking player to control the ball to pass the opponent. From the limits given by the experts, there is no difference in understanding, so it can be taken an understanding that dribbling or dribbling is an ability to control the ball with the feet by the player while running to pass the opponent or open the opponent's defense area (Ievoli et al., 2021).

The ability to dribble aims to help attack and penetrate the opponent's defense. Dribbling is useful for controlling the ball and holding it until a teammate is free and passes it in a better position. This is because to perform the technique of dribbling to the left, the turtle uses the inside of the right foot, while for the technique of dribbling to the right, the turtle uses the outside of the right foot (Kilit, Arslan, & Soylu, 2019).

Dribbling is not only trained with one foot, but with both left and right. It is practiced throughout the practice and continuously to improve good ball possession skills and alternately will provide additional balance between the left and right feet. In the implementation of dribbling the ball zigzag past the stake or the opponent can be done by using both feet alternately, the right foot only, or using the left foot only (Bullock et al., 2012).

To be able to dribble well, it is necessary to know the principles of dribbling including: (1) The ball must be fully controlled, meaning it cannot be seized by the opponent, (2) Can use all parts of the foot according to the objectives to be achieved, (3) Can Supervise the situation of players when dribbling.

Exercise

Exercise is a person's attempt to prepare himself for a particular purpose. According to Nossek (1995: 3) training is a process or period of time that lasts for several years, until the athlete reaches a high standard of appearance. Exercise is a systematic process of practicing or working, which is carried out by increasing the amount of training or work load day by day. according to (Junusul Hairy, 1989) explains that one of the most important exercises, must be done repeatedly, and increase the strength and endurance of the muscles needed for work (Modric et al., 2020).

According to Harsono (1988: 101) what is meant by systematic is planning, according to a schedule, according to certain patterns and standards, methodical, from easy to difficult, regular exercises, from simple to more complex. Repeatedly means that the movements that were originally difficult to do become easier, automatic, and reflective in their implementation so that they save more energy. Kian day means every time periodically, as soon as the time comes to increase the load, so it doesn't mean every day. Doing exercises must be guided by the correct theory and principles of practice and have been universally accepted (T. Bompa & Buzzichelli, 2015).

According to Sukadiyanto (2005: 12) the principles of exercise have an important role in the physiological and psychological aspects of athletes. According to Sukadiyanto (2005: 12-22) the principles of exercise that serve as guidelines so that training objectives can be achieved, include: (1) the principle of readiness, (2) individuality, (3) adaptation, (4) overload, (5) progressive, (6) specific, (7) variation, (8) warm-up and cool-down, (9) long-term exercise, (10) opposite principle, (11) moderation, and (12) systematic (T. Bompa & Buzzichelli, 2015; TO Bompa, 2015; Tudor O. Bompa, 2019) (Fernandez Ortega et al., 2020).

The principle of training is a systematic guide/guideline and rules that take place entirely in the training process. The principles of training according to Bompa (1994: 29-48) are: (1) the principle of active participation in training, (2) the principle of comprehensive development, (3) the principle of specialization, (4) the principle of individuality, (5) the principle of variation, (6) Model in the training process, (7) The principle of increasing the load. In this study the principles of exercise that will be used to support the training process are: (1) The principle of active participation in the exercise, (2) The principle of variation, (3) The model in the exercise process , and (4) The principle of increasing the load (T. Bompa & Buzzichelli, 2015; TO Bompa, 2015; TO Bompa, Pasquale, & Cornacchia, 2013; Tudor O. Bompa, 2019).

Zig-Zag . Running Practice

The zigzag running exercise is a winding run which is defined as running speed by moving the body through a certain motion. The purpose of the zigzag running exercise is to master running skills, avoiding various obstacles, both people and objects around them (Saputra, 2002: 21). In accordance with the purpose of running a zigzag can be divided into two, namely:

1.) Zigzag running practice to measure one's agility

a. Practice running a triangle with a predetermined triangular line size.
b. Star-shaped running exercise with a predetermined star-shaped line size.

2) Zigzag running exercises to change the direction of movement of the body or body part.

a. Practice running the number eight, running following the number eight.
b. Running by passing obstacles, when running will be in the form of a zigzag line.

The zigzag running exercise is almost the same as running back and forth, except that the athlete runs across several points, for example 10 points (Harsono, 1988:172).

Soekarman (1987:19) gives an overview of the basic zig zag technique for soccer players as follows:

a. Running back and forth quickly to and fro
b. Maintaining a sprint rhythm
c. Move swiftly
d. Must be able to balance the body in fast running movements.
e. All body muscles must be strong, especially the leg muscles.

Exercise must be done in the right conditions. These conditions must be created in a planned manner and must consider the type or model of motion being handled, in order to achieve the goal effectively (Modric et al., 2020).

Research methods

This type of research is an experimental quantitative research, quantitative research is a type of research that emphasizes the aspect of objective measurement. In this study, what was measured was the ability to dribble in a soccer game. Research design is a design of how a researcher will be carried out. The research design used in this study was a pre-test and post-test group (Fraenkel, Jack R., Wallen, 2012; Sugiono, 2014), which is simply described as follows.

