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CONTRIBUTION OF ARM MUSCLE STRENGTH AND HAND EYE COORDINATION TO THE RESULTS OF DOWN SERVICE OF THE BOLAVOLI EXTRACURRICULAR TEAM OF MTs S MUARO SIJUNJUNG

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ABSTRACT

The aim of this research was to see the contribution of arm muscle strength, hand eye coordination to the volleyball bottom serve results of the MTs S Muaro Sijunjung Volleyball extracurricular team. The type of research used in this research is correlation research. The population in this study were all volleyball extracurricular athletes at MTs S Muaro Sijunjung, while the sampling technique in this study used total sampling, so the sample in this study was 18 people. The tests used in this research used arm muscle strength tests (push ups), baseball throwing and catching, and volleyball bottom serve tests. From the results of tests carried out on MTs S Muaro Sijunjung volleyball extracurricular athletes, the results obtained were that there was a contribution between arm muscle strength to the lower serve of 1.23% and the remaining 98.77% was influenced by other factors, there was a contribution between hand eye coordination and volleyball bottom serve is 8.26% and the remaining 91.74% is influenced by other factors, and there is a contribution of arm muscle strength and hand eye coordination to volleyball bottom serve of 2.97% and the remaining 97.03% is influenced by other factors.

KEYWORDS *Arm Muscle Strength, Hand Eye Coordination, and Volleyball Lower Serve*

INTRODUCTION

Education, especially formal education in schools, has an important role in developing students' potential both academically and non-academically. One aspect that must be considered is sports, because it plays a role in fostering and developing the physical and spiritual potential of students. In addition, sports achievement is supported by a planned and sustainable coaching system, and is guaranteed by Law Number 3 of 2005 concerning the national sports system. At school, extracurricular

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activities such as volleyball provide a forum for students to hone their talents and interests in sports.

Volleyball, as one of the popular sports, has game rules that involve two teams with six players per team. A basic technique that must be mastered by players is the low serve, where arm muscle strength and eye-hand coordination are essential in doing so. Lack of arm muscle strength and proper technique can lead to failures in serving, such as the ball getting caught in the net or not reaching the target. Observations of the volleyball extracurricular team at MTs S Muaro Sijunjung show that some students still experience difficulties in serving down, especially related to arm strength and poor coordination.

Based on the results of observations of researchers conducted on the extracurricular bolavoli team of MTs S Muaro Sijunjung, researchers found several unsolved problems such as when serving down the ball is still concerned about the net, the swing of the hand is not strong enough so that the ball does not reach the target, and the body position is not appropriate. this is due to the lack of arm muscle strength possessed by students. In addition, the lack of basic lower service techniques such as when hitting the ball is not on target, the time is not right between when floating the ball and hitting the ball which is caused by poor eye and hand coordination.

This study identified several problems in the ability to serve under the volleyball extracurricular team at MTs S Muaro Sijunjung. Among them are lack of arm muscle strength, weak mastery of basic techniques, and improper eye-hand coordination, which have an impact on the accuracy of the serve. Based on limited time, ability, and resources, this study focused on the contribution of arm muscle strength and eye-hand coordination to the ability to serve down.

This study aims to determine the extent to which arm muscle strength and eye-hand coordination play a role in the volleyball team's lower serve ability. The formulation of the problem includes questions about the respective contributions of arm muscle strength, eye-hand coordination, and the combination of both to the results of the serve.

The results of this study are expected to benefit several parties, including researchers as part of the completion of studies, coaches to improve student training, and students themselves in improving sports achievements. In addition, this research is expected to be an additional reference in the faculty library for other students.

Based on this, the author feels the need and interest to propose and conduct a scientific research entitled "Contribution of Arm Muscle Strength and Hand Eye Coordination to the Lower Service Results of the Mts S Muaro Sijunjung Volleyball Extracurricular Team".

Literature Review

The Nature of Arm Muscle Strength

Arm muscle strength is one of the important components in sports, including in volleyball games, especially when serving down. According to Gazali (2016), strength can be defined as power that comes from a healthy physical condition. In this case, muscle strength is needed to support movements that require a lot of

energy, such as serving shots in volleyball. Sumantri (2020) also emphasizes that high arm muscle strength allows the arm to extend rigidly and hit the ball hard, which is needed in the lower serve.

