



### THE EFFECT OF VOLLEYBALL UNDERWEAR PASSING TRAINING USING WALL MEDIA ON UNDERWEAR PASSING ABILITY IN CHILDREN AGED 10-12 YAERS

### PENGARUH LATIHAN PASSING BAWAH BOLA VOLI MENGGUNAKAN MEDIA DINDING TERHADAP KEMAMPUAN PASSING BAWAH PADA ANAK USIA 10-12 TAHUN

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#### Abstract

This study aims to understand the effect of underhand passing training using a wall as a medium on underhand passing ability in children aged 10-12 years. This study is an experimental study using the One Groups Pretest-Posttest Design method. The sample in this study were 15 athletes of the Putri Angin Kuantan Singingi Club aged 10-12 years. The instrument in this study was a volleyball underhand passing skill test for ages 10-12 years. Data analysis and testing of research hypotheses using the t-test analysis technique (t-test) using the SPSS 23 program, namely by comparing the mean between the pretest and posttest with the hypothesis acceptance criteria if the t count value is greater than the t table with a significance of 5%. The results showed that: Underhand passing training using a wall as a medium on underhand passing ability in children aged 10-12 years at the Putri Angin Kuantan Singingi Club had a significant effect. These results were proven by data analysis using prerequisite tests and hypothesis testing. The results of the hypothesis testing obtained in the study were t count = 10.614 t table = 2.145 and a significance value of 0.000 < 0.05. These results indicate that the t count value is greater than the t table. It can be concluded that there is an effect of underhand passing using wall media on underhand passing ability in children aged 10-12 years at the Putri Angin Kuantan Singingi Club.

**Keywords:** Underhand Passing, Wall Media, Volleyball, Children Aged 10-12 years





#### **Abstrak**

Penelitian ini bertujuan untuk memahami pengaruh latihan passing bawah menggunakan media dinding terhadap kemampuan passing bawah pada anak usia 10-12 tahun. Penelitian ini merupakan penelitian eksperimen dengan menggunakan metode *One Groups Pretest-Posttest* Design. Sampel dalam penelitian ini adalah sebanyak 15 orang atlet Club Putri Angin Kuantan Singingi yang berusia 10-12 tahun. Instrument dalam penelitian ini yaitu tes keterampilan passing bawah bola voli untuk usia 10-12 tahun. Analisis data dan pengujian hipotesis penelitian menggunakan teknik analisis Uji t (t-tes) dengan menggunakan bantuan program SPSS 23 yaitu dengan membandingkan mean antara pretest dan posttest dengan kriteria penerimaan hipotesis adalah apabila nilai t hitung lebih besar dari t tabel dengan signifikan 5%. Hasil penelitian menunjukkan bahwa: Latihan passing bawah menggunakan media dinding terhadap kemampuan passing bawah pada anak usia 10-12 tahun di Club Putri Angin Kuantan Singingi terdapat pengaruh yang signifikan. Hasil tersebut dibuktikan dengan analisis data menggunakan uji prasyarat dan penngujian hipotesis. Adapun hasil pengujian hipotesis yang diperoleh dalam penelitian yaitu t hitung = 10,614 > t tabel = 2,145 dan nilai signifikansi 0,000 < 0,05. Hasil tersebut menunjukkan bahwa nilai t hitung lebih besar dari pada t tabel.. Dapat disimpulkan bahwa terdapat pengaruh passing bawah mengunakan media dinding terhadap kemampuan passing bawah pada anak usia 10-12 tahun di Club Putri Angin Kuantan Singingi...

Kata Kunci: Passing Bawah, Media Dinding, Bola Voli, Anak Usia 10-12 tahun

#### 1. INTRODUCTION

Sport is a physical activity or physical activity that affects the personal development of the doer. In addition, sport is something to encourage, arouse, develop and foster physical and spiritual strength for those who do it (Jermaina, 2023). Therefore, sport can improve the physical and mental of humans who are tough, intelligent, strong, disciplined, sporty and responsible. Sport as a physical or physical activity can provide satisfaction to the doer as an individual need. The role of sport in human life is so great that sport can be used as a means for sports education and sports health, recreation, achievement and even as a culture. Sports and health education is essentially an educational process that utilizes physical activity and health to produce holistic changes in individual quality, both in terms of physical, mental, and emotional.

