

The Accuracy of the Open Smash in Volleyball Players

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Abstract: This study discusses the accuracy of open smashes in Manunggal volleyball players in Jepara district. In today's modern era, many children prefer sophisticated technology compared to games, such as volleyball. In volleyball, there are several types of strokes that can be learned and need to be mastered to play volleyball well and correctly. In volleyball, the playing method is attacking and defending. To achieve success in volleyball, smash is one of the attack techniques that is often used to get points. Smash is a stroke where the hand contacts the ball fully at the top, so that the ball's path is steep at high speed, therefore volleyball is a fast game, so attacking techniques are more dominant than defensive techniques. The purpose of this study is to determine the level of accuracy of open smashes in Manunggal Jepara players.

Keywords: Accuracy, Open Smash, Volleyball, Players

Introduction

Sport is a conscious physical activity that fosters physical and mental health. In everyday life, this activity has been proven to make a significant positive contribution to improving public health. In Indonesia, the development of sport is no longer merely for education, recreation, and physical fitness, but has expanded to become a platform for achieving success (Mulyadi and Nikon, 2019). One very popular sport enjoyed by almost all levels of society—from children and teenagers to adults—is volleyball. This sport is not only a popular form of entertainment but also an official competition that fosters talented athletes in the country.

Volleyball is played by two teams, each consisting of six active players on the court. Technically, the ball is passed over a net, and each team is given a maximum of three opportunities to hit the ball back into the opponent's area. The game takes place on a rectangular court with official dimensions of 18 meters long and 9 meters wide. Right in the center of the court, a net is installed to separate and prevent the ball from entering the court between Team A and Team B. The net is 90 cm wide and has a standard height of 2.43 meters for the men's division and 2.24 meters for the women's division.

The scoring system in volleyball is based on the addition of points when the ball lands within the team's own court, which automatically awards the point to the opposing team. To achieve victory in a match, a team must win a total of three sets. A full match can last up to five sets, with the first team to score 25 points in the first through fourth

sets. If the score is tied at 2:2, the match must proceed to a fifth set, a crucial deciding match. Unlike previous sets, this fifth set has a special rule: a team only needs to reach a total of 15 points to secure victory.

Method

This research is a quantitative study. The author's reason for using the quantitative method is that quantitative research uses numerical data and is processed using statistical methods. The method used in this research is a survey method. The survey research method is a method used to obtain data that occurred in the past or present, regarding beliefs, opinions, behavioral characteristics, variable relationships, and to test several hypotheses about sociological and psychological variables from samples taken from a specific population, and the results of the study tend to be generalized (Sugiyono, 2018).

Results & Discussion

Results

This study was conducted to determine the accuracy of the open smash on the Manunggal Volleyball Team in Jepara Regency. The instrument used in this study was the smash test by Nurhasan. The sample size for this study was 12 players from the team. The data collection technique used in this study was observation with testing and measurement methods. The results will be recorded and analyzed in percentage form, which will be presented as follows:

Table 1. Data on the Results of the Open Smash Test on Volleyball Players from Manunggal Jepara

No.	Name	Frequency										Total
1	MRF	4	4	2	4	2	4	5	4	3	4	36
2	IP	2	4	5	3	2	5	5	3	4	5	38
3	AGP	5	3	3	2	5	2	5	4	5	3	36
4	ML	4	2	3	3	1	3	5	4	4	3	33
5	MIPA	2	2	3	1	1	1	4	2	3	3	22
6	MA	2	3	5	5	5	5	4	4	3	3	39
7	RWS	3	2	2	3	3	5	4	4	3	5	34
8	MRA	1	2	1	4	2	1	3	3	4	2	23
9	FRC	4	4	3	4	4	4	2	4	5	3	37
10	AGRS	4	4	4	5	4	3	2	3	5	4	38
11	FK	4	3	5	4	4	3	4	5	4	5	41
12	MR	3	4	3	5	5	4	3	4	5	4	40

The open smash skill level category in this study was divided into five categories with a point range, namely; very good category (> 41), good category (31-40), moderate

category (21-30), poor category (11-20), and very poor category (<10). The results of the study obtained open smash data on the Manunggal Jepara volleyball team are then described in the following table:

Table 2. Summary of Open Smash Data Description Analysis Results

Statistics	Open Smash
Number of samples	12
Mean	34,75
Standard deviation	6,2
Range	19
Minimum value	22
Maximum value	41
Total	417

Based on Table 2, a summary of the results of the open smash research data analysis on the Manunggal Jepara volleyball team, the 12 samples obtained a mean score of 34.75, a standard deviation of 6.2, a range of 19, a minimum score of 22, a maximum score of 41, and a total score of 417.

