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The Relationship Between Arm Muscle Strength And Back Strike Flexibility To Throwing Ability Into The Student Football Game SMP Negeri 19 Makassar

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bstract. This research is a descriptive analysis research that aims to find out 1) Is there a relationship between arm muscle strength and the ability to throw inside in the football game of SMP Negeri 19 Makassar students.2) Is there a relationship between the flexibility of the backward stroke and the ability to throw into the football game of SMP Negeri 19 Makassar students. 3) Is there a relationship between arm muscle strength and backward flexion together on the ability to throw in the football game of SMP Negeri 19 Makassar students. The population in this study was all male students in grade VIII of SMP Negeri 19 Makassar as many as 95 students, while the sample used was 45 students with a simple random sampling technique. The data from the study was obtained by providing test of arm muscle strength (30-second push up), back flexibility test and thtow-in test. The data analysis techniques used are descriptive and inferential analysis and requirements tests with data normality tests. Based on the results of statistical analysis, the results of statistical analysis were obtained, among others: 1) There was a relationship between arm muscle strength and throwing ability in football games of SMP Negeri 19 Makassar students, amounting to 23.7%, (r) = 0.487 (Pvalue = 0.001<α 0.05). 2) There was a relationship between backward flex flexibility and the ability to throw inside in football games. SMP Negeri 19 Makassar students, by 26.8%, (r) = 0.518 (Pvalue = 0.000<α 0.05) 3) Is there a relationship between arm muscle strength and backward flex together on throwing ability in the football game of SMP Negeri 19 Makassar students, amounting to 35.3, with a value of (r) = 0.594 (Pvalue = 0.000<α 0.05).

Keywords: arm muscle strength, backward strike flexibility, deep throw, football.

I Introduction

Football is one of the most popular sports in the world and has an important role in the formation of motor skills, teamwork, and the development of students' physical potential in school. In Indonesia, football has become an integral part of physical education learning activities, especially at the junior high school (SMP) level. This game demands a good mix of physical ability, technique, and tactics so that each player can contribute optimally to the

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match. One of the basic technical aspects that is often overlooked but very important in the game of football is the throw-in, which is a strategic moment in defending or initiating an attack (Rahmat & Nugroho, 2021).

The ability to throw in requires upper body coordination, particularly arm muscle strength and back strike flexibility, to produce a long, accurate, and fast throw. According to Harsono (2018), muscle strength is the ability of muscles to withstand the load or pressure in a contraction, which directly affects the thrust and distance of the ball throw. Meanwhile, the flexibility of the back stroke plays an important role in creating a wide range of motion when swinging backwards before throwing the ball. Without good flexibility, throwing movements will become rigid, limited, and less efficient (Suharjana, 2019).

In the implementation of physical education learning in schools, especially at SMP Negeri 19 Makassar, the results of initial observations show that the ability to throw into students is still relatively low. Many students are not able to throw the ball with optimal distance and accuracy. Based on field observations, this is strongly suspected to be due to the low strength of the arm muscles and the lack of flexibility in the student's back strike, which is an important factor in producing effective throws. This weakness can have an impact on the inefficiency of the game strategy as the ball often fails to reach its intended teammates.

There are several studies on physical components such as arm muscle strength and flexibility that have a positive contribution to the outcome of ball throws in football games. This shows that these two variables cannot be ignored because they support each other in creating optimal throwing technique performance. However, most previous research has been conducted on adolescent athletes at the high school level or football clubs, while research focusing on junior high school students is still limited. In fact, junior high school is a very important period of motor development, where increasing strength and flexibility can have a significant impact on mastering basic sports techniques. This research gap is an important basis for conducting empirical studies in the context of SMP Negeri 19 Makassar students.

Furthermore, the results of interviews with physical education teachers showed that students tended to do less exercises to strengthen their arm muscles regularly and had minimal back stretching activities in each learning session. Existing training programs still focus on basic techniques such as passing, dribbling, and shooting, without paying attention to the physical support aspects that underlie the ability to throw inside. In fact, according to Bompa & Buzzichelli (2019), strength and flexibility training are key components in the formation of complex sports technical skills, including football.

