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Survey of Speed and Agility Physical Conditions in Jombang Basketball Club Athletes

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ABSTRACT

The aim of the research was to conduct an assessment of the physical condition which included speed and agility in Jombang basketball club athletes. Both of these components are considered to represent the physical condition of the athletes. The population in this study were all Jombang Basketball Club athlete students as many as 33 athletes. The research instrument used in this study was a physical condition test in basketball. The test used to determine physical condition is for speed using the 30 m sprint test while for agility using the Illinois agility run test. The results obtained for the speed of Jombang Basketball Club athletes are still below the average category because of the 33 total, only 6 people whose speed is in the good category with a percentage of 18%. 21 people in the moderate category with a percentage of 64% and 6 people in the less category with a percentage of 18%. While agility is also categorized as still below average because of the 33 total, only 4 people whose agility is in the good category with a percentage of 12%. 18 people in the moderate category with a percentage of 55% and 11 people in the less category with a percentage of 33%. Based on data analysis it can be concluded in general that the level of physical condition of Jombang Basketball Club athletes is still below average as a basketball athlete, therefore both athletes and coaches must continue to work together to implement and carry out training programs so that speed and agility can increase to support performance.

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INTRODUCTION

Sport is an important activity that must be carried out by humans in order to have a healthy body. There are many kinds of sports. One sport that is quite popular is basketball. Basketball is a sport that uses a large ball and is contested by two teams. Each



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team consists of five people, this sport is very popular and liked by many people, this basketball game has developed into a sport that is very popular with various walks of life, from children to the elderly, men and women, both people in urban areas and people in rural areas. Through sports activities, basketball has many benefits, especially in terms of growth and development both physical, mental and social well-being. One of the goals of basketball is to be able to achieve maximum performance. Basketball also does not escape the government's attention in the development of sports achievements. Bomp (1999), states that sports achievement can be achieved through good and correct coaching and training which aims to improve the physique in general and specifically according to the sport he is interested in. In connection with this, Syafruddin (2013) states that there are 2 factors that influence the achievement of an achievement, namely internal factors and external factors. Internal factors are factors that arise from within the athlete, for example physical condition, technique, tactics, mentality, while external factors are factors that come from within the athlete such as facilities and infrastructure, trainers, coaches, family, organization, funds, climate,

According to Samantha & Almalik (2021), physical condition can be interpreted as a person's general physical condition or ability at work or sports. Dan explained that physical requirements are conditions that include factors of strength, speed, flexibility, endurance, and agility. Based on the opinion put forward, in basketball sports achievement, there are actually many factors that influence, especially physical and technical factors. The aim of the game of basketball is to put the ball into the opponent's basket and try to prevent the opponent from entering the ball or scoring points. Seeing these conditions, speed (speed) and agility (agility) is an element of physical condition that is important in the game of basketball. Speed relates to how individuals carry the ball quickly while agility relates to how individuals can change positions or directions quickly and precisely (Irawan & Hariadi, 2019). Meanwhile, the opinion of Sukadiyanto and Muluk (2011) explains that speed is the result of a combination of leg swing length and number of steps. Where the movement of swing length and number of steps is a series of synchronous and complex movements of the neuromuscular system. Based on the understanding of the opinions of these experts, it can be concluded that speed is the ability to move from one place to another continuously in the shortest/fastest possible time. Meanwhile, the opinion of Sukadiyanto and Muluk (2011) explains that speed is the result of a combination of leg swing length and number of steps. Where the movement of swing length and number of steps is a series of synchronous and complex movements of the neuromuscular system. Based on the understanding of the opinions of these experts, it can be concluded that speed is the ability to move from one place to another continuously in the shortest/fastest possible time. Meanwhile, the opinion of Sukadiyanto and Muluk (2011) explains that speed is the result of a combination of leg swing length and number of steps. Where the movement of swing length and number of steps is a series of synchronous and complex movements of the neuromuscular system. Based on the understanding of the opinions of these experts, it can be concluded that speed is the ability to move from one place to another continuously in the shortest/fastest possible time.

According to Widiastuti (2019) agility is the ability to quickly change the direction or position of the body which is carried out simultaneously with other movements. This is also in accordance with the statement of Sporis, et al (2010) who believe that agility is an important and necessary physical component for successful performance in various sports. With this opinion it can be interpreted that agility is needed in several types of sports whose activities are dynamic and basketball is one of them. Usually speed and agility training is an inseparable part. Sands, et al (2012) stated that speed training and agility training were carried out together either in the same training session or in the same training cycle.

