The Effect of Agility Hurdle Drills, Agility Ring Drills and Speed on the Agility of Jati Futsal Players in 19 Bengkulu City

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ABSTRACT: This study aimed to reveal the effect between agility hurdle drills and agility ring drills and speed on agility improvement. This research is a type of quantitative research with experimental methods and 2x2 factorial design. The population in this study numbered 32. The sample in this study was all 32 teak futsal athletes from 19 cities of Bengkulu. The statistical analysis used in this study is a two-track anova test to test the hypothesis that agility hurdle drills and agility ring drills with speed affect agility. The results of this study show that 1) There is a significant difference in the effect of agility hurdle drills and agility ring drills training methods on the agility of futsal players. The Agility hurdle drills method is higher (good) than the agility ring drills method to increase the agility of Jati 19 futsal players in Bengkulu City. 2) There is a significant interaction between training methods (agility hurdle drills and agility ring drills) and on the agility of Jati 19 futsal players in Bengkulu City. 3) There is a difference in the training method of Agility hurdle drills and Agility Ring drills which have high speed, in this case, agility hurdle drills are better than agility ring drills. 4) There is a difference in the effect of Agility hurdle drills and Agility Ring drills which have low speed, agility ring drills are better than hurdle drills.

KEYWORDS: agility, drills, hurdle, speed, ring

I. INTRODUCTION

Futsal sports are currently being favored by students and university students. Juan Carlos Ceriani introduced futsal to the world in 1930 in Montevideo, Uruguay. Two teams of five players each compete in a ball game known as futsal. The goal of futsal is to score goals or put as many balls as possible into the opponent’s goal while preventing conceding one’s own goal. This futsal sports field has a minimum length of 42 meters, a minimum width of 20 meters, and a height of 15 meters. Futsal is a dynamic and fast-paced sport where players must move quickly on the field (Imansyah & Hananingsih, 2016; Irawan & Prayoto, 2021; Yusuf & Zainuddin, 2020).

Maryami, (2017); Musriffin & Bausad, (2020) A lot of effort from start to finish is required to become an athlete, including preparing mentally, physically, and technically for rigorous training. The athlete's lifestyle must also be taken into account, including how regularly to exercise, eat and rest periods. This is so that athletes can concentrate and achieve their goals. Sports success is influenced by the psychological and mental health of athletes as well as sports-specific physical fitness and technical proficiency (Dermawan, 2017; Sutiana et al., 2020).

Barasakti & Faruk, (2019); Syafaruddin, (2018) The physical and technical prowess of a player will affect the use of tactics by the coach in a good way. The tactics instructed by the coach will be executed by all players if their physical and fundamental abilities are good. Futsal is definitely a very complicated sport as it requires a proficient method and approach to playing. The same goes for physical conditioning capacity. In some aspects, futsal is different from other sports. Futsal is a sport that demands a variety of skills over a long period of time, including endurance, strength, speed, agility, balance, and flexibility (Mardhika, 2017; Nugroho, 2018; Pranyoto, 2020).

The appearance of a player is greatly helped by excellent physical condition because futsal players are always moving and changing positions. Therefore, strong strength and speed are needed. This means that a futsal player must be agile, especially when using the dribbling method. Agility is by far the most important aspect of physical fitness for futsal. A futsal player needs agility to deal with certain situations and game conditions that require movement to control the ball and defend to prevent collisions. A person's agility is their ability to move quickly in multiple directions to create space and bypass an opponent’s defense (Mufti & Wijaya, 2022; Sumarsono & Ramadona, 2019).
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The Indonesia national futsal national team is the national team that represents Indonesia in the futsal field, this team is under the control of the Indonesian Football Association through the Indonesian Futsal Federation. The national team has played 15 times in the AFF Futsal championship and 10 times in the 2010 AFC futsal championship, becoming runners-up and finishing in the top 8 in the 2022 AFC futsal championship. The nickname of this team is the red and white garuda squad.

Now the game of futsal has led to an effective way to play to produce victory. Players don't have to have the ball for too long. This is because basically the futsal game is an effort to put the ball into the opponent's goal and keep the team's own goal not to concede the ball. At Club Jati 19, the interests and talents of early childhood towards futsal are also fostered through the Club. The exercise is held three times a week, namely Tuesday at 15.00-17.00 WIB, Friday at 15.00-17.00 WIB and Sunday at 15.00-17.00 WIB. The number of players who participated in futsal training was 36 people. The Jati 19 club in Bengkulu is a writer's club in 2015, the author is still an active player in the Jati 19 city of Bengkulu, so this is where the author is interested in conducting research on the Jati 19 club in Bengkulu.