This condition indicates that there is a gap between the specific physical needs in the throw-in technique and the coaching applied in schools. Lack of attention to the development of arm muscle strength and back flex can be an inhibiting factor for improving student performance. Therefore, this study is very relevant to be conducted to identify the relationship between the two factors on the ability to throw in scientifically and measurably.

From a theoretical point of view, this research is based on biomotor theory which states that sports skills are not only influenced by mastery of technique, but also by physical components such as strength, flexibility, speed, and coordination (Bompa, 2018). Thus, arm muscle strength and back strike flexibility are two basic elements that complement each other in producing strong and efficient inward throwing movements. The combination of the two allows players to generate maximum momentum and thrust against the ball.

This study aims to determine the relationship between arm muscle strength and back strike flexibility on the ability to throw in football games of SMP Negeri 19 Makassar students. Theoretically, this research is expected to enrich the treasures of science in the field of physical education and sports, especially related to physical factors that affect basic football

techniques. Practically, the results of this research can be the basis for physical education teachers to develop more effective and targeted exercise programs to improve the performance of throwing techniques into students.

2 METHOD

This study uses a quantitative approach with a correlational method, because it aims to determine the relationship between two free variables, namely arm muscle strength and back stroke flexibility, to one bound variable, namely the ability to throw inward. According to Sugiyono (2019), the correlational method is used to determine the level of relationship between variables without giving specific treatment to the research subject. Thus, this design is considered appropriate because the study only focuses on measuring and analyzing the relationship between variables statistically, not on the provision of interventions. The design of this study is described in the form of a functional relationship between free variables and bound variables, where arm muscle strength (X_1) and back strike flexibility (X_2) are factors that are thought to affect the ability to throw inwards (Y).

Population is all things that will be studied, whether it is in the form of objects or inanimate objects or in the form of subjects or humans or social devices available in a study (Rahmadani et al., 2023). The population in this study is all male students in grade VIII of SMP Negeri 19 Makassar which totals 95 students. A sample is any method used to identify a sample for research purposes (Purba et al., 2023). The sample used was 45 students, using *a simple random sampling technique*. This technique was chosen because it provides an equal opportunity for each member of the population to be selected as a sample, so that the results of the study can describe the condition of the population in a representative manner (Arikunto, 2019).

The research instruments used were compiled based on the objectives and characteristics of the variables measured. To measure the strength of the arm muscles, a *push-up test* for 30 seconds is used. Students perform push-up positions with their bodies straight and hands shoulder-level, then perform as many up-and-down movements as possible in the allotted time. The number of successful repetitions becomes the arm muscle strength score. To measure the flexibility of the back strike, a *back flexibility test* is used. Students are asked to lie face down with both hands behind their backs, then raise their heads and chests as much as possible. The distance between the chin and the floor was measured using the bar in centimeters, and the best results from three experiments were taken as the malleability value. Meanwhile, the ability to throw inside is measured using a *throw-in test*. In its implementation, students stand behind the boundary line, then throw the ball forward as far as possible using the correct throw-in technique. Each student is given three chances, and the best results are measured by a meter from the starting point of the throw to the ball drops.

The data obtained from the measurement results were then analyzed using two approaches, namely descriptive and inferential analysis. Descriptive analysis is used to describe the characteristics of the research data, such as mean values, standard deviations, minimum values, and maximums. Meanwhile, inferential analysis is used to test the research hypothesis. The statistical test used was Pearson's product moment correlation to determine the relationship between each free variable and the bound variable, as well as multiple regression analysis to determine the simultaneous relationship between arm muscle strength and back stroke flexibility to inward throwing ability. Before the analysis, the data is tested first through a prerequisite test including a normality test. The analysis was carried out using

the SPSS program version 25.0, with a significance level of α= 0.05 or a confidence level of 95%.

3 Results

The results of data analysis to present the findings or results of the research are the relationship between arm muscle strength and back strike flexibility on the ability to throw in the football game of SMP Negeri 19 Makassar students. Descriptive data analysis is intended to get an overview of research data. Data descriptions are intended to be able to interpret and give meaning to the data.

