



## **Analysis of Basic Technical Skills in Volleyball Smash at Tidar Sakti Sampit Club**

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### **Abstract**

This study aims to analyze the level of basic volleyball smash skills among male athletes of the Club Tidar Sakti Sampit, in terms of target accuracy and execution time. The research method used is a quantitative descriptive approach with field test survey techniques. The sample consists of 12 male athletes, and data were collected using the Brady Test instrument to objectively measure accuracy and time of the smash. The results of the study indicate that the smash skills of the athletes are in a varied category. In terms of accuracy, the majority of athletes fall into the "sufficient" category (33.33%) and the "good" category (25%). Meanwhile, regarding the timing aspect, most athletes are categorized as "sufficient" (50%) and "good" (33.33%). These results indicate that the smash skills of the athletes are still uneven and require improvement, particularly in terms of technique consistency and movement efficiency. This study concludes that structured and focused basic smash technique training is essential to enhance the quality of athletes' performance, and it can serve as a reference in designing more effective coaching programs at the local club level.



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## INTRODUCTION

Scientific and technological advancements in the field of sports throughout the modern era. People are more likely to study sports health when they realize how important health is. One of the biggest influences on contemporary sports is the rapidly evolving nature of technology. People increasingly enjoy participating in sports as a way to stay fit and healthy thanks to better sports facilities. Sports serve as a competition to achieve goals beyond improving fitness and health. Competitive sports are played in various branches including basketball, volleyball, soccer, swimming, and others. (Afriani, 2023).

One of the most popular sports in the area is volleyball. Volleyball has been known to the Indonesian public since 1928. The volleyball game is played by 2 teams consisting of 6 players as the main players (Are Ramadan et al., 2024). The ball game that must be formed by a team or group is volleyball; to win the game, all players must cooperate and help each other (Setiawan Sitepu et al., 2024). Volleyball is categorized as a team sport, therefore good cooperation from each player is necessary to play it well. (Ikadarny et al., 2023). Volleyball is played by keeping the ball from falling in one team's area and trying to play by moving the ball to the opposing team over the net (Mulyadi & Anhar, 2021).

In volleyball, playing techniques are very important because in addition to physical factors, tactics, and mental state, mastery of the basic techniques of volleyball is one of the determining

factors for a team's victory or defeat in a match (Satria, 2025). One of the most important techniques in volleyball is the smash. The smash is the act of hitting the ball down with full power, usually by jumping up, into the opponent's court (Isabella & Bakti, 2021). Because the smash method is the most challenging and involves complex movements, athletes must be taught from a young age as they are most likely to make movement errors at this age. When performing a smash, it is very important to use the correct technique because biomechanically this movement is safer, more effective, and makes it easier to hit the ball.

However, in practice, not all players are able to perform smashes well. There are various factors that influence the success of performing a smash. These factors can be divided into two, namely internal factors and external factors. Internal factors include the physical condition of the players, such as muscle strength, endurance, agility, and flexibility. Meanwhile, external factors include field conditions such as slippery or uneven surfaces that can hinder players' movements. These difficulties often pose obstacles, especially for beginner players or young athletes in optimizing their smash technique (Sumbara Hambali & Akhmad sobarna, 2019). mastering these various factors is very important for players to improve their skills and performance in volleyball.

Some of the results from previous research, including research conducted by Chairani (2024), show that the athletes of PBV Bina Taruna Semarang are able to perform the smash move but have not

maximized their power and direction in striking the ball, the lack of ball reach height, and body whipping downwards. Poor smash movement becomes one of the factors leading to an unbalanced landing and does not produce a good smashing effect. In volleyball, a player is considered to have successful smash technique skills if they can perform smashes accurately and directionally, and are able to score points. The ability to direct the ball to the opponent's court when the ball is difficult to reach is very important for a volleyball player. One of the smash technique skills that every athlete must possess in order to develop their abilities is the accuracy of volleyball smashes; this requires hard training and discipline in every activity they undertake.

This research is based on the reality that the basic technique skills of the smash in volleyball, particularly at the regional club level such as Club Tidar Sakti Sampit, have not been explored in depth. Although the smash is a key technique in scoring points, many athletes still face difficulties in terms of target accuracy and execution time efficiency. Therefore, the problem statement in this research is how the level of basic smash technique skills in volleyball, both in terms of accuracy and execution time, among male athletes of Club Tidar Sakti Sampit.