Arm muscle strength training can be done with weight methods, such as push-ups and pull-ups, which are considered effective for increasing arm muscle strength and endurance (Pasaribu, 2020). These exercises help players improve their physical fitness and ability to serve more powerfully and accurately. Push-ups, for example, serve to measure upper body strength and endurance, while pull-ups train arm and shoulder muscle strength, providing beneficial results for players in volleyball games.

The Nature of Eye and Hand Coordination

Eye-hand coordination is the ability to integrate hand movements with eye gaze to achieve efficient and directed movements. Mahendra et al. (2012) define coordination as the ability to combine various movements into one effective pattern. This coordination is very important in the game of volleyball, especially when serving down, because it requires players to adjust their hand swings with their eyes to achieve the right accuracy and power.

One of the exercises that can be used to improve eye-hand coordination is the throw-catch exercise, which can measure the level of coordination between eye gaze and hand movements (Winarno, 2014). This kind of exercise not only improves coordination skills, but also trains the accuracy and agility of players when performing various movements in volleyball games.

The Nature of Bolavoli Bottom Serve

The lower serve is a basic technique in a volleyball game that is used to start the game. According to Kamadi (2020), the lower serve is done with the body position slightly upright and the hand hits the ball from below towards the opponent. This technique is simpler than other serves, so it is often taught to beginner players. Although simple, the lower serve has an important role because mistakes in serving can give additional points to the opponent (Widhiasto et al., 2020).

In its execution, the lower serve involves several basic techniques, including correct body position, proper ball bounce, and a coordinated hand swing. Mastery of these techniques is essential so that the serve can help the team in attack. Players need to pay attention to the correct stages of execution to maximize results and avoid mistakes that can hurt the team.

Conceptual Framework

Arm muscle strength is one of the determinants of a person's achievement, with strong and trained arm muscle strength, of course, you can do the desired activity well without experiencing significant obstacles. The size of a person's muscle strength greatly affects the power produced. Therefore, arm muscle strength is very influential on the results of serving under bolavoli. This requires that each player can train arm muscle strength so that what is the goal in the game of volleyball can be achieved optimally.

In addition, good coordination between the eyes and hands can harmonize the movements performed. Coordination is a combination of two movements that are interconnected in creating a structured and directed movement. This movement aims to create a perfect movement by moving two components of body movement together. Someone who has a good level of coordination will find it easy to make the desired movements. This is very useful in serving down, movements that combine eye gaze and hand swings that are in line will make the serve down as desired.

Finally, a perfect lower serve will certainly be able to help the team earn points in a volleyball game. This serve has many enthusiasts because of its easy implementation. Serving is done to start a match in a volleyball game. So that the service becomes a benchmark for the success of a player, the success of the test can also be seen from a person's ability to use the strength of the arm muscles and the hand eye coordination he has in serving under the volleyball.

Therefore, the results of this study will provide answers about the contribution of arm muscle strength and eye and hand coordination to the ability to serve under the extracurricular bolavoli team of MTs S Muaro Sijunjung. These results can also later be used as a reference for teachers who are responsible for developing students to be even better in the future in improving their abilities in the game of volleyball.

Research Hypothesis

Based on the framework above, the authors propose research hypotheses including the following:

1. There is a contribution of arm muscle strength to the results of the extracurricular bolavoli team of MTs S Muaro Sijunjung.
2. There is a contribution of eye and hand coordination to the results of the extracurricular bolavoli team of MTs S Muaro Sijunjung.
3. There is a contribution of arm muscle strength and eye and hand coordination to the results of the extracurricular bolavoli team of MTs S Muaro Sijunjung.

RESEARCH METHOD

This research uses descriptive methods to describe the state of the object of research without making generally applicable conclusions. According to Kurniawan and Puspitaningtyas (2016), descriptive research aims to determine the value of variables without comparing or relating them to other variables. The population in this study were the entire volleyball extracurricular team at MTs S Muaro Sijunjung totaling 17 people, and using the total sampling technique, where the entire population was sampled.