Table 1. Results of a descriptive analysis of arm muscle strength and back flex flexibility on the ability to throw deep in the football game of SMP Negeri 19 Makassar students.

Variabel	N	Range	min	Max	Std. Deviation	Mean
Arm muscle strength	45	27.00	8.00	35.00	5.838	20.00
Backward Strike Flexibility	45	22.00	36.00	58.00	4.937	47.37
Throw-In	45	9.12	7.06	16.18	2.230	11.41

The table above is explained as follows:

1. The data on the results of the arm muscle strength test with a value of the number of samples (N) 45, range/range 27.00, minimum value of 8.00, maximum 36.00, std value. Deviation 5.838, mean value (average) 20.00.
2. Data on the value of the backward check flexibility test with a value of the number of samples (N) 45, range/range 22.00, minimum value 36.00, maximum 58.00, std value. deviation 4.937, mean value (average) 47.37.
3. The data on the results of the throw-in ability test with a value of the number of samples (N) 45, range/range 9.12, minimum value of 7.06, maximum 16.18, std value. Deviation 2.230, mean value (average) 11.41.

Table 2. The results of the test of normality of arm muscle strength and flexibility of the back kick on the ability to throw inside in the football game of SMP Negeri 19 Makassar students.

Variabel	KS-Z	Asymp	Ket
Balance	0.099	0.200	Normal
Ankle Coordination	0.102	0.200	Normal
Passing Ability	0.078	0.200	Normal

The table above shows that from the results of the normality test of the data using the Kolmogorov smirnov test, the results show the following results:

1. Arm muscle strength data obtained Kolmogorov-Smirnov 0.099, Asymptot. Sig 0.200 (P>0.05), then it can be said that the data follows a normal distribution or a normal distribution.

2. The data on the backward strike flexibility was obtained by Kolmogorov-Smirnov 0.102, Asymptot. Sig 0.200(P>0.05), then it can be said that the data follows a normal distribution or a normal distribution.
3. Kolmogorov-Smirnov throwing ability data 0.078, Asymptot. Sig 0.200 (P>0.05), then it can be said that the data follows a normal distribution or a normal distribution.

Table 3. The results of the correlation analysis test on arm muscle strength and back stroke flexibility on the ability to throw inside in the football game of SMP Negeri 19 Makassar students.

Variabel	Pearson Corelasi	P(Sig.)	Information
The relationship of arm muscle strength to the ability to throw inside	0.487	0.001	Exist Relationship

Based on the table above, it can be stated that from the data of the variable arm muscle strength to the ability to throw in, it is known that the value of the Pearson correlation coefficient between the variable of arm muscle strength and the ability to throw in in the football game of SMP Negeri 19 Makassar students, namely (r) = 0.487 with a significance of 0.001 (p<0.05). So there is a relationship between arm muscle strength and the ability to throw inside in the football game of SMP Negeri 19 Makassar students.

Table 4. The results of the correlation analysis test of backward strike flexibility on the ability to throw inside in the football game of SMP Negeri 19 Makassar students.

Variabel	Pearson Corelasi	P(Sig.)	Information
The Relationship of Backward Look Flexibility to Inside Throw Ability	0.518	0.000	Exist Relationship

Based on the table above, it can be stated that from the data of the variable of backward strike flexibility on the ability to throw in, it is known that the value of the Pearson correlation coefficient between the variable of the reverse strike flexibility to the ability to throw in in the football game of SMP Negeri 19 Makassar students, namely (r) = 0.518 with a significance of 0.000 (p<0.05). So there is a relationship between the flexibility of the backward strike and the ability to throw inside in the football game of SMP Negeri 19 Makassar students.

Table 5. The results of the regression analysis test of arm muscle strength and backward strike flexibility on the ability to throw inside in the football game of SMP Negeri 19 Makassar students.

Model Summary

Model	R	R Square	F	Itself
1	.594	.353	11.458	0.000

Based on the table above, it can be seen that the results of the regression test are from the regression test data on the relationship between arm muscle strength and backward strike flexibility to the ability to throw in the football game of SMP Negeri 19 Makassar students, obtaining a value of R=0.594 and Rsquare 0.353 if percentaged to 35.3% with a sig value of 0.00. It can be interpreted that the relationship between arm muscle strength and backward throwback flexibility to the ability to throw in in the football game of SMP Negeri 19 Makassar students, by 35.3%.