The author also made observations on the course of futsal training on the field. Players often make fundamental mistakes when attacking and defending. When they want to pass the opponent often loses balance and in the end loses the ball easily, when losing the ball looks slow to return to a good defensive position and the goal is easily broken by the opponent (Akbari et al., 2019).

The coach is also very instrumental in the achievement of futsal achievements of his students. Through programmed training programs will increase performance as a team and individually. But the coach at the Jati 19 club is not optimal. In every activity or training the coach only focuses on warming up and the real game. There are no exercises that lead to increased agility of futsal players. Introduction and agility training will certainly help players in playing futsal. In addition, the coach must also evaluate the agility of his players. As a reference to form a strong Jati 19 futsal team in participating in the futsal championship (Sumarsono, 2017). Ramadan et al., (2017) In the implementation of the training process, the trainer should have the initiative in using the training method. So that the training that is done has the same problems when they do the real game. The tactical approach offers player-centered training with the aim of improving to improve the ability to perform the game with good agility. By combining an understanding of playing tactics, namely when attacking, when defending, at the time of transition, attacking, and defending. If a person does not understand what to do, then the ability to play will be impaired (Asshiddiqi & Wahyudi, 2020; Hidayat et al., 2021; Tiyas, 2017).

Akbari et al., (2019); Satria, (2019) In futsal, agility is very important, especially when avoiding opponents when dribbling or when used to penetrate the opponent's defense to score goals. Futsal players must be able to use their bodies to outsmart their opponents. Based on the author's observations, it is obvious that some players still need to develop and improve their physical skills, especially their agility. This is evident throughout the game. Players continue to display stiff dribbling and struggle to get past the opponent's guard. The player's ability to move without the ball is sometimes still limited, making it difficult to open space for attacks and stop the opponent's movement when defending. The futsal squad faces various challenges besides physicality such as agility. Technical and game drills are frequently used exercises, according to discussions with coaches and players over the years (Arifin et al., 2022; Astuti, 2019; Fadillah et al., 2020).

Physical condition ability is a part of physical condition that when viewed as a whole cannot be divided, both in terms of maintenance and improvement. The physical condition component in each sport generally requires the same physical activity. These parts, in particular the biomotor parts, are interconnected with each other. It plays an important role in creating a superior physical condition that meets the demands of the movements to be performed. Theoretical and methodological elements work together as a whole (Amarta & Nugroho, 2022; Hidayat et al., 2022; Krisiwiyanto, 2021).

Agustiawan, (2018) The choice and determination of the exercise regimen to develop the athlete's capacity for targeted performance lies with the coach. The physical condition of the athlete can be improved through the use of a training plan that has been created by the coach. Physical fitness and functional capacity of body systems must be improved by systematic and planned physical training programs so that athletes can perform at their best.

Based on the foregoing, it is very important to use appropriate training techniques to improve the agility of athletes. Sports practice is an activity that is carried out at a time and repeatedly, structured according to the principle of exercise load. In order for an athlete's energy system to adapt to the demands of activity, an exercise program must embrace the idea of periodization and be well structured and designed by sport (Sunaryo et al., 2022).

Agility ring training is one type of exercise to improve agility. A footwork exercise called the "agility ring exercise" uses circular obstacles to develop leg strength, agility, and coordination. This ring drill agility training technique aims to improve the athlete's ability to perform fast movements, change direction, and navigate obstacles. You can practice agility ring exercises on a
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flat, barrier-free surface. Agility ring exercises can be used during training sessions as a warm-up or as a basic workout. Athletes can create and use agility ring drill techniques, especially for increased leg strength, agility, and coordination. For the development of different avoidance exercises, changes in body direction, leg strength and coordinated movements required in various sports, obstacles were developed. Repetition is a good way to hone skills like coordination and leg strength (Fatchurrahman et al., 2019).

The agility obstacle training method is a flexible and cutting-edge way to improve strength and coordination that can be changed with minimal equipment. Plyometric obstacle training can increase the explosive power of leg muscles because it builds muscle density, fullness, strength, and conditioning. Since how much of this exercise depends on leg strength—the foot has to keep jumping over obstacles in front of it repeatedly—plyometric obstacles can also help build leg muscle strength. In order for plyometric obstacle training to be maximized, it must be done frequently, continuously, and in accordance with the basic principles of the exercise. If done carelessly, the results will also not be optimal.