To avoid misinterpretation, this study provides operational definitions for some important terms. Muscle strength is defined as the ability of muscles to use maximum force to lift weights. Eye-hand coordination refers to the ability of the visual system to control the hands in carrying out a specific task. While the lower serve is a technique of starting a volleyball game with one hand hitting the ball from a slightly squatting position.

The instruments used in this study include a push-up test to measure arm muscle strength, a tennis ball catch throw test to measure eye and hand

coordination, and a volleyball lower serve test to measure skill in serving. Data were collected through observation, literature study, and tests and measurements conducted at the volleyball court of MTs S Muaro Sijunjung. Data analysis was carried out using Pearson correlation to measure the relationship between arm muscle strength and eye-hand coordination to the results of the lower serve.

RESULTS AND DISCUSSION

Data Description

This study was conducted to see the size of the contribution between variable X_1 (arm muscle strength), variable X_2 (eye-hand coordination) to variable Y (lower bolavoli serve). For a clearer description of each of these data, it can be seen in the data description as follows.

Arm Muscle Strength Data of MTs S Muaro Sijunjung Bolavoli Club

The test in this study used the *push up* test to measure the arm muscle strength of the MTs S Muaro Sijunjung Bolavoli Club, from the research that has been done and after being simplified by using the *T-Score*, the maximum value is 75.83, the minimum value is 38.24, the average score is 51.43 and the *standard deviation* is 11.43. For more details, please see the following table:

Table 1. Statistical Values of Arm Muscle Strength Test of MTs S Muaro Sijunjung Bolavoli Club

N	Maximal Value	Minimum Value	*Stdev*	*Average*
18	75,83	38,24	11,45	51,43

Source: Processed Data 2024

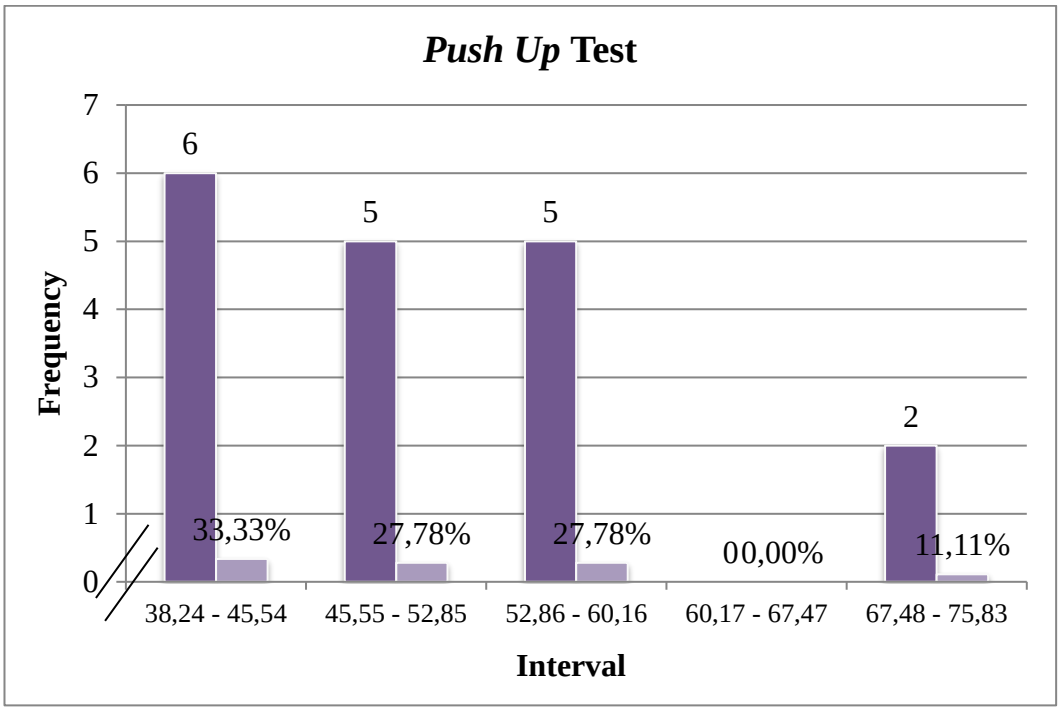
These results are then explained in a table by displaying the results of the *product moment* with a total of 5 classes, as for the first interval class in the range 38.24 - 45.54 found 6 athletes or 33.33%, in the second interval class in the range 45.55 - 52,85 found 5 athletes or 27.78%, in the third interval class in the range 52.86 - 60.16 found 5 athletes or 27.78%, in the fourth interval class in the range 60.17 - 67.47 found 0 athletes or 0%, and in the fifth interval class in the range 67.48 - 75.83 found 2 athletes or 11.11%. The data can also be seen in the following table:

Table 2. Frequency Distribution of Arm Muscle Strength of MTs S Muaro Sijunjung Bolavoli Club

No.	Interval	Frequency	Percentage
1	38,24 - 45,54	6	33,33%
2	45,55 - 52,85	5	27,78%
3	52,86 - 60,16	5	27,78%
4	60,17 - 67,47	0	0,00%
5	67,48 - 75,83	2	11,11%
Total		**18**	**100%**

Source: Processed Data 2024

Data on arm muscle strength at the MTs S Muaro Sijunjung Bolavoli Club which has been stated above, can also be seen in the following diagram:



Graph 1. Histogram of Arm Muscle Strength Test Results of MTs S Muaro Sijunjung Bolavoli Club

Hand-Eye Coordination Test Data of Bolavoli Club MTs S Muaro Sijunjung

The test in this study used a baseball catch throw to measure the hand-eye coordination of the MTs S Muaro Sijunjung Bolavoli Club, from the research that has been done and after being simplified by using the *T-Score*, the maximum value is 63.93, the minimum value is 30.09, the average score is 50.39 and *the standard deviation* is 9.84. For more details, please see the following table:

Table 3. Statistical Values of Hand-Eye Coordination Test of MTs S Muaro Sijunjung Bolavoli Club

N	Maximal Value	Minimum Value	*Stdev*	*Average*
18	63,93	30,09	9,84	50,39

Source: Processed Data 2024

These results are then explained in a table by displaying the results of the *product moment* with a total of 5 classes, as for the first interval class in the range 30.09 - 36.66 found 2 athletes or 11.11%, in the second interval class in the range 36.67 - 43.24 found 0 athletes or 0%, in the third interval class in the range 43.25 - 49.82 found 4 athletes or 22.22%, in the fourth interval class in the range 49.83 -

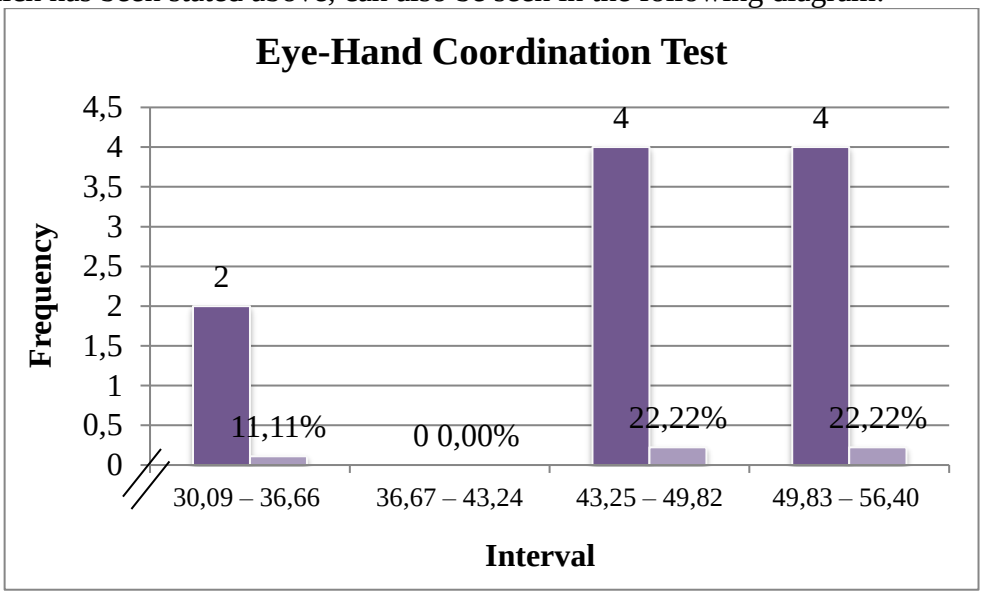
56.40 found 4 athletes or 22.22%, and in the fifth interval class in the range 56.41 - 63.93 found 4 athletes or 22.22%. The data can also be seen in the following table:

Table 4. Distribution of Hand-Eye Coordination Tests of MTs S Muaro Sijunjung Bolavoli Club

No.	Interval	Frequency	Percentage
1	30,09 - 36,66	2	11,11%
2	36,67 - 43,24	0	0,00%
3	43,25 - 49,82	4	22,22%
4	49,83 - 56,40	4	22,22%
5	56,41 - 63,93	8	44,44%
Total		**18**	**100%**

Source: Processed Data 2024

Eye-hand coordination data at the MTs S Muaro Sijunjung Bolavoli Club which has been stated above, can also be seen in the following diagram:



Graph 2. Histogram of Hand-Eye Coordination Test Results of MTs S Muaro Sijunjung Bolavoli Club

Bolavoli Lower Serve Test Data of MTs S Muaro Sijunjung Bolavoli Club

The test in this study used the lower serve of bolavoli to measure the lower serve ability of the MTs S Muaro Sijunjung Bolavoli Club, from the research that has been done and after being simplified by using the *T-Score*, the maximum value is 72.57, the minimum value is 38.13, the average score is 51.25 and the *standard deviation* is 11.06. For more details, please see the following table:

Table 5. Statistical Values of Bolavoli Lower Serve Test of MTs S Muaro Sijunjung Bolavoli Club

N	Maximal Value	Minimum Value	*Stdev*	*Average*
18	72,57	38,13	11,06	51,25

Source: Processed Data 2024

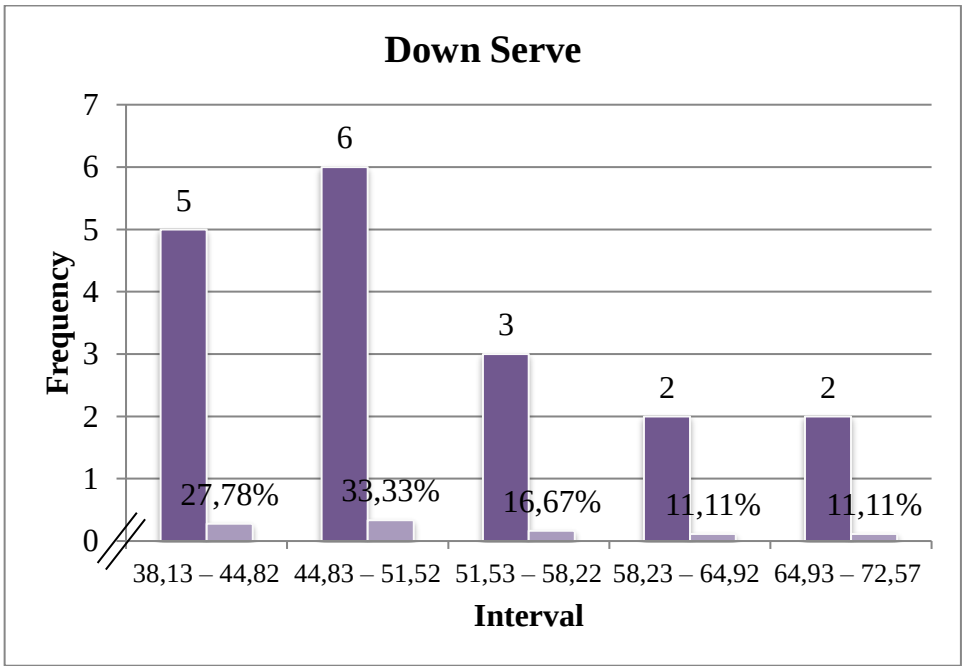
These results are then explained in a table by displaying the results of the *product moment* with a total of 5 classes, as for the first interval class in the range 38.13 - 44.82 found 5 athletes or 27.78%, in the second interval class in the range 44.83 - 51.52 found 6 athletes or 33,33%, in the third interval class in the range 51.53 - 58.22 found 3 athletes or 16.67%, in the fourth interval class in the range 58.23 - 64.92 found 2 athletes or 11.11%, and in the fifth interval class in the range 64.93 - 72.57 found 2 athletes or 11.11%. The data can also be seen in the following table:

Table 6. Frequency Distribution of Bolavoli Lower Serve Test of MTs S Muaro Sijunjung Bolavoli Club

No.	Interval	Frequency	Percentage
1	38,13 - 44,82	5	27,78%
2	44,83 - 51,52	6	33,33%
3	51,53 - 58,22	3	16,67%
4	58,23 - 64,92	2	11,11%
5	64,93 - 72,57	2	11,11%
Total		**18**	**100%**

Source: Processed Data 2024

Data on the lower serve of bolavoli at the MTs S Muaro Sijunjung Bolavoli Club which has been stated above, can also be seen in the following diagram:



Graph 3. Histogram of Bolavoli Lower Serve Test Results Bolavoli Club MTs S Muaro Sijunjung

Data Analysis

The data examined in this study are variable X_1 or arm muscle strength, variable X_2 or eye-hand coordination and variable Y or lower bolavoli serve. After the data is collected, the next step is to process it using the *product moment* formula whose purpose is to determine the size of the relationship in each variable studied.

Furthermore, the data to be known in this study focuses on three hypotheses, namely:

1. There is a contribution of arm muscle strength to the lower serve of volleyball at the MTs S Muaro Sijunjung Bolavoli Club.
2. There is a contribution of eye-hand coordination to the lower serve of volleyball at the MTs S Muaro Sijunjung Bolavoli Club.
3. There is a contribution to the contribution of arm muscle strength, eye-hand coordination to the lower serve of volleyball at the MTs S Muaro Sijunjung Bolavoli Club.

More details on the results found in the study will be explained in the following data analysis:

Significance Test Results of Arm Muscle Strength (X_1) Against Bolavoli Club Bolavoli Lower Serve MTs S Muaro Sijunjung (Y)

In accordance with data analysis using the *product moment* correlation formula varibael Arm muscle strength (X_1) to the lower serve of bolavoli (Y), a correlation value of **0.111** is obtained or commonly referred to as $_{rcount}$ of **0.111.** If we look back at the value of r_{tabel} according to the number of samples in this study of 18 people, the r_{tabel} is **0.468.** Therefore, it can be explained that $_{rcount} \leq _{rtable}$ or **0.111 ≤ 0.468** is called the absence of a correlation coefficient value between variable X_1 to variable Y. Then it can also be seen the amount of the contribution value between variable X_1 to variable Y using the formula r^2 x 100% ate a contribution of **1.23%** while the remaining **98.77%** is influenced by other factors not discussed in this study.

Significance Test Results of Eye-Hand Coordination (X_2) to Bolavoli Lower Serve (Y)

In accordance with data analysis using the *product moment* correlation formula for hand-eye coordination varibael (X_2) on bolavoli bottom service (Y), a correlation value of **-0.287** or commonly referred to as $_{rcount}$ of **-0.287** is obtained**.** If we look back at the value of r_{tabel} according to the number of samples in this study of 17 people, the r_{tabel} is **0.468.** Therefore, it can be explained that $_{rcount} \leq _{rtable}$ or **-0.287 ≤ 0.468** is called the absence of a correlation coefficient value between variable X_2 to variable Y. Then it can also be seen the amount of the contribution value between variable X_2 to variable Y using the formula r^2 x 100% ate a contribution of **8.26%** while the remaining **91.74%** is influenced by other factors not discussed in this study.