4 Discussion

The results showed that there was a significant relationship between arm muscle strength and back strike flexibility on throwing ability in football games of SMP Negeri 19 Makassar students. Based on the results of Pearson's correlation analysis, arm muscle strength has a coefficient value of 0.487 with a significance of 0.001, while the flexibility of the back strike has a coefficient value of 0.518 with a significance of 0.000. In addition, the results of multiple regression analysis showed that the two free variables together contributed 35.3% to the ability to throw in. This shows that both arm muscle strength and back strike flexibility have an important influence on students' ability to make throws in effectively.

Arm muscle strength is the dominant factor that affects students' ability to make inward throws because the movement demands coordination of the muscles of the arms, shoulders, and upper back to produce a large thrust against the ball. This finding is in line with the opinion of Harsono (2018) who states that muscle strength is the ability of muscles to withstand weight or pressure during contraction, and it has a direct effect on the thrust and distance of throwing the ball. In the context of a football game, the stronger the muscles of a player's arms, the farther and more stable the direction of the ball being thrown. These findings also support the results of research by Rahmat and Nugroho (2021) who found a positive influence of arm muscle strength on ball throwing distance in young players. Thus, increasing arm muscle strength through regular exercises such as push-ups, medicine ball throws, or resistance training will greatly help students in improving their throwing ability.

In addition to arm muscle strength, the flexibility of the back stroke has also been shown to have a significant influence on the ability to throw in. The results showed that the correlation value of back stroke flexibility was higher than arm muscle strength, which was 0.518. This indicates that the flexibility or flexibility of the back has an important role in the effectiveness of the throwing movement. Suharjana (2019) explained that flexibility is the ability of joints and muscles to move in a wide range of motion, thus allowing the body to perform maximum swings without obstacles. In the throw-in technique, the flexible strike makes it easier for the body to perform backward swing movements that will store elastic potential energy before being released forward. This phenomenon is in accordance with the

concept of *the stretch-shortening cycle* described by Bompa (2018), which is a mechanism by which muscle stretching followed by explosive contractions can increase the strength and speed of movement. Therefore, students with good back strike flexibility tend to be able to produce farther and more efficient throws than students with limited flexibility.

The simultaneous relationship between arm muscle strength and back strike flexibility, which contributes 35.3% to the ability to throw in, shows that the two physical components work synergistically in supporting student performance. This result is in line with the biomotor theory put forward by Bompa and Buzzichelli (2019), that sports performance is influenced by the interaction of several components such as strength, flexibility, speed, and coordination. In this case, strength acts as a source of thrust, while flexibility functions to increase movement efficiency. The combination of the two allows the body to perform stronger, more directed, and more efficient movements. Thus, the results of this study reinforce the view that sports training should not only focus on mastering technique, but also include the development of the underlying physical aspects.

Practically, the findings of this study have important implications for the learning of physical education in schools. Sports teachers need to pay attention to the balance between basic football technique training such as passing, dribbling, and shooting with arm muscle strengthening exercises and back squat stretches. Learning programs that integrate strength and flexibility training are believed to significantly improve students' ability to make inward throws. Bompa and Buzzichelli (2019) emphasized that strength training and flexibility are the two main components in the formation of complex sports skills. Thus, the application of the results of this research can help physical education teachers develop a more comprehensive training curriculum that is in accordance with the physical needs of students.

From the theoretical side, this research contributes to the development of sports science, especially in understanding the physical factors that affect basic football skills in early adolescence. This study also fills the gap of previous studies that were more conducted on high school or professional athletes, by presenting empirical data in the context of junior high school students. In addition, these results could serve as a basis for further research to test the effectiveness of various strength and flexibility training models in improving inward throw performance. By paying attention to physiological, biomechanical, and pedagogical aspects in an integrated manner, improving the quality of physical education learning in schools can be achieved more optimally.

