

THE RELATIONSHIP BALANCE AND ARM MUSCLE STRENGTH TO SHOOT LAY-UP SKILLS IN BASKETBALL

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ABSTRACT

This study aims to analyze the relationship between balance and arm muscle strength on lay-up shoot skills in basketball games for MA extracurricular students. Riyadus Sholihin. The sample in this study was taken as a whole or total sampling, namely 30 students. The balance test uses the stand stroke test, for arm muscle strength uses the flexed-arm hang test and for lay up shoots uses the lay up shoot ability test. The data analysis technique was processed with proportions and the hypothesis was tested using correlation with the help of a computer in the excel and SPSS 23 programs. Based on the analysis of the proportion of the data obtained, namely for the results of the balance, the proportion of 100% was obtained, totaling 30 students who had an average balance result in the less category for girls and medium category for boys. The results of arm muscle strength have an average category of less than once for women and very few categories for men. Whereas the results of the ability to lay up shoot have an average result with a less category for women and an adequate category for men. This means that there is a contribution to the relationship between balance and arm muscle strength on lay-up shoot skills in basketball games.

Keywords: *Balance; Arm Muscle Strength; and Lay Up Shoot Skills in Basketball*

Introduction

Basketball is a type of game played by two teams facing each other. Each team consists of five players and 2 referees who manage the game. The five players have different positions and tasks. The game is played on a rectangular field measuring 28 meters long and 15 meters wide which can be measured from the inside of the line. Basketball is a very complex one, its movements consist of a combination of various elements of movement that are neatly coordinated so that it can be played well. If the way to hold the ball is wrong, then the player will not be able to throw properly. If accompanied by regular and programmed training, effectiveness will also be well received (Victorian & Sari, 2019). The main objective of the game of basketball is to put as many balls as possible into the opposing team's basket and try to defend the basket so that the ball does not enter. There are several positions in the game of basketball, namely: 1) Forward, the player in charge of putting the ball into the opponent's ring to create as many points as possible, 2) Defense, the player in charge of guarding the opponent so that the opponent has difficulty putting the ball into the ring making it difficult to create points, 3) Playmaker, the player in charge of managing the course of the game strategy and being the main key in a team. The game of basketball is growing rapidly in Indonesia, this is evidenced by the many establishments of clubs or activities in the school environment and also many basketball competitions or championships, both regional, national and international (Firmansyah dkk, 2019). These elements are, strength, speed, accuracy, endurance, explosive power, balance, and so on. As for skills, the player himself must master

the basic techniques of basketball namely, passing, shooting, dribbling and rebounding. (Sitepu, 2018).

The need for physical condition components for each sport varies according to the specifics or characteristics of a particular sport and is directed at the demands of the sport. Some of the components of the physical condition include: strength, agility, endurance, power, movement coordination, flexibility, balance, as well as psychological conditions such as motivation, mental, emotional and others. Strength and balance are very important components of the overall physical condition in the game of basketball. Balance (balance) is a person's expertise in controlling the nerves and muscles in the body. Balance can also be interpreted as a skill that can be used to control the body's center of mass (center of mass) or center of gravity (center of gravity) on the fulcrum (base of support). All shots use the balance mechanism in the BEEF (Balance, Eye, Elbow, Follow Through). Balance (balance) is a movement that always starts from bending the knees and adjusting the body in a balanced position (Cahya dkk., 2021).

In addition to balance, strength also has a considerable influence in the game of basketball. Strength is the basis of all components of physical condition. So even though there are many sports activities that require more agility, speed, coordination, balance and so on, these factors are still combined with the strength factor in order to get good results (Ramsi, 2015). Strength is the ability of a muscle group to overcome a load or resistance in carrying out activities. One of the driving forces of any physical activity is the arm muscles. Arm muscle strength is the ability of a person's muscles to handle loads while working (Wisniarti & Hermanzoni, 2020). With optimal arm muscle strength, lay up shoot skills will become one of the important factors in basketball.

With optimal arm muscle strength, lay up shoot skills will become one of the important factors in basketball. (Kristalistiano, 2020). Djami (2018) The lay-up shoot is the safest and most effective shot when the player holding the ball is not hindered by the opponent then makes a lay-up shot towards the basket to get a point in a basketball game, a lay-up shoot can also be done at the end of the dribble. Dwitama (2018) The lay-up shoot technique is one of the most commonly used shooting techniques by basketball players and makes this technique the easiest among other techniques. This shot starts from catching the ball while flying, can one foot, step the other foot forward, can one foot jump as high as possible or as close as possible to the basket. The success of the lay-up shoot lies in an efficient movement pattern based on motor behavior. Success in laying up shots still requires the use of technique and taking steps to maximize the results of the shot. Lay up shoot can be done with the help of a basketball basket board by bouncing at the right angle or directly towards the basket without bouncing off the basketball basket board. If you pay attention to the lay-up shoot movement, it is a relatively easy skill and is often used by players in scoring points. But in practice, many players have to miss the opportunity to score through a lay-up shoot. This is because the movement in basketball is an open skill where environmental factors can affect one's skills. The causes are interference from other players, improper player positions, player skills in controlling the ball, mental factors, minimal lay-up shooting skills, self-confidence and others.