Adhi & Soenyoto, (2017) Sports are forms of physical activities found in games, competitions, and intensive physical activities in order to obtain recreation, victory and optimal achievement. Hikmah et al., (2018) Sports are very important for everyone, through sports we achieve physical fitness, health as a means of entertainment, we create unity and we can build a good reputation. The purpose of sports is to improve physical and mental health, build social skills, support achievement and competition, provide recreation, shape character, and assist in rehabilitation from injury or illness. The benefits of sports themselves include increased physical fitness, better mental health, reduced stress, improved sleep quality, weight control, increased muscle and bone strength, and the development of social skills and teamwork.

Mahdi (2017) also explained the rapid development of sports in Indonesia today, especially in the sport of volleyball as a team sport. Hadziq & Anwar Musadad (2016) explained that volleyball is a sport played between two teams separated by a net. The number of players for each team playing on the field is six people. The goal of this volleyball game is





to serve, underpass (lower pass), overpass (upper pass) and smash the ball into the opponent's field. Pratama & Alnedral, (2018) in the game of volleyball stated that when playing, the ball will be in the air over the net (net) with the intention of dropping it into the opponent's field to achieve victory. In addition, in the game of volleyball there are basic movements that must be done to play the game, including underhand passing, overhand passing, underhand service, overhand service, smash and block. In volleyball games for children aged 10-12 years, the easiest movements are usually mastered first, such as underhand passing. Passing plays a very important role in a volleyball game because if the pass given to the feeder is not appropriate, then the pass given to the smasher is likely to be bad too. Triyana (2015) stated that this is because a smash can be done if the ball passed by the player is in good condition and calm to the tosser. A coach must know how to convey how to do a volleyball underhand pass properly, so that athletes can practice the techniques conveyed by the coach. Interesting training for children aged 10-12 years can be done by varying training, modifying games or utilizing existing training media.

In volleyball, the ability to pass underhand is very important to maintain control of the ball and organize the team's attack. According to Lenberg's theory (2013) there are several main muscles used in passing underhand, namely the muscles in the arms, shoulders, and core. The arm muscles, especially the biceps and triceps, play a role in stabilizing and controlling the position of the arm when in contact with the ball. The deltoid muscles in the shoulder help maintain the height and stability of the shoulder during movement. In addition, the core muscles, including the abdominal muscles and lower back, play an important role in maintaining balance and body strength when holding and directing the ball. The involvement of these muscles allows players to produce accurate and powerful passes.

The use of appropriate training media by coaches for athletes aged 10-12 years can help the training process be more easily understood by athletes and create a pleasant training atmosphere. According to Budiwanto (2017) training is a process of systematically forming the abilities and skills of athletes which is carried out repeatedly, the training load increases day by day, and is carried out over a long period of time. In this case, one way that can be used to improve the results of underhand passing is training using a wall. Suhardiono, et al (2014) said that one way that can make the learning process of underhand passing better is learning underhand passing using a wall. The wall is an inanimate object that cannot control the direction of the ball but only bounces the ball, so the hardness or weakness of the ball's bounce against the wall will affect the bounce results. The advantages of passing to the wall include students being more careful and ready with the direction the ball is coming from, and understanding the speed and height of the ball's direction resulting from the wall's bounce. In addition, it can improve students' understanding and volleyball underhand passing skills through several stages, namely the preparation process, implementation, and advanced movements.

Field observations on the weaknesses of underhand passing in volleyball athletes from the Angin Kuantan Singingi Women's Club aged 10-12 years old show several aspects that need to be improved. First, many athletes have not mastered the correct body position when doing underhand passing, often the foot position is too close or too wide, so that the body balance is less than optimal. Second, some players tend to use their wrists and lower arms excessively, which results in the ball not being directed properly and often bouncing too high or sideways. Third, core muscle strength that has not fully developed at this age causes a lack





of stability when making movements, so that control over the ball is less consistent. Finally, eye and hand coordination still needs to be improved, because many players are late in anticipating the direction of the incoming ball, which causes the timing of the pass to be incorrect. All of these weaknesses can be improved through regular training that focuses on basic techniques, core strength, and better body coordination.

Using a wall as a medium for underhand passing practice for volleyball athletes from the Angin Kuantan Singingi Women's Club aged 10-12 years is expected to provide an effective solution to the problems faced. Training with a wall allows athletes to do high repetitions in a short time, so they can improve basic techniques more quickly and increase passing consistency. By bouncing the ball against a wall, players can focus on correct body position, including foot placement and body balance, because they must maintain a stable posture to ensure the ball returns well. This exercise also helps strengthen the arm and core muscles because they must repeatedly use these muscles to produce strong and targeted passes. In addition, using a wall forces players to develop better hand-eye coordination. They must estimate the direction and strength of the ball's bounce, which trains their ability to anticipate ball movement and improves passing timing. Wall training also allows them to work individually, so each player can practice at their own pace and needs, accelerating the learning process and improving technique. Thus, the wall media is an effective tool for improving underhand passing skills and addressing weaknesses in these young athletes.