Both indoor and outdoor courts can be used for agility obstacle training. This kind of exercise is meant to improve an athlete’s ability to move quickly, change direction, and get around various obstacles found in real-world sports. For the development of different avoidance exercises, changes in body orientation, leg strength, and synchronization of movements necessary in various sports, obstacles are built.

Agility is supported by speed, coordination, flexibility, and balance. This leads us to the conclusion that one of the elements that sustain a person’s agility is speed. Two skills that futsal players must possess are speed and agility. The title of the study, "The Effect of Agility Hurdle Drills and Agility Ring Drills and Speed on the Agility of Futsal Players" refers to the problems discussed earlier.

The purpose of this study is to find out: 1) Knowing the difference in the effect of agility hurdle drills, agility ring drills on the agility of Jati 19 futsal players in Bengkulu City. 2) Knowing the interaction of agility hurdle drills and agility ring drills and speed on the agility of Jati 19 futsal players in Bengkulu City. 3) Knowing the difference between Agility hurdle drills and Agility Ring drills training methods on the agility of Jati 19 futsal players in Bengkulu City who have high speed. 4) Knowing the difference in the effect of Agility hurdle drills and Agility Ring drills on the agility of Jati 19 futsal players in Bengkulu City who have low speed.

II. MATERIAL AND METHODS

Types of Research
An experimental approach with a 2 x 2 factorial design was used in this study. According to Sudjana & Ibrahim, (2009), A factorial experiment is a design that allows the treatment or manipulation of two or more independent variables at once to observe the effect of each independent variable on the dependent variable either separately or simultaneously, as well as the effects resulting from the interaction of various independent variables. The agility of futsal players was examined using two groups that underwent various training regimens, including agility hurdle drills and agility ring drills and speed against the agility of futsal players of the Jati 19 club in Bengkulu City.

These variables are validated to build confidence that the chosen study design is appropriate for testing the research hypothesis and that the research findings can be applied to the population. External and internal validity are some of the variables that can be controlled. There are various kinds of internal and external validity, which are as follows, according to (Sudjana & Ibrahim, 2009). The population in this study is Jati futsal players 19 Club Kota Bengkulu. Samples were drawn by total sampling technique, so that all populations were selected as samples of 32 people.

Data Collection Techniques
Because obtaining data is the main purpose of research, the data collection procedure is the most strategic stage in the research process (Sugiyono, 2019). In this study, tests and measures were used to obtain data. Samples are speed assessed to determine high and low speeds before pretest and posttest testing.

Data Analysis Engineering
The data analysis technique used by SPSS 20 is to use two-way ANAVA at a significant level of α= 0.05. Next to compare the average pairs of treatments used the Tukey test (Sudjana, 2002). Given that the analysis of research data was carried out using ANAVA, before arriving at the use of two-way ANAVA (two-way ANAVA it is necessary to carry out prerequisite tests, which include: (1) normality tests and (2) variant homogeneity tests and hypothesis tests.
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Prerequisite Test

Normality Test

The Kolmogorov-Smirnov normality test is a method used in the normality test (Sudjana, 2002). This normality test is carried out to ascertain whether the study sample is normally distributed or not.

Homogeneity Test of Variance

Using the Levene Test, determine if variance is homogeneous (Sudjana, 2002). Two experimental treatment groups underwent tests. SPSS software version 20.0 for Windows calculation results is used to perform the Levene Test. The results of the Levene Test determine whether both treatment groups are from populations with homogeneous variants or not. The requirement to use two-way ANAVA in data analysis has been met because the data is parametric statistics.

Test the Hypothesis

Two-way ANAVA is used to test the validity of the hypothesis, and if an interaction is found, Tukey will be tested using SPSS 20 software version for windows with a significance level of 5% or 0.05.

Research Schedule

This research schedule will be held on Thursday, February 2, 2023 to Thursday, March 9, 2023 for Jati 19 futsal players in Bengkulu City.

III. RESULTS AND DISCUSSION

Results

In the chapter, the results of research and discussion will be presented sequentially, including: (1) research data, (2) analysis prerequisite tests, and (3) hypothesis tests. Testing hypotheses will be presented sequentially, among others: (a) differences in the effect of training methods, agility hurdle drills and agility ring drills on the agility of futsal players; (b) the interaction of training methods (agility hurdle drills and agility ring drills) and speed (high and low) on the agility of futsal players. (c) differences in the effect of high-speed and low-speed abilities on the agility of futsal players; and the difference in the effect of agility hurdle drills with agility ring drills on agility for athletes who have low speed.