Significance Test Results of Arm Muscle Strength Arm Muscle (X_1) Eye-Hand Coordination (X_2) Against Bolavoli Lower Serve (Y)

In accordance with data analysis using the *product moment* correlation formula varibael Arm muscle strength (X_1), eye-hand coordination (X_2) to the lower serve of bolavoli (Y), a correlation value of **0.172** is obtained or commonly referred to as $_{rcount}$ of **0.172.** If you look back at the value of r_{tabel} according to the number of samples in this study of 17 people, the r_{tabel} is **0.468.** Therefore, it can be explained that rcount> $_{rtable}$ or **0.172 <0.468** is called the absence of a correlation coefficient value between variable X_1, X_2 to variable Y. Then it can also be seen the amount of contribution value between variables X_1 , X_2 to variable Y using the formula r^2 x 100% ate obtained a contribution of **2.97%** while the remaining **97.03%** is influenced by other factors not discussed in this study.

Discussion

After analyzing the data that has been stated above, the next step is to discuss the data that has been analyzed with the following series of discussions:

Arm Muscle Strength to Lower Serve Bolavoli Club Bolavoli MTs S Muaro Sijunjung

Arm muscle strength plays an important role in the effectiveness of the lower serve in volleyball. The low serve is a basic technique often used in volleyball games, and its success is greatly influenced by the power and speed of the stroke. Arm muscle strength contributes significantly in generating the power of the stroke required for an effective serve. Strong and explosive arm muscles can increase the speed of the ball when it hits the hand, so that the serve made becomes faster and difficult to return by the opponent. In addition, arm muscle strength also plays a role in controlling the direction and accuracy of the serve, as greater hitting power allows players to serve with more precision and variety. Exercises that focus on increasing muscle strength, such as *plyometric* exercises and arm muscle specific strength training, can assist players in optimizing their lower serve technique. By increasing arm muscle strength, players are not only able to perform stronger lower serves, but are also more effective in executing game strategies that benefit their team.

In this study, it discusses the contribution of arm muscle strength to the lower serve of bolavoli and from the results of the research conducted, a contribution of 1.23% was obtained for the MTs S Muaro Sijunjung Bolavoli Club. This is proof that the influence of arm muscle strength in the lower serve of volleyball is very important and significant. Therefore, with these results found, the coach needs to prepare new breakthroughs in compiling training programs to be able to increase the arm muscle strength of the MTs S Muaro Sijunjung Bolavoli Club so that it is always in good condition and can always contribute to the lower serve of volleyball.

Eye-Hand Coordination on Lower Serve of MTs S Muaro Sijunjung Bolavoli Club

Eye-hand coordination plays a crucial role in the execution of the low serve in volleyball. The low serve is a basic technique that involves hitting the ball with

one hand from below with the aim of sending the ball into the opponent's area. Good eye-hand coordination allows players to control the movement and direction of the ball with more precision. The eyes work as the main guide in determining the point where the ball will be hit, while the hands act as the execution tool that transfers energy and power to hit the ball in the desired way.

Proper coordination between the eyes and hands allows players to adjust the stroke movement in real-time according to the movement of the ball and field conditions. Players who have good coordination can adjust the angle and speed of the stroke accurately, thereby increasing the likelihood of the ball reaching the intended target or creating difficulties for the opponent to anticipate and respond to the serve.

In addition, eye-hand coordination also affects technical aspects such as ball rotation and the effects produced during a serve. Players who are able to coordinate their eyes and hands well can control the rotation of the ball to achieve the desired movement, such as topspin or backspin effects that can increase the complexity and effectiveness of their serve.

The development of eye-hand coordination in lower serves can be done through exercises that focus on precision of movement, visualization of ball trajectory, as well as quick response to game situations. By improving this coordination, players not only improve the quality of their serving technique, but also increase their contribution in team strategy to achieve higher game goals in volleyball.

In this study, it discusses the contribution of eye-hand coordination to the lower serve of volleyball and from the results of the research conducted, a contribution of 8.26% was obtained for the MTs S Muaro Sijunjung Bolavoli Club. This is proof that the effect of hand-eye coordination on the lower serve of volleyball is very important. Therefore, with such results found, it is necessary to practice regularly to be able to improve hand-eye coordination, especially in performing volleyball lower serve movements.