Based on the background mentioned above, the author is interested in conducting a study entitled "The Effect of Underhand Passing Training Using Wall Media on Underhand Passing Ability in Children Aged 10-12 Years".

### 2. RESEARCH METHODS

The method used in this study is This type of research is experimental. The experimental method is defined as a systematic method to build relationships that contain causal phenomena (Causal-effect relationship) (Sukardi, 2015). The design used in this study is "One Groups Pretest-Posttest Design", which is a research design that contains a pretest before being treated and a posttest after being treated, thus it can be known more accurately, because it can be compared with being held before being treated (Sugiyono, 2019). The design can be described as follows:

**Table 1.** Experimental Design

Pre-test	Action	Post-test
01	X	O2

#### **Population and Sample**

According to Sugiyono (2019) population is a generalization area consisting of objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn. The population in this study were all athletes of the Putri Angin Kuantan Singingi Club aged 10-12 years.

Sugiyono (2019) Sample is part of the number and characteristics possessed by the population. According to Suharsimi Arikunto (2016) Sample is part or representative of the population being studied. Given the population is less than 100 people, the entire population is used as a sample (total sampling), which is 15 people.





### Method of collecting data

Data collection is the methods used to collect data in research. In this study, data collection was carried out 2x measurements, before receiving the underhand passing exercise to the wall or called the pre-test and after receiving the exercise called the post-test. To obtain data in this study, the steps that must be taken are as follows:

#### 1) Initial Test (Pre-test)

The initial test was conducted to obtain data that describes the initial abilities of the sample before receiving the training program. The instrument for obtaining this initial data used the 10-12 Year Old Volleyball Underhand Passing Skills Test.

### 2) Training Program Delivery

After obtaining initial ability data, the sample was given the same training program for 16 meetings, with a frequency of one week given 4 face-to-face meetings. The provision of the training program refers to a quote from NCSA's Essential of Tactical Strength and Conditioning (2020), in which the quote explores the adaptation of muscle nerves and muscles to training over time. Data collection in this study was carried out with a frequency of 3x a week, so data collection was carried out for 16 meetings.

#### 3. RESULTS AND DISCUSSION

#### **Research Result Data**

This research was conducted at Club Putri Angin, the research subjects used in the study were 15 female volleyball athletes at Club Putri Angin. This research was conducted for 16 meetings from November 2024 to January 2025. The pre-test aimed to find initial data and the post-test was conducted after students received a volleyball underhand passing training program using a wall target for 16 training sessions, thus obtaining data in conducting underhand passing tests on children aged 10-12 years at Club Putri Angin, the research was described using descriptive statistical analysis, in more detail can be seen in the following table.

**Table 2**. Description of Pre Test and Post Test

Statistic	Pre Test	Post Test
N	15	15
Minimun	9	11
Maximum	32	37
Mean	17,26	22,46
Median	16	21
Standard Deviation	7,18	7,13

The results of the study showed an increase in scores from pre-test to post-test in 15 participants involved in the study. The minimum score which was initially 9 in the pre-test increased to 11 in the post-test, while the maximum score also increased from 32 to 37. The average (mean) pre-test score was recorded at 17.26, while after the post-test, the average score





increased to 22.46. This increase was also seen in the median score which was initially 16 in the pre-test to 21 in the post-test, indicating that most participants experienced an increase in scores after the intervention given. Although there was an increase in scores in general, the standard deviation of the pre-test of 7.18 and the post-test of 7.13 indicated that the variation or distribution of the data remained relatively stable. The description of the pre-test results on the lower passing test in children aged 10-12 years at the Putri Angin Club is also presented in the frequency distribution which can be seen in the table below.