Nurhasan (2011) states several components of physical fitness related to physical condition, namely strength, flexibility, body composition, endurance, speed, agility, balance, coordination and speed of reaction. In this study, the assessment was directed at the physical condition of basketball players, namely speed and agility. These components contribute to how much the physical condition of the Jombang basketball club players is checked through proper test exercises and measurements so as to get the right results. One of the problems that arise in this team is speed and agility. Based on the survey that has been carried out, team athletes from Jombang Basketball Club seem unable to be consistent in achieving achievements in several tournaments and basketball matches due to the uneven physical conditions, both speed and agility of the athletes, while to have good speed and agility abilities, an athlete must have excellent physical condition because agility is the ability to move quickly from one point to another, then suddenly change the direction of movement, and be able to avoid the opponent without losing balance and falling. Therefore, players who are not in good performance are expected to be more enthusiastic about doing physical training to improve their physical condition.

Based on this background, the purpose of this study was to conduct an assessment of the physical condition which included speed and agility in Jombang basketball club athletes. These two components are considered to represent the physical condition of the Jombang Basketball Club players. Research is carried out in a measurable way through appropriate tests and measurements so that it is expected to get the right results as well.

MATERIALS AND METHODS

This research is a type of quantitative research using a descriptive approach. According to Mahardika (Sudarnoto, 2021), the purpose of the descriptive research method is to provide an overview of data based on facts, accurate and systematic. The method used is a survey with data collection techniques using tests and measurements. According to Arikunto (2006) the survey is part of a narrative study that aims to find trends in how to compare statuses using predetermined standards. Through descriptive research, factual and systematic analysis can be carried out regarding the physical condition of Jombang Basketball Club athletes.

The population in this study were all Jombang Basketball Club athlete students as many as 33 athletes. According to Arikunto (2006) if there are less than 100 research subjects, it is better to take all of them as research samples. Based on this opinion, the

population will be used as a research subject as a whole, so this research is a population study. The research instrument used in this study was a physical condition test in basketball. The test used to determine physical condition is for speed using the 30 m sprint test while for agility using the Illinois agility run test.

Table 1. Norms of the 30 m Sprint Test

| No. | Norm | (Seconds) Boy | (Seconds) Girl |
|-----|------------|---------------|----------------|
| 1. | Very well | 3.58 – 3.91 | 4.06 - 4.50 |
| 2. | Well | 3.92 – 4.34 | 4.51 – 4.96 |
| 3. | Currently | 4.35 – 4.72 | 4.97 – 5.40 |
| 4. | Not enough | 4.73 – 5.11 | 5.41 – 5.86 |
| 5. | Less Once | 5.12 – 5.50 | 5.87 – 6.30 |

Table 2. Norms of Illinois Agility Run

| Gender | Boy | Girl |
|------------|------------------|------------------|
| Very well | <15.2 sec | <17.0 sec |
| Well | 15.2 – 16.1 sec | 17.0 – 17.9 secs |
| Currently | 16.2 – 18.1 secs | 18.0 – 21.7 secs |
| Not enough | 18.2 – 19.3 secs | 21.8 – 23.0 sec |
| Less Once | >19.3 secs | >23.0 sec |

The tools used to support the implementation of research include whistles, cones, stopwatches and representative fields. After the data is collected, it is then calculated and analyzed using statistical calculations with the help of the SPSS 20 application to determine the value of Jombang Basketball Club athletes by calculating the mean value (Mean), standard deviation, smallest value (min), and largest value (max) and percentage.

RESULTS AND DISCUSSION

The results of this study are based on the results of data calculations that have been carried out from the results of speed and agility tests. Table 3 is the result of statistical test analysis of research data on speed and agility. In the analysis by calculating the average value (Mean), standard deviation/standard deviation, the smallest value (min), the largest value (max), and percentage. For more details, see the following table.

Table 3. Statistical Test Results

| | Descriptive Statistics | | | | |
|-------------------------|------------------------|---------|---------|---------|----------------|
| | N | Minimum | Maximum | Means | std. Deviation |
| Test_30Meter | 33 | 4.31 | 5.81 | 4.8379 | .37941 |
| Test_IllinoisAgilityRun | 33 | 15.87 | 22.98 | 18.8185 | 1.99598 |
| Valid N (listwise) | 33 | | | | |

Based on the statistical results of the speed test, a minimum score of 4.31 and a maximum score of 5.81 are obtained. In addition, the obtained valuemean(average) of 4.8379 and a standard deviation of 0.37941. For the statistical results of the agility test, the minimum score was 15.87 and the maximum score was 22.98 while the mean (average) was 18.8185 and the standard deviation was 1.99598. Furthermore, the

percentage results of the speed results of Jombang Basketball Club athletes with the 30 M sprint test can be seen in the following table.