Description of Research Results

The data from this study is in the form of pretest and posttest data which is a general description of each variable related to the study. This research was conducted on Jati futsal players in 19 Bengkulu City. Pretest data collection starts on Thursday, February 2, 2023, while posttest data collection will be held on Tuesday, March 14, 2023. Treatment is carried out as many as 16 meetings, with a frequency of 3 (three) meetings in one week, namely every Tuesday, Thursday, Saturday.

Prerequisite Test Results

a. Normality Test

The data normality test in this study used the Kolmogorov-Smirnov method. The results of the data normality test conducted in each analysis group were carried out with the SPSS software program version 20.0 for windows with a significance level of 5% or 0.05. Full results are presented in the page attachment. A summary of the data is presented in Table 4 as follows.

<table>
<thead>
<tr>
<th>Standardized Residual for Nilai_Kelincahan</th>
<th>Kolmogorov-Smirnov²</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistic</td>
<td>Df</td>
<td>Sig.</td>
</tr>
<tr>
<td>.144</td>
<td>32</td>
<td>.091</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Standardized Residual for Hasil</th>
<th>Kolmogorov-Smirnov²</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistic</td>
<td>df</td>
<td>Sig.</td>
</tr>
<tr>
<td>.166</td>
<td>32</td>
<td>.025</td>
</tr>
</tbody>
</table>

(information: sig < 0,05 = signifikan)
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Based on statistical analysis of normality tests that have been carried out using the Kolmogorov Smirnov test, in all pretest and posttest data, the accuracy of short passing is obtained from the results of the normality test data of p < 0.05 significance value, which means the data is normally distributed.

b. Homogeneity Test

The homogeneity test is carried out to test the equation of several samples, namely homogeneous or not. The homogeneity test is intended to test the similarity of variance between pretest and posttest. The homogeneity test in this study is the Levene Test. The homogeneity test results are presented in Table 2 as follows.

<table>
<thead>
<tr>
<th>TABEL 2. HOMOGENEITY TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
</tr>
<tr>
<td>3.724</td>
</tr>
</tbody>
</table>

(information: sig > 0.05 = signifikan)

Based on statistical analysis of homogeneity tests that have been carried out using the Levene Test. In the pretest-posttest, a significance value of 0.071 ≥ 0.05 was obtained. This means that in groups the data has homogeneous variance. Thus populations have in common variants or homogeneous.

c. Hypothesis Test Results

Testing of research hypotheses is carried out based on the results of data analysis and interpretation of two-way ANAVA analysis. The sequence of hypothesis testing results adjusted to the hypothesis formulated in chapter II, as follows:

Table 3. ANAVA Results Differences in Experimental Group Exercise Methods Agility Hurdle Drills and Agility Ring Drills against the Agility of Jati Futsal Players 19 Bengkulu City

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>19.944a</td>
<td>3</td>
<td>6.648</td>
<td>7.179</td>
<td>.001</td>
</tr>
<tr>
<td>Intercept</td>
<td>12265.695</td>
<td>1</td>
<td>12265.695</td>
<td>13245.317</td>
<td>.000</td>
</tr>
<tr>
<td>Model_Agility</td>
<td>19.313</td>
<td>1</td>
<td>19.313</td>
<td>20.856</td>
<td>.000</td>
</tr>
<tr>
<td>Kecepatan</td>
<td>1.180</td>
<td>1</td>
<td>1.180</td>
<td>1.194</td>
<td>.043</td>
</tr>
<tr>
<td>Model_Agility * Kecepatan</td>
<td>451</td>
<td>1</td>
<td>451</td>
<td>487</td>
<td>.021</td>
</tr>
<tr>
<td>Error</td>
<td>25.929</td>
<td>28</td>
<td>926</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12311.569</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>45.873</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Hypothesis of differences in agility hurdle drills and agility ring drills training methods on the agility of futsal players

The first hypothesis reads "There is a significant difference in the effect of agility hurdle drills and agility ring drills on the agility of futsal players". Based on the results of the analysis, it was obtained that the significance value of p was 0.0. Since the significance value of p is 0.001 < 0.05, the result shows a significant difference or Ho is rejected. This means that the research hypothesis that states that "there is a significant difference in the effect of agility hurdle drills and agility ring drills on the agility of futsal players", has been proven. Based on the results of the analysis, it turns out that the agility hurdle drills method is higher (good) than the agility ring drills method with a difference of 1.55 seconds.