**Table 3.** Pre-Test Interval Class

No.	Interval Class	Frequency	Percentage
1.	9 -13	6	40%
2.	14-18	4	26.7%
3.	19-23	2	13.3%
4.	24-28	1	6.67%
5.	29-33	2	13.3%
Total		15	100%

The pre-test results show the distribution of participant scores based on the predetermined interval classes. Of the 15 participants, the majority were in the 9–13 interval class with a frequency of 6 people or 40% of the total participants. Furthermore, 4 participants (26.7%) were in the 14–18 interval class, indicating that more than half of the participants scored in the low to medium range. The 19–23 and 29–33 interval classes each had 2 participants or 13.3%, while the 24–28 interval class had the fewest participants, which was only 1 person or 6.67%. Overall, these data illustrate the varying distribution of scores. When displayed in graphical form, the pre-test results on the lower passing test for children aged 10-12 years at the Putri Angin Club can be seen in the image below.





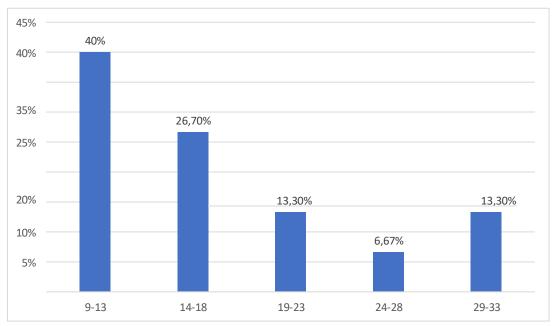


Figure 1. Pre-Test Interval Class Diagram

Furthermore, the description of the post-test results on the lower passing test for children aged 10-12 years at the Putri Angin Club is also presented in the frequency distribution which can be seen in the table below.

No.	Interval Class	Frequency	Percentage
1.	11-15	2	13.33%
2.	16-20	5	33.33%
3.	21-25	5	33.33%
4.	26-30	1	6.67%
5.	31-37	2	13.33%
1	Total	15	100%

Table 4. Post Test Interval Class

The results of the study on the underhand passing test for children aged 10-12 years at Club Putri Angin showed a varied distribution of post-test scores. Of the 15 participants who took the test, the majority were in the 16-20 and 21-25 interval classes, each with a frequency of 5 participants or 33.33%. This shows that most children have underhand passing abilities that are in the middle category. Furthermore, 2 participants (13.33%) scored in the 11-15 interval class, while 2 other participants achieved higher scores in the 31-37 interval class with the same percentage, namely 13.33%. Meanwhile, only 1 participant (6.67%) was in the 26-30 interval class. From these results, it can be concluded that most participants experienced an increase in underhand passing skills. When displayed in graphic form, the pre-test results on



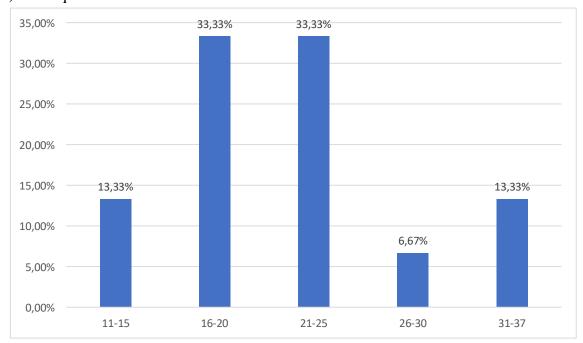


the underhand passing test for children aged 10-12 years at Club Putri Angin can be seen in the image below.

Figure 2. Post-Test Interval Class Diagram

#### **Hypothesis Testing**

### 1) Prerequisite Test



Data analysis is used to answer the hypothesis that has been proposed. Before data analysis is carried out, a normality test is needed as a prerequisite test for analysis. The normality test is used to determine whether the variables in the study have a normal distribution or not. The Normality Test is calculated using the Shapiro-Wilk formula which is processed with the help of the IBM SPSS Version 23 application. The results can be seen in the following table.

**Table 5.** Normality Test

Normality Test	Pre-Test	Post-test
P	0,069	0,440
Significance	0,05	0,05
Information	Normal	Normal

From the results of the data normality test in the table above, it can be seen that the p value (Sig.) Is greater than 0.05, so it can be concluded that the data is normally distributed. So that the data meets the requirements for continued analysis.

#### 2) Hypothesis Testing

The test used to test the hypothesis "There is an effect of underhand passing training using a wall as a medium on underhand passing ability in children aged 10-12 years" is the Paired





Sample T-Test. If the results of the analysis show a significant difference, then the underhand passing training program using a wall target that has been carried out has an effect on increasing underhand passing in children aged 10-12 years. The conclusion of the study is stated as significant if the t value (0.05)(14) = 2.145 (df=14) and the sig. value is greater than 0.05 (Sig> 0.05). Based on the results of the analysis, the following data were obtained, the complete results can be seen in the following table.