Pretest	***Treatment***	***Posttes t***
O1	X	O2

Table 3.1. Research Design Source: Arikunto (2006: 85)

Information:
O1: Pretest (initial test) dribbling
X1: Agility training treatment (Zig-Zag)
O2: Posttest (Final test) dribbling

The sample is part or representative of the population under study. The sampling technique was carried out using the purposive sampling method. The sample in this study amounted to 20 people.

Data Collection Techniques

The purpose of this test is to measure the skill of dribbling the ball with the feet alternately through obstacles accompanied by rapid changes in direction. The test instrument used in this study was a dribbling skill test.

Data Analysis Techniques

According to Lexy J. Maleong (Ikbal Hasan, 2004:75) states that data analysis is the process of organizing and sorting data into categories and basic units of description so that themes can be determined and working hypotheses are formulated which are suggested by the data (Jack Fraenkel, Norman Wallen, Helen, 2012). The steps for calculating data analysis are:

Table 3.3. Statistical Calculation With Pre-Test And Post-Test Design Pattern

NO	X1	X2	D (X2-X1)	d (D-MD)	d^2
1	2	3	4	5	6
	X1	X2	D	d	d2

Information:

X1 : The value of the initial test or pre test

X2 : Final test score or post test

D : The difference of each pair

d : Deviation difference

d2 : The square of the difference deviation

: Amount

The explanation for filling in the columns in the table above can be explained as follows:

Column 1 = Subject number

Column 2 = Pre-test result value

Column 3 = Post-test result value

Column 4 = Value of pre-test and post-test results

Column 5 = Individual deviation of mean . difference

Column 6 = Deviation squared

The data analysis process in this study is guided by the t-test data analysis technique by Suharsimi Arikunto (2006-86) (Martono, 2014) (Fraenkel, Jack R., Wallen, 2012; Sugiyono, 2014) with the following formula:

$$t = \frac{MD}{\frac{\sqrt{\sum d^2}}{N(N-1)}}$$

Description: MD = Mean difference between pre-test and post-test

d2 = Sum of squares of difference deviation

N = Number of subjects/sample

To find the mean difference (MD) used the formula:

$$MD = \frac{\sum D}{N}$$

Information:

: The number of differences of each subject

N : Number of samples

Results and Discussion

This study was conducted with the aim of knowing the effect of agility training on the ability to dribble in soccer extracurricular students in Central Sulawesi. To find out, the researcher used a comparative analysis of two correlated samples. This test is used to determine whether there is a difference in the average value between two groups of paired data.

To test the hypothesis in this study about the effect of the two forms of exercise on the ability to dribble and the differences between the two forms of exercise, a t-test was conducted between the averages of the two data obtained. To clarify the analysis process, before testing the hypothesis, a description of each group of data was first carried out. The data processing of the results of this study used the help of the SPSS 16.0 computer program.

Description of Experimental Group Initial and Final Test Data

In the initial test before being given dribbling practice, the sample of soccer extracurricular students in Central Sulawesi had or got the lowest score of 35.39 seconds; the highest value of 28.22 seconds; the average value is 31.43 seconds; with a standard deviation of 2.34189 seconds. In the final test of dribbling skills after being given dribbling practice for six weeks, samples of Central Sulawesi soccer extracurricular students obtained better scores than the previous test, namely: the lowest score of 33.94 seconds; the highest value of 27.67 seconds; the average value of 30.49 seconds; with a standard deviation of 2.13110 seconds.

Meanwhile, the increase in ability after participating in training for dribbling samples in this group obtained an increase of 0.93 or 1.03%.

Description of Pre and End Test Data for Control Group

The description of the data in this study serves to facilitate the results of research that has been carried out. The description of the data in this study, including the initial test data and the final test of the dribbling ability of the control group. In this chapter, the research data will be presented one by one, from the initial test and the final test from the group that was made as a sample group.

The table of summary data on dribbling ability shows that, in the initial test before being given sample training, the Central Sulawesi soccer extracurricular students had or got the lowest score of 35.21 seconds; highest value 29.22 seconds; the average value of 31.67 seconds; with a standard deviation of 2.19387 seconds; on the final test of the ability to dribble after not doing any training activities for six weeks, the sample of the Central Sulawesi soccer extracurricular students obtained a better score than the previous test, namely: the lowest score of 34.92 seconds; the highest value of 28.96 seconds; the average value of 31.46 seconds; the standard deviation value is 2.28702 seconds; Meanwhile, the increase in the ability of the sample in the control group obtained an increase of 0.21 or 0.66%.