b. The interaction between agility hurdle drills and agility ring drills and speed training methods to the agility of futsal players

The second hypothesis reads "There is a significant interaction between training methods (agility hurdle drills and agility ring drills) and speed (high and low) on the agility of futsal players". The calculation results can be seen that the significance value of p is 0.021. Since the significance value of p is 0.021 < 0.05, Ho is rejected. Based on this means the hypothesis that states "there is a significant interaction between agility hurdle drills and agility ring drills and speed (high and low) training methods on the agility of futsal players", has been proven.
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c. There are differences in the results of Agility hurdle drills and Agility Ring drills on agility for Jati 19 futsal players in Bengkulu City who have high speed.

The third hypothesis that reads There are differences in the training methods of Agility hurdle drills and Agility Ring drills on the agility of Jati 19 futsal players in Bengkulu City who have high speed. Based on the calculation results, the group of players trained using the agility hurdle drills training method at high speed results were better than the group of players trained using the agility ring drills training method with an average value of 18.85 < 20.16.

d. There are differences in the results of Agility hurdle drills and Agility Ring drills on agility for Jati 19 futsal players in Bengkulu City who have low speed.

there are differences in the results of agility hurdle drills and agility ring drills on agility for jati 19 futsal players in bengkulu city who have low speed. the group of players trained using the agility hurdle drills training method at low speed also performed better than the group of players trained using the agility ring drills training method with an average value of 18.76 < 20.55.

DISCUSSION

The discussion of the results of this study provides further interpretation of the results of the data analysis that has been presented. Based on hypothesis testing, two groups of analysis conclusions are produced, namely: (1) there is a significant difference in influence between the main factors of the study; and (2) there is a meaningful interaction between the main factors in the form of a two-factor interaction. The discussion of the results of the analysis can be further described as follows.

1. The difference in the effect of agility hurdle drills and agility ring drills training methods on the agility of futsal players

Based on hypothesis testing, it is known that there is a significant difference in the influence of agility hurdle drills and agility ring drills training methods on the agility of futsal players. Based on the results of the analysis, it turns out that the agility hurdle drills method is higher (good) than the agility ring drills method for the agility of futsal players. Agility hurdle drills are a form of plyometric training. Plyometric training can increase athlete agility, as revealed by Rameshkannana & Chittibabu (2014: 72) the results of his research show "plyometric training is an effective training technique to improve male handball players agility". Tendulkar, Shirpure, & Yeole (2018: 144) states that "plyometric training is helpful in improving agility in football players. So these training methods are recommended to football players for improving speed and skilled performances". Added the results of Primary research, Nasuka, & Hadi (2015: 28) which shows that there is an effect of plyometrics training on increasing speed, agility, and VO2Max in the IVOKS volleyball club of Semarang District.

Agility hurdle drills will improve the muscles around the legs. (Sudarmantaoa et al., 2018) Stated hurdle exercises are considered aerobic activity because they require rhythmic contractions of large muscle groups of the limbs to move the entire body weight. This exercise can improve the muscles of gulteals, gastrochemins, guadricept, hamstrings, hip fuxors, lower back muscles, and abdomen. Based on this, the muscles will become strong and become flexible, so that the athlete's agility will increase. As stated by Irawadi (2011: 111) that "agility is one of the elements of special physical conditions, which is a combination of elements of strength, speed, and flexibility". These three combine that will produce agility.

Hariyanta et al., (2014) that applying the basic principles of training systematically, repeatedly over a long period of time, will put stress on the muscles, so that the muscles will undergo physiological adaptation. Physiological adaptations that occur in leg muscles involving almost all muscles, especially leg muscles such as quadriceps, hamstrings, gluteus, gastrocnemius, and abductor hip muscles with hypertrophy. The occurrence of hypertrophy is caused by an increase in the number of myofibrils in each muscle fiber, an increase in capillary density in muscle fibers and an increase in the number of white muscle fibers or fast twitch, so that the leg muscles will become stronger which makes the speed increase (Anantawijaya et al, 2016). Agility is related to nerve adaptation, the mechanism of nerve adaptation occurs due to latthian which causes an increase in muscle contraction force that is realized directly. The increase occurs due to increased activation of the main locomotion muscles, synergistic muscles contracting more precisely and increased inhibition of antagonistic muscles. The implication is that trained athletes can activate their muscles optimally under normal conditions that functionally their energy stores can be immediately used as maximum effort realized (Astrawan et al, 2016). Regular physical training will lead to muscle physiological hypertrophy, due to which the number of myofibrils, myofibril size, capillary blood vessel density, tendon nerves and ligaments, and the total number of contractiles, especially myosin contractile proteins increase proportionally. Changes in muscle fibers do not all occur at the same rate, a greater increase occurs in white muscle fibers (fast twitch), resulting in an increase in the speed of muscle contraction. Increased size of muscle fibers which will eventually increase the speed of muscle contraction, thus causing increased agility (Womsiwor & Sandi, 2014).
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2. The interaction between agility hurdle drills and agility ring drills and speed (high and low) training methods on the agility of futsal players