**Table 6.** Hypothesis Testing

Test	Mean	T-test for Equality of means			
		T table	T count	Sig. (2tailed)	Mean Defference
Pre test	17,26	2,145	10,614	<0,000	5,20
Post test	22,46				

From the results of the paired samples test, it can be seen that t count = 10.614 > t table = 2.145 and a significance value of 0.000 < 0.05, then this result shows that there is a significant difference. Thus, the hypothesis that states "There is an effect of underhand passing training using wall media on underhand passing ability in children aged 10-12 years" is accepted. This means that the underhand passing training program using wall media has a significant effect on increasing underhand passing ability in children aged 10-12 years at the Putri Angin Club. The magnitude of the change in the level of underhand passing ability of participants can be seen from the difference in average value, which is 5.20 more than before being given the underhand passing training program using wall targets.

#### **Discussion**

This study aims to determine the effect of underhand passing training using a wall as a medium on underhand passing ability in children aged 10-12 years at the Putri Angin Club. The initial test results showed that the basic technique of underhand passing in volleyball was still low. Based on the results of the research data analysis, it showed that the training program had a significant effect on increasing underhand passing ability in children aged 10-12 years. Providing a training program for 16 meetings with a frequency of 3 times a week had an effect on increasing underhand passing ability in children aged 10-12 years at the Putri Angin Club.

Based on the results of the analysis before and after being given a underhand passing training program using a wall target, it was found that this method had a significant effect on underhand passing ability in children aged 10-12 years at the Putri Angin Club. In the first data collection (pretest) for the volleyball underhand passing ability test, it was found that the athletes' abilities tended to remain the same, even some athletes had very low scores. While in the second collection (post-test) it tended to be higher. This is because the provision of treatment in the form of a lower passing training program using wall media for athletes with the aim of forming basic techniques in the ability to pass under volleyball, by providing a portion of lower passing training using appropriate wall media aimed at training the ability to pass under volleyball in the athlete. According to Suhardiono (2014) the wall is the right media to use in the process of learning volleyball underhand passing because it has a strong structure for the target ball, especially volleyball underhand passing.





Based on the results of the hypothesis test conducted using the t-test of the initial test skill score with the final test of the volleyball underhand passing, the results of the significance test were obtained, namely, t count = 10.614> t table = 2.145 and a significance value of 0.000 <0.05. This is evidenced by the results of the underhand passing test experiencing an average increase, which is 5.20. The research hypothesis can be accepted because implementing a underhand passing training program using wall media has a significant effect on increasing underhand passing ability in children aged 10-12 years at the Putri Angin Club. This is in line with several studies related to the effect of passing training using wall media with straight line targets. According to (Fauzi, 2019) in his research, it shows that using a training method using wall media has a significant effect on the accuracy of volleyball underhand passing. Meanwhile, according to (Afdi et al., 2019) in his research, it also shows that there is a significant increase in underhand passing ability with the passing training model.

The success of underhand passing in volleyball is influenced by various factors that have been studied in several Sinta-indexed research journals. One important factor is the training method used. Research by Isbahi et al., (2019) shows that wall volleyball training has a significant effect on the accuracy of volleyball underhand passing, with a significance level reaching 94.4%. In addition, variations in underhand passing training also play a role in improving underhand passing ability with the target wall having a significant effect on underhand passing ability compared to other training variations (Sehabudin & Mustaqim, 2023).

Underhand passing exercises using wall media that focus on placing the ball at a target point on the wall can make it easier for a player to get the ball according to the wishes of his friends, so that teammates can easily receive passes or even send attacks to the opposing team to score points. The target of the game in volleyball requires high concentration, calmness, focus, and accuracy in the game that needs to be developed with the right training methods. Underhand passing exercises using wall media are actually the basis for other games, because almost every game has a target that is used as a target to provide good passes to friends to attack and create points (Alpandi et al., 2023).

#### 4. CONCLUSION

Based on the results of the research and discussion above, the author obtained the following results: underhand passing training using wall media on underhand passing ability in children aged 10-12 years at the Putri Angin Club has a significant effect. These results are proven by data analysis using prerequisite tests and hypothesis testing. The results of the hypothesis testing obtained in this study are t count = 10.614> t table = 2.145 and a significance value of 0.000 < 0.05. These results indicate that the t count value is greater than the t table value. So the conclusion in this study is "there is an effect of underhand passing using wall media on underhand passing ability in children aged 10-12 years at the Putri Angin Club".

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