This research offers novelty by focusing on local clubs that have not been widely explored in previous academic studies, namely the Tidar Sakti Sampit Club. In addition, the use of the Brady Test as an assessment instrument provides a standardized and objective approach that is rarely applied in similar local studies. The findings of this research present

empirical data that not only describe the variation in athletes' skills but also identify the need for specific technical development in the context of grassroots coaching, which has not been widely revealed so far.

The purpose of this research is to analyze the level of basic technique skills of the volleyball smash in athletes from the Tidar Sakti Sampit Club, both in terms of accuracy of the target and the speed of execution. This research aims to provide a concrete and measurable description of the athletes' smash ability, so that it can serve as a foundation in developing more focused and effective training strategies to improve the quality of the smash technique among young athletes (Pasaribu, 2020).

## **METHODS**

The research uses a quantitative descriptive method (Alfiansyah et al., 2023). The descriptive method used is a field test survey aimed at knowing and measuring the athletes' smash ability in directing the ball and the accuracy of the smash to a specific target at the Tidar Sakti Sampit volleyball club (Ruhansih, 2017). The quantitative descriptive method is used to collect data which is then statistically analyzed to understand patterns or relationships among the research variables (Gunawan & Hasanah, 2019).

## **Participants**

This research was conducted in the city of Sampit at the Tidar Sakti volleyball club, which took place on April 15, 2025, for 1 day. The research subjects were selected using total sampling, in which all of the population became the sample of 12

athletes son from the Tidar Sakti volleyball club.

### Sampling Procedures

According to (Amirudin & Abdillah, 2020), the population is a group from which researchers collect data and from which conclusions will be drawn. The sample population in this study is volleyball athletes from the Tidar Sakti club in the city of Sampit. The research sample consists of 12 male volleyball athletes using total sampling technique (Ridho et al., 2024). Data collection in this study utilizes ability tests and measurement with the Brady test.

### Materials and Apparatus

A test is a procedural tool used to determine something using predetermined methods or rules. Meanwhile, measurement is the determination of the size, dimension, or capacity of an object using standard scales or measurement units (Afri T & Mashud, 2023). Spike/smash test The purpose of this test is to measure the skills of performing spikes/smashes to attack targets quickly and accurately. Therefore, this test was first compiled or developed by Nurhasan in his book, Tests and Measurements in Physical Education, Principles and Applications. This instrument was then reused by (M. Adel Muzaki, Tofikin, 2022)

### Procedures

#### Spike/smash test

The aim is to understand and measure the smash ability of athletes in terms of directing the ball and the accuracy of the smash towards a specific target.

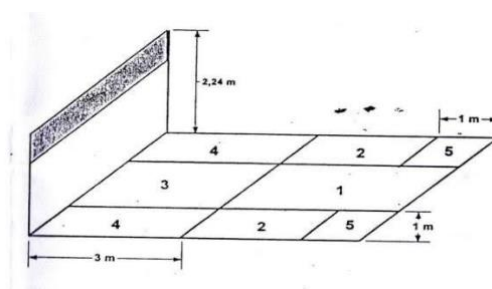
#### Implementation

#### Instructions :

1. The test is in the area of attack or free within the playing field.
2. The ball is thrown or passed near the top of the net towards the testee.
3. With or without a prefix, the testee jumps and hits the ball over the top of the net into the field on the other side where there is a target with numbers.
4. The stopwatch is started when the ball is touched by the testee's hand, and stopped when the ball touches the floor.

Equipment used:

1. Volleyball field
2. Net and net posts
3. Stopwatch
4. 5 Volleyballs



**Fig 1.** Field for Smash Accuracy Test

Source: repository.unj.ac.id

After conducting the smash skill test, a calculation will be performed to assess the spike/smash skills using techniques T-score.

$$T\text{-score (target)} = 50 + 10 \frac{(X-M)}{S}$$

$$T\text{-score (time)} = 50 - 10 \frac{(X-M)}{S}$$

keterangan:

X: the score achieved

M : average

S : standard deviation

### Design or Data Analysis

The data analysis technique used

in this study is descriptive analysis to determine the level of volleyball smash skills in the basic technique of smashing volleyball at the Tidar Sakti Sampit club. The formula used to determine the level of basic smashing techniques in volleyball at the Tidar Sakti Sampit club.

$$P = \frac{F}{N} \times 100\%$$

Description:

P: percentage value

F: frequency that is being sought

N : total frequency

From the result of the smash volleyball skill test, it will be categorized using the assessment norm of the test with a scale of 5A.