Table 4. Speed Test Results

| Category | Amount | Percentage |
|------------|--------|------------|
| Very well | 0 | 0% |
| Well | 6 | 18% |
| Currently | 21 | 64% |
| Not enough | 6 | 18% |
| Less Once | 0 | 0% |

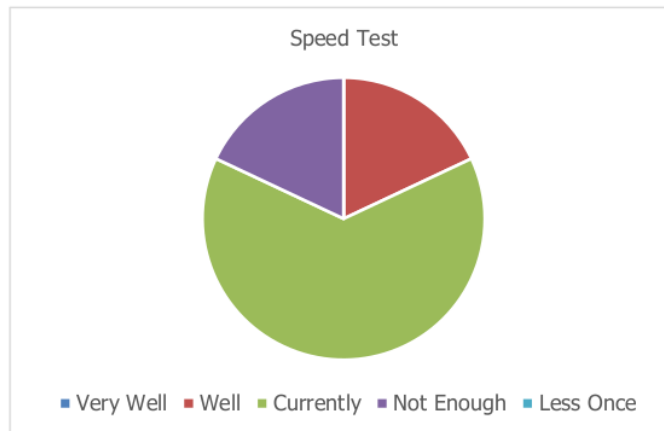


Figure 1. Percentage of Speed Test Results

From the results of the physical condition data, the speed of Jombang Basketball Club athletes is still below average because of these 33 people, only 6 people whose speed is in the good category with a percentage of 18%. 21 people in the moderate category with a percentage of 64% and 6 people in the less category with a percentage of 18%. None of them were in the very good category or in the very poor category. Next, the results of the agility test using the Illinois agility run test can be seen in the following table.

Table 5. Agility Test Results

| Category | Amount | Percentage |
|------------|--------|------------|
| Very well | 0 | 0% |
| Well | 4 | 12% |
| Currently | 18 | 55% |
| Not enough | 11 | 33% |
| Less Once | 0 | 0% |

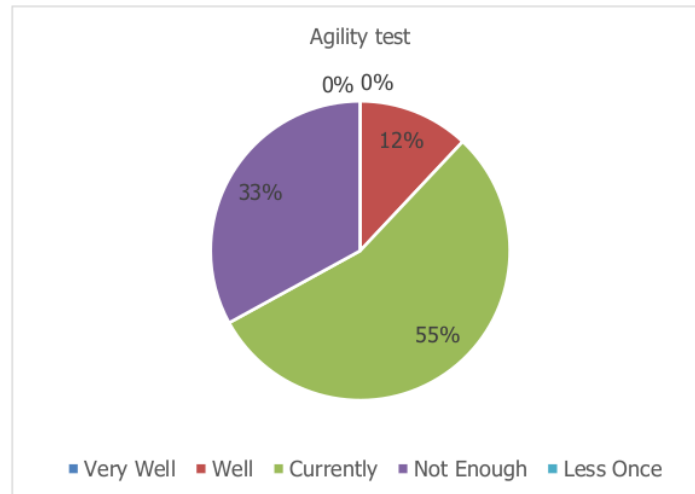


Figure 2. Percentage of Agility Test Results

From the results of the data on the physical condition of the athletes' agility in Jombang Basketball Club, it was categorized as still below average because of the 33 total, only 4 people had good agility with a percentage of 12%. 18 people in the moderate category with a percentage of 55% and 11 people in the less category with a percentage of 33%. None of them were in the very good category or in the very poor category.

Based on the results above, physical condition is a person's physical ability or physical endurance which is very important when carrying out activities or exercising. The proper and regular physical exercise is used to achieve prime physical condition. This is in accordance with the opinion of Bumpa (in Yusuf & Zainuddin, 2022) which states that the main goal of physical condition training is to increase the functional potential of athletes and develop athletes' biomotor abilities from the standard so that they can achieve the highest achievements. In addition, it is necessary to use good training methods to improve performance, some of which are long-term methods and interval methods. Of course, its implementation is inseparable from the manifestation of the training principles applied in a training program specifically aimed at increasing speed and agility in basketball. Increase speed with regular exercise and planning that is well prepared and implemented in a disciplined manner. Speed training is good for doing, for example sprinting short distances, running at different speeds, climbing mountains, climbing stairs and various other types of speed training (Widodo, 2021). A team that has fast players and can counterattack quickly to look for opportunities is a manifestation of a good club. Therefore, the factor of good physical condition and basic technical ability is a priority that must be mastered by every athlete.

CONCLUSION

Based on the results of the speed test research obtained, it was shown that the physical condition of Jombang Basketball Club athletes for speed was in the moderate category with a percentage result of 64% which was the highest percentage compared to the other

categories, while the agility test obtained showed that the physical condition of Jombang Basketball Club athletes was at the moderate category with a result of 55% is the highest percentage compared to the other categories

Speed and agility are the efforts of a person to run and mobilize his whole body to contribute to his ability to play basketball in facing different situations and changing directions rapidly in a short time without losing balance. By increasing the elements of speed and agility, it is hoped that basketball players can improve their performance properly and quickly according to the desired goals. Based on the data analysis above, it can be concluded in general that the level of physical condition of Jombang Basketball Club athletes is still below average as a basketball athlete, therefore both athletes and coaches must continue to work together to implement and carry out training programs so that speed and agility can increase for support performance, especially in the face of competition and can achieve achievements as expected.

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