Overall, the results of this study confirm that the ability to throw inside does not only depend on mastery of technique, but is also influenced by basic physical conditions such as muscle strength and body flexibility. The better the physical ability, the higher the quality of the technique produced. Therefore, it is important for educational institutions and sports teachers to pay serious attention to the development of the biomotor components of students so that technical abilities in sports, especially football, can develop in a balanced and sustainable manner.

5 Conclusion

This study shows a significant relationship between arm muscle strength and back strike flexibility on throwing ability in football games of SMP Negeri 19 Makassar students. The results of the correlation analysis showed that the greater the strength of the arm muscles and the better the flexibility of the back strike, the more optimal the student's ability to throw inward. These two variables together contribute 35.3% to the ability to throw in, while the rest are influenced by other factors such as technique, coordination, and playing experience. These

findings confirm that the aspects of strength and flexibility are important physical components that need to be developed in a balanced way to improve the performance of throws into the game of football. Based on the results of the study, physical education teachers are advised to emphasize arm muscle strength training and back flex flexibility through simple activities such as push-ups, back extensions, and dynamic stretching. Schools need to provide facilities that support students' physical development, while students are encouraged to practice independently outside of class hours to improve endurance and flexibility. Further research suggests adding variables such as body coordination, basic techniques, or abdominal muscle strength to gain a more comprehensive understanding of the factors that affect the ability to throw in.

References

Arikunto, S. (2019). *Prosedur penelitian: Suatu pendekatan praktik* (Edisi Revisi). Rineka Cipta.

Bompa, T. O. (2018). *Periodization: Theory and methodology of training* (6th ed.). Human Kinetics.

Bompa, T. O., & Buzzichelli, C. (2019). *Strength training for sports* (3rd ed.). Human Kinetics.

Harsono. (2018). *Coaching dan aspek-aspek psikologis dalam coaching*. CV Tambak Kusuma.

Hasruddin, Jusran, S., Maifa, S., & Hasanuddin, M. I. (2022). TINGKAT KEBUGARAN PEMAIN SEPAKBOLA PORPROV KOTABARU: Tingkat kebugaran, sepakbola.Tadulako Journal Sport Sciences And Physical Education,10(2), 45-56.

Purba, S., Ahadid, A., Putra, W., Rahman, A. A., Aryani, P., Jannah, F., Widodo, H., Magalhaes, A. D. J., & Hasanuddin, M. I. (2023). *Metodologi Penelitian Pendidikan Kompetensi dan Aplikasinya*.

Rahmadani, E., Mashuri, M. T., Sitopu, J. W., Hasanuddin, M. I., Suarsana, I. M., Asriadi, M., Putri, J. H., Maharani, I., Hasanuddin, M. I., Maswar, Elfina, H., & Irwanto. (2023). *Statistika Pendidikan*. https://batukota.bps.go.id/publication/download.html?nrbvfeve=OTc4MDZhYzZhYzAyY2U4ZTBlNTNlYmJm&xzmn=aHR0cHM6Ly9iYXR1a290YS5icHMuZ28uaWQvcHVibGljYXRpb24vMjAxNS8xMC8zMC85NzgwNmFjNmFjMDJjZThlMGU1M2ViYmYvc3RhdGlzdGlrYS1kYWVyYWgta290YS1iYXR1LTIwMTUuaHRtbA%3D

Rahmat, A., & Nugroho, P. (2021). Pengaruh kekuatan otot lengan terhadap jarak lemparan bola dalam sepakbola remaja. *Jurnal Pendidikan Olahraga Indonesia, 17*(2), 145–153.

Sugiyono. (2019). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.

Suharjana. (2019). *Kebugaran jasmani dan latihan kelentukan*. UNY Press.

Utomo, A. R. (2020). Hubungan fleksibilitas punggung dan kekuatan otot lengan terhadap kemampuan lemparan jauh pada pemain sepakbola usia muda. *Jurnal Ilmu Keolahragaan, 8*(1), 23–31.*

Widyastuti. (2011). Tes Dan Pengukuran Olahraga. Jakarta : PT. Bumi Timur Jaya.

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