**Table 1.** Assessment Norms for Tests with a 5A Scale

Interval	Category
$M + 1,5 \text{ SD} < X$	Very good
$M + 0,5 \text{ SD} < X < M + 1,5 \text{ SD}$	Good
$M - 0,5 \text{ SD} < X < M + 0,5 \text{ SD}$	Enough
$M - 1,5 \text{ SD} < X < M - 0,5 \text{ SD}$	Less
$X < M - 1,5 \text{ SD}$	Very less

(source: (Arifin, 2015))

## RESULT

### Volleyball smash skills (target)

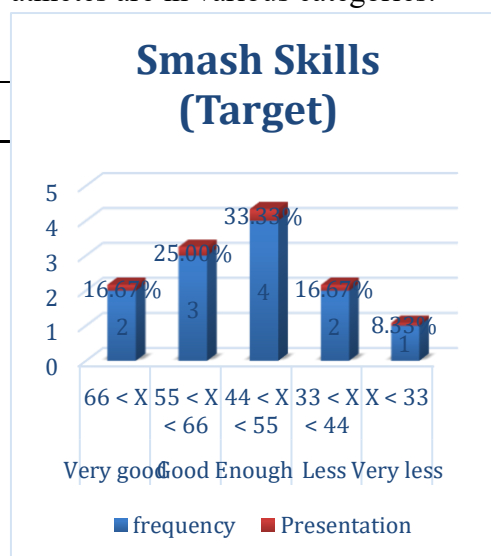
Based on the descriptive statistics of the assessment data on the level of volleyball smash skills (target) at the Tidar Sakti Sampit club, the lowest score (minimum) is 37, the highest score (maximum) is 57, the average (mean) is 49, and the standard deviation (SD) is 11,

according to the descriptive statistical data about the findings of the smash skills evaluation (target).

**Table 2.** Frequency distribution of smash skill level (target).

Category	Interval	F	Presentation
Very good	$66 < X$	2	16,67%
Good	$55 < X < 66$	3	25,00%
Enough	$44 < X < 55$	4	33,33%
Less	$33 < X < 44$	2	16,67%
Very less	$X < 33$	1	8,33%
Total		12	100,00%

Based on the findings of the data analysis results in table 1 above, the level of volleyball smash skills (targets) at the Tidar Sakti Sampit club is in the following categories. 2 people are in the very good category (16.67%), 3 people are in the good category (25.00%), 4 people are in the sufficient category (33.33%), 2 people are in the less category (16.67%), and 1 person is in the very less category (8.33%). Based on the results above, it can be concluded that the level of volleyball smash skills (targets) of Tidar Sakti club athletes are in various categories.



**Fig 2.** Volleyball smash skills diagram  
(targets)

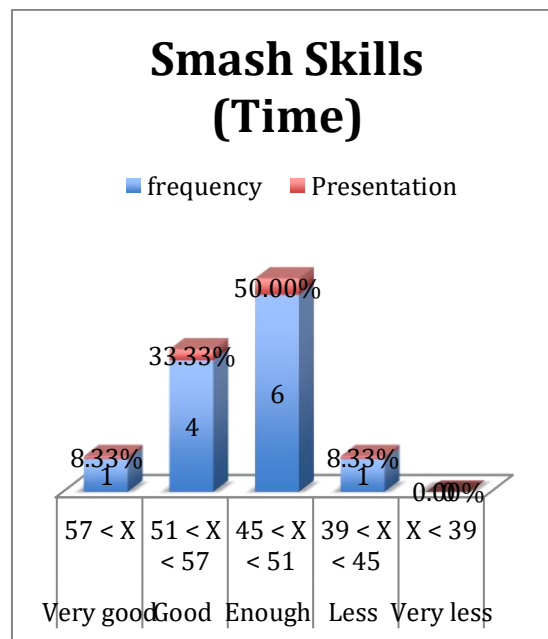
### Volleyball smash skills (time)

Based on the descriptive statistics of the assessment data on the level of volleyball smash skills (time) at the Tidar Sakti Sampit club, the lowest score (minimum) is 57, the highest score (maximum) is 31, the average (mean) is , and the standard deviation (SD) is 6, according to the descriptive statistical data about the findings of the smash skill evaluation (target).

**Table 3.** Frequency distribution of volleyball smash skill levels (time)

Category	Interval	F	Presentation
Very good	$57 < X$	1	8,33%
Good	$51 < X < 57$	4	33,33%
Enough	$45 < X < 51$	6	50,00%
Less	$39 < X < 45$	1	8,33%
Very less	$X < 39$	0	0,00%
Total		12	100,00%

Based on the findings of the data analysis in table 1 above, the level of volleyball smash skill (time) at the Tidar Sakti Sampit club falls into the following categories: 1 person is in the very good category (8.33%), 4 people in the good category (33.33%), 6 people in the fair category (50.00%), 1 person in the poor category (8.33%), and there are no individuals in the very poor category (0.00%). Based on these results, it can be concluded that the level of volleyball smash skill (time) of athletes at the Tidar Sakti club is predominantly in the good and fair categories.