Data Normality Test

The normality test of the data in this study used the one-sample Kolmogorof-Smirnov test. It is said that the data is normally distributed if the normality test value is more than 0.05 ($p > 0.05$). Based on the results of the measurements or tests, the results are presented in the following table: The normality test of the data for each variable includes agility and dribbling, with a sample of 20 people in the table above, the results obtained in the initial test of the experimental group, namely the Asymp value. Sig (2-taibed) of $0.879 > 0.05$ and the results of the final test of the experimental group after being given zig-zag exercise obtained the Asymp value. Sig (2-taibed) that is equal to $0.790 > 0.05$. While the results of the initial test of the control group were Asymp. Sig (2-taibed) of $0.966 > 0.55$ and the results of the final test of the control group that was not given treatment (comparison) obtained the Asymp value. Sig (2-taibed) that is equal to $0.747 > 0.05$. Looking at the values obtained by the two groups through the dribbling ability test, it can be concluded that the data is normally distributed with a significance value > 0.05 (5%).

Data Homogeneity Test

The next prerequisite to fulfill the analysis is to test the homogeneity of variance of the data. The homogeneity test of variance was calculated using the variance test, the test criteria if significant > 0.05 the data was declared homogeneous, on the contrary if significant < 0.05 the data was declared inhomogeneous. Based on the homogeneity test of the data using the SPSS version 16 computer program, the results are as shown in the following table:

Based on the results of the analysis using variance as listed in the table above, it can be seen that in the combined initial dribbling ability test, a significant value (p-value) was obtained (p-value) $0.883 > 0.05$, and the combined final dribbling ability test obtained a significant value (p-value). $0.692 > 0.05$. So it can be seen that the homogeneity test results in this study were declared homogeneous. This is because the results of the test using the homogeneity variance test obtained a significance > 0.05.

Hypothesis testing

The research hypothesis that reads. "There is an effect of agility training on the dribbling ability of soccer extracurricular students in Central Sulawesi" as evidenced by the following analysis: The total number of initial tests was 314.25 seconds; the total number of final tests of dribbling skills is 304.93 seconds; difference value (d) 9.32 seconds; and the variance values of the initial and posttest tests (d2) of 1.1704 seconds. Furthermore, to find the average value of the difference (MD) is analyzed as follows: Based on the results of

the analysis of the difference test using the t-test formula (t-test) above, the value of tcount = 8.45 is greater than the value of ttable = 2.268 (tcount = 8.45 > ttable = 2,268) at df (degrees of freedom) = N – 1 or 10 – 1 = 9. So it can be said that Ha is accepted or in other words there is an effect before and after being given zigzag training in the experimental group on the ability to dribble in soccer extracurricular students in Central Sulawesi.

Control Group Dribbling Ability

The test in the control group was carried out with the aim of comparing the values obtained with the values in the experimental group and analyzed as follows: Based on the results of the analysis of the difference test using the t-test formula (t-test) above, the tcount = 1, 91 is smaller than the value of ttable = 2.268 (tcount = 1.91 < ttable = 2.268 in df (degrees of freedom) = N – 1 or 10 – 1 = 9. So it can be said that, Ha is rejected or in other words there is no effect on the control group who was not given training on the dribbling ability of soccer extracurricular students in Central Sulawesi.

Based on the analysis of the research data, there was a significant increase in the two exercise groups studied. The hypothesis that has been proven in the previous section proves that, "There is an effect of agility training on the ability to dribble in soccer students in Central Sulawesi". This can be proven by the acquisition of values that have been analyzed using the t-test formula, where the value of tcount = 8.45 seconds at df (degrees of freedom) = N – 1 or 10 – 1 = 9, namely the value of ttable = 2.268. so it can be concluded that tcount = 8.45 > ttable = 2.268. from these results, it can be said that, Ha is accepted or in other words there is an effect before and after being given zigzag training in the experimental group on the ability to dribble in soccer extracurricular students in Central Sulawesi.

The hypothesis that has been proven in the previous section in the experimental group is different from the results obtained in the control group. This can be proven by the acquisition of values that have been analyzed using the t-test formula, where the value of tcount = 1.91 seconds at df (degrees of freedom) = N – 1 or 10 – 1 = 9, namely the value of ttable = 2.268. So it can be concluded that the value of tcount = 1.91 > ttable = 2.268. From these results, it can be said that, there was no effect of the control group, namely getting treatment or training on the ability to dribble in soccer extracurricular students in Central Sulawesi.

This study has proven the effect of training with the zigzag method on the ability to dribble in soccer extracurricular students in Central Sulawesi. The results of this study are reinforced by the research of Hauri Raka Wiendhi Asmara (2015: 33) who explains that, "Agility training if done well has a very good influence on the ability to dribble". That's because the form of agility training such as zig-zag is a dribbling exercise movement.

Conclusion

Based on the analysis of the results of the research and discussion, it can be concluded that: There is an effect of agility training on the ability to dribble in soccer extracurricular students in Central Sulawesi. This is evidenced by the value of tcount = 1.91 seconds at df (degrees of freedom) = N – 1 or 10 – 1 = 9, namely the value of ttable = 2.268. so it can be concluded that the value of tcount = 1.91 > t table = 2.268.

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