Based on the results of observations, observations, and interviews with coaches during MA basketball extracurricular activities. Riyadhus Sholihin which was held on July 11 2022, there were several factors that influenced the achievements of MA basketball athletes. Riyadhus Sholihin in Musi Rawas Regency, namely the reality that occurs in the field that the lay-up shoot ability of athletes is still low, for example some athletes do not know much about what is needed to have good lay-up shoot basic techniques. Therefore, to achieve this target,

maximum effort is needed to develop lay-up shoot skills by providing a good understanding of what is needed. *Lay-up shoot is not only influenced by one factor but there are many factors such as balance and arm muscle strength. The first thing to do is to measure the extent to which students have balance and arm muscle strength and then relate them to find out what can improve the athlete's skills in doing a lay-up shoot well. However, this research does not discuss the forms of exercise from these 3 variables because this research is correlational in nature which only measures the level of balance and arm muscle strength in basketball games for MA extracurricular students. Riyadus Sholihin. Then connect it with the results of the lay-up shoot. Therefore researchers want to raise this issue by conducting in-depth research on Game Skills in MA basketball extracurriculars. Riyadhus Sholihin in doing a lay-up shoot which was then associated with balance factors and arm muscle strength so that the researcher described this study with the title "Relationship of Arm Balance and Muscle Strength to Lay Up Shoot Skills in Basketball Games for MA Extracurricular Students. Riyadus Sholihin".*

Method

This research is a correlation research, because in this study the aim is to find out whether there is a relationship between balance and strength on the ability to lay up shoot in basketball games. The test used for balance is the stork stand test, for strength using the Flexed-Arm Hang test and then measuring the lay up shoot test. Data analysis technique is a method used to obtain or analyze the data obtained. The results of the data obtained are in the form of balance test data, arm muscle strength and lay up shoot results which are then processed with correlation. The development of data processing is further processed using Excel and the help of the SPSS 26 computer program .

Discussion

Based on the significance value of sig.(2-tailed) from the output table, it is known that the sig.(2-tailed) value between the balance (X1) and the lay up shoot (Y) arm is $0.000 < 0.05$, which means that there is a significance between the balance variable and lay-up shoot variable. Furthermore, the relationship between arm muscle strength (X2) and the lay up shoot (Y) has a sig.(2-tailed) value of $0.000 < 0.05$, which means there is a significant correlation between the arm muscle strength variable and the lay up shoot variable. Meanwhile, according to the calculated r value (Pearson correlations): it is known that the r calculated value for the balance relationship (X1) with the lay up shoot (Y) is $0.887 > r \text{ table } 0.374$, it can be concluded that there is a relationship or correlation between the balance variable and the lay up variable shoot. Furthermore, it is known that the value of r calculated for the relationship between arm muscle strength (X2) and lay up shoot (Y) is $0.952 > r \text{ table } 0.374$, it can be concluded that there is a relationship or correlation between arm muscle strength and lay up shoot. Because the r count or Pearson correlations in this analysis are positive, it means that the relationship between the two variables is positive or in other words, the more balance and strength of the arm muscles increase, the lay up shoot results will also increase. The results showed that simultaneously balance and arm muscle strength were significantly related to the results of the lay up shoot which was proven from the results of the analysis which obtained a value of $1.000 > r \text{ table } 0.374$. The multiple correlation between the exercise-independent variable and the dependent exercise has a very strong correlation. This means that there is a contribution to the relationship between balance and arm muscle strength with

the skill of the lay-up shoot results in the MA extracurricular basketball game. Riyadus Sholihin. Balance is the ability to maintain the center of gravity on the fulcrum, especially when standing (Nisa, 2020). Balance is very important for all sports that use a lot of joint motion, for example beautiful jumping, gymnastics, basketball games and so on. Lay up shoot is a very important technique in the game of basketball. Lay up is the highest point compared to other shooting. To do a good lay up, you really need practice, one of which is balance training. Handayani (2022) One of the basic exercises that must be mastered by basketball players is one of which is balance training and arm muscle strength. Balance training and arm muscle strength have a significant relationship with the ability to lay up shoot results for basketball games, because the better the balance and arm muscle strength a player has, the ability to lay up shoot results on players is also very good and helps when attacking and to score points.

Based on research conducted by Rahayu & Permana (2022) said that there was a relationship between leg muscle strength and arm muscle strength on the lay up shoot ability of MA Riyadus Sholihin basketball extracurricular students. Based on this it is clear that balance and arm muscle strength have a positive relationship and have an important role to support the success of laying up shoots in basketball games.

Conclusion

Based on the results of the study, it can be concluded that there is a relationship between balance and arm muscle strength on the results of the lay up shoot in the MA basketball game Riyadus Solihin.

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