Arm Muscle Strength, Eye-Hand Coordination to Bolavoli Club Bolavoli Lower Serve MTs S Muaro Sijunjung

In volleyball, an effective lower serve requires a combination of arm muscle strength and good eye-hand coordination. Arm muscle strength plays an important role in providing power and speed to the lower serve. Strong arm muscles allow players to hit shots with high intensity, so that the ball can be delivered with enough speed and power to surprise the opponent and increase the chances of getting points. Meanwhile, good eye-hand coordination ensures that such power is translated into effective serving technique. The eyes serve to monitor the position of the ball and determine the right point of contact, while the hands act to execute an accurate and purposeful serving motion.

Good coordination between the eyes and hands allows the player to adjust the service motion quickly, set the angle of the stroke, and provide the desired effect on the ball, such as topspin or backspin. In other words, arm muscle strength and eye-hand coordination complement each other in creating a lower serve that is not only powerful but also effective in hitting the target and affecting the opponent's

play. Exercises that develop these two aspects, such as arm muscle strength training and hand-eye coordination technique training, are essential for improving the quality of the lower serve. Therefore, developing arm muscle strength along with exercises that sharpen eye-hand coordination are key strategies in improving lower serve performance in volleyball.

In this study, it discusses the contribution of arm muscle strength and hand-eye coordination to the lower serve of bolavoli and from the results of the research conducted, a contribution of 2.97% was obtained for the MTs S Muaro Sijunjung Bolavoli Club. This is proof that arm muscle strength and hand-eye coordination in the lower serve of volleyball are very important and have a contribution. Therefore, with these results found, it is necessary to practice regularly to be able to increase arm muscle strength and hand-eye coordination, especially in performing bolavoli lower service movements.

The implementation in this study is to identify the contribution of arm muscle strength and eye-hand coordination to the lower serve in volleyball at the MTs S Muaro Sijunjung Bolavoli club with a quantitative and correlational approach. The results of this study are expected to provide insight into how each factor affects the effectiveness of the lower serve, as well as information to design a more effective training program for volleyball players, especially at the MTs S Muaro Sijunjung Bolavoli Club.

The weakness in this study is that the research was only conducted at one of the volleyball clubs in one of the schools. In the future, research like this should be carried out at professional clubs in Indonesia so that the quality of Indonesian players can be improved from the results of research like this. In addition, the most visible weakness in this study is athletes who have not really mastered the basic techniques in the game of volleyball so that the real goal cannot be fully achieved.

On the other hand, similar studies have often been conducted by previous researchers, such as those conducted by (Karmila et al., 2024) in this study discussed the contribution of strength, coordination and abdominal muscle strength in serving down and the study had a linear contribution. This shows that the factors of strength, coordination and abdominal muscle strength are very important in serving down.

In addition, other research was conducted by (Sahabuddin & Ishak, 2024) in his research discusses the factors of arm strength, wrist, and eye-hand coordination and after research by these researchers, it was found that the contribution of each of these variables to the lower serve of bolavoli. This shows that some of the factors discussed above need special attention so that they can improve the skills and potential of bolavoli athletes.

CONCLUSION

Based on the results of research and data analysis that has been carried out at the MTs S Muaro Sijunjung Bolavoli Club, it can be concluded as follows: 1. There is a contribution between arm muscle explosiveness to the lower serve of volleyball of 1.23% and the remaining 98.77% is influenced by other factors. 2. There is a contribution between eye-hand coordination to the lower serve of volleyball of 8.26% and the remaining 91.74% is influenced by other factors. 3. There is a

contribution of arm muscle explosiveness and eye-hand coordination to the lower serve of volleyball of 2.97% and the remaining 97.03% is influenced by other factors.

Based on the conclusions obtained by researchers from the results of research in the field, several suggestions are made related to the student development process including: 1. To the coach of the Muaro Sijunjung MTs Bolavoli Club to be able to provide maximum training, especially in certain physical conditions that allow to develop the potential of bolavoli club athletes. 2. For athletes to be able to practice even more actively in order to get the best results, and it is hoped that they will always train their physical condition. 3. For further researchers, it can be used as a simple reference and comparison for those who want to continue research with the same study.

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