**Fig 3.** Volleyball smash skills diagram  
(time)

### DISCUSSION

Based on the findings in this study, it is known that the basic technical skills of volleyball smashing among athletes of Club Tidar Sakti Sampit show a varied distribution, both in terms of target accuracy and execution time. In terms of targets, the majority of athletes are in the 'sufficient' category (33.33%) and 'good' category (25%), while on the time aspect, the majority of athletes are in the 'sufficient' category (50%) and 'good' category (33.33%). These findings indicate that although there are some athletes with very good capabilities, there are still many who need to improve their accuracy and efficiency in performing smashes.

The research results show that the skill level of the athletes' smash varies across different categories, in terms of both target accuracy and timing of execution. This finding is in line with and reinforces the previous research results by

(Palinata et al., 2023), which states that the majority of athletes are in the good category for smash skills. This indicates that mastery of the basic smash technique is a key factor in improving athlete performance. In addition, the results also support the basic theory of game techniques proposed by Isabella & Bakti, (2021), which emphasizes that biomechanical factors and proper technique greatly influence the effectiveness of a smash. According to them, an efficient smash movement does not only depend on muscle strength, but also on movement coordination, angle of the hit, and optimal wrist speed.

This research emphasizes the importance of mastering basic smash techniques as a fundamental foundation for enhancing the quality of tactical play. This is consistent with the findings. Priyanka & Utomo, (2024), which shows that specialized training, such as Wall Smash exercises, can significantly improve the smashing accuracy of athletes. Thus, focused and directed training has proven to be effective in enhancing smash performance. In addition, research by (Tapo & Bakti, 2022). It was also found that wrist flexibility has a significant contribution to the ability to perform strong and precise smashes. These findings emphasize that physical conditioning, particularly the improvement of flexibility, is an important factor in the overall development of an athlete's smash skills (Sasmita et al., 2023). Overall, these various studies suggest that a combination of strong fundamental techniques, targeted specific training, and optimal physical condition are the key

components in improving an athlete's smash skills, which will ultimately have a positive impact on overall game performance.

A new and important aspect of this research is the local context, namely at Club Tidar Sakti Sampit, which has not been widely studied before. This contributes empirically to the understanding of basic smash technique skills at the club level in the region, as well as providing quantitative data that can serve as a basis for developing more effective training programs. Additionally, the use of the Brady Test as a measurement instrument provides a standardized approach that strengthens the reliability of the results (Nugroho et al., 2021).

The contribution of this research lies in providing a concrete depiction of the technical conditions of athletes at the grassroots level, which can serve as a reference for coaches, clubs, and sports federations in developing training programs. The limitations of this study include a relatively small sample size (12 individuals), which may affect the generalization of the results. Furthermore, this study has not explored the factors that contribute to low performance, such as psychological aspects, training quality, or supporting facilities. Therefore, further research with a larger sample size and a qualitative approach to explore internal and external factors in more depth is highly recommended (Sistiasih et al., 2022).

However, this study has limitations, especially regarding the relatively small sample size (12 people), so generalizing the results to a wider population must be

done with caution. In addition, this study did not consider other variables such as playing experience, motivation, and the psychological condition of athletes that could also affect smashing skills. Future research is recommended to adopt a multivariate approach and involve a larger sample to obtain more representative and in-depth results (Maifa, 2021).

## CONCLUSION

Based on the results of data analysis and discussion, it can be concluded that the level of basic volleyball smash technique skills among athletes of the Tidar Sakti Sampit Club shows a significant variation in ability, both in terms of target accuracy and execution time. In terms of target accuracy, most athletes are classified as 'adequate' (33.33%) and 'good' (25%), while in terms of execution time, the majority of athletes fall into the 'adequate' (50%) and 'good' (33.33%) categories. Thus, the answer to the problem formulation in this study is that the level of smash skills among the athletes is not uniform and still shows a need for improvement, especially in terms of consistency and technical efficiency. These findings emphasize that although there are a number of athletes who have shown optimal performance, the majority still require more targeted technical coaching. Therefore, basic technique training that focuses on the aspects of accuracy and smash speed is an important step to improve the overall quality of the team's performance.

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