Based on the results that have been stated in the results of this study that there is a significant interaction between agility hurdle drills and agility ring drills training methods and speed (high and low) on the agility of futsal players. The results showed that the group of players who were trained using agility hurdle drills at high speed would be better than players who had low speed.

From the results of the form of interaction, it appears that the main factors of the study in the form of two factors show a significant interaction. In the results of this study, interaction means that each cell or group has a different influence of each paired group. Couples who have significantly different interactions or partners.

3. There are differences in the results of Agility hurdle drills and Agility Ring drills on agility for Jati 19 futsal players in Bengkulu City who have high speed

The results of the analysis showed that showing the group of players trained using the agility hurdle drills training method at high speed the results were better than the group of players trained using the agility ring drills training method. As revealed by (Dawes & Roozen, 2011) that "Agility can be broken down into subcomponents which consist of both physical qualities and cognitive abilities. Physical quality of it speed, strength, strength, and technique, and the quality of leg muscles". Added (Kurniawan et al., 2016) that "Players who have speed will be able to quickly dribble into the opponent's area and will also make it easier to score goals against the opponent, besides that speed is also needed in the player's pursuit of the ball". Running speed can be trained both with the ball and without the ball.

Speed and agility are needed by a futsal player in dealing with certain situations and match conditions that demand elements of speed and agility in moving to control the ball and in defense to avoid collisions that may occur. Horška, et, al (2014) states that "Speed is classically defined as the shortest time required for an object to move along a fixed distance, which is the same as velocity, but without specifying the direction". Futsal is actually a very complex sport, because it requires qualified playing techniques and strategies. Similarly, in terms of physical condition ability. The game of futsal has a very distinctive difference with other sports. One of the characteristics of futsal sports is that it requires endurance, strength, speed, agility, balance, flexibility over a long period of time. These things are some of the factors that affect performance in playing futsal (Gunawan, 2018: 31).

Speed is needed by players to counterattack with a high tempo, which is how a player with his speed can transition from defending to attacking by passing as quickly as possible, so as to create a counterattack which is one of the dominant tactics used by a team in futsal matches. Then, if the player fails to make a quick attack, then quickly returns to defend the goal area from counterattacks made by the opponent. In other words, a player with high speed in futsal can transition, attack and defend quickly so as not to give the opposing team an opening to score.

4. There are differences in the results of Agility hurdle drills and Agility Ring drills on agility for Jati 19 futsal players in Bengkulu City who have low speed

The results of the analysis showed that showing the group of players trained using the agility hurdle drills training method at low speed the results were better than the group of players trained using the agility ring drills training method.

This research is not perfect, this is due to limitations in conducting research. These limitations are as follows. 1) During the exercise or application of treatment all groups were not collected or quarantined, so there was no control over what activities the sample carried out outside the exercise, but stayed in their respective homes. Indirectly, this can affect the results of the study. 2) Players still practice technique and physique outside of the research schedule, this results in players experiencing fatigue.

IV. CONCLUSION

Based on the results of the data analysis that has been carried out, the following conclusions are obtained. 1) There is a significant difference in the effect of agility hurdle drills and agility ring drills training methods on the agility of futsal players. The agility hurdle drills method is higher (good) than the agility ring drills method to increase the agility of Jati 19 futsal players in Bengkulu City. 2) There is a significant interaction between training methods (agility hurdle drills and agility ring drills) and speed (high and low) on the agility of Jati 19 futsal players in Bengkulu City. 3) The group of players trained using the agility hurdle drills training method at high speed is better than the group of players trained using the agility ring drills training method at high speed. To improve the agility of Jati futsal players in 19 Bengkulu City. 4) The group of players trained using the agility ring drills...
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training method which has better speed than the group of players trained using the agility hurdle drills training method at low speed against the agility of Jati 19 futsal players in Bengkulu City.

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