The descriptive frequency analysis of the open smash research data in this study was divided into five categories: very good (>41), good (31-40), moderate (21-30), poor (11-20), and very poor (0-10). The descriptive frequency recapitulation results of the open smash can be seen in the following table:

Table 3. Recapitulation of Descriptive Analysis Results of Open Smash

No.	Range Value	Category	Frequency	Percentage (%)
1	>41	Very Good	1	8%
2	31-40	Good	9	75%
3	21-30	Average	2	17%
4	11-20	Bad	0	0%
5	0-10	Very Bad	0	0%
Total			12	100%

Based on Table 3 regarding the recapitulation of the results of the descriptive analysis of the frequency of the smash open research data on the Manunggal Jepara volleyball team, of the total 12 samples studied, 1 sample was in the interval >41 or entered the very good category with a score of 8%, 9 samples were in the interval 31-40 or entered the good category with a score of 75% and 2 samples were in the moderate category with a score of 17%.

Discussion

This study aims to measure and map the accuracy of open smash shots among athletes on the Manunggal Volleyball Team in Jepara Regency. This step is crucial, considering that the open smash is a fundamental attacking technique that significantly determines the effectiveness of point scoring in a volleyball match. To obtain valid and reliable data, this study adopted a standardized smash test instrument developed by Nurhasan. Through this instrument, every aspect of the accuracy of the direction and placement of the ball can be objectively measured. Data were collected from a sample of 12 core players from the team using direct observation techniques combined with field testing and measurement methods.

The quantitative data collection process involved a series of ten open smash trials for each player, with each ball landing score carefully recorded. Based on the tabulation of the raw data, individual player performance showed a competitive variation in total points, ranging from a low of 22 to a high of 41 points. The athlete with the initials FK

achieved the most optimal performance with a total of 41 points, followed by MR with 40 points, and MA with 39 points. On the other hand, players with the initials MIPA and MRA recorded the lowest total points, with 22 and 23 points, respectively. The dynamics of the scores generated from these ten trials reflect differences in concentration levels, ball control, and accuracy of movement mechanics among individuals within the team.

To provide an overview of the team's collective performance, descriptive statistical analysis was conducted on all the collected data. The recapitulation of data from a total of 12 sample players showed a group mean score of 34.75. This relatively high average score indicates that the Manunggal Jepara team's open smash ability generally exceeds the minimum threshold for basic proficiency. Furthermore, the statistical calculations also yielded a standard deviation of 6.2, with a range of 19 points between players. The total cumulative score earned by all team members during this test session was 417 points.

To facilitate understanding and objective assessment of athlete abilities, researchers implemented standardized eligibility standards that divide open smash skill levels into five distinct interval categories. The highest category is "Very Good," for players who achieve a total score above 41 (>41). Furthermore, player performance is categorized as "Good" for the point range of 31 to 40, and "Fair" for the point range between 21 and 30. Performances below the ideal performance standard are categorized as "Poor" with a score range of 11 to 20. Finally, performances deemed very ineffective are categorized as "Very Poor," with a total score below 10 (<10).

When the results of the descriptive frequency analysis are applied to these categorization standards, the Manunggal Jepara Volleyball team's ability map appears very positive, dominated by the high-performance group. Based on the final recapitulation, the largest percentage of the study sample falls within the very satisfactory ability group. Nine players out of the 12 tested were found to dominate the 31-40 range, indicating most of the team possesses high-quality attacking skills. This demonstrates that the team's offensive training program has successfully established a foundation of targeted smash mechanics in most of its players.

Breaking it down into percentages, the dominance of the "Good" category represents 75% of the overall strength of the teams studied. Meanwhile, in the highest category, "Very Good," one player, equivalent to 8% of the total sample, achieved peak performance at a score interval above 41. On the other hand, a small number of players still require tactical improvement, with two players, or 17% of the total sample, falling into the "Fair" category, with a score range of 21-30. Fortunately, this study recorded a score of 0%, or no players at all, falling into the "Poor" or "Very Poor" categories.

Overall, the data visualization presented in histogram form reinforces the conclusion that the Manunggal Volleyball Team of Jepara Regency possesses excellent technical readiness in the open smash attack aspect. The frequency distribution, centered in the "Good" and "Very Good" categories, provides empirical evidence that the team's shot accuracy is reliable for competitive play. The team's average score of 34.75 is a strong indicator of the club's success in physical and technical development. However, the presence of 17% of players in the "Average" category remains an important consideration for the coaching staff to provide additional accuracy training to ensure all team members' abilities are evenly distributed at an optimal level.

Conclusion

Based on the results of descriptive analysis of the frequency of research data on the accuracy of the open smash on the Manunggal Jepara volleyball team, from 12 total samples studied, 1 sample was in the interval <41 or included in the very good category with a score of 8%, 9 samples were in the interval 31-40 or included in the good category with a score of 75% and 2 samples were in the interval 21-30 or included in the moderate

category with a score of 17%. One sample was in the very good category, nine people were in the good category, and two samples were in the moderate category, thus it can be concluded that the results of the research on the Manunggal Jepara volleyball team were classified as "good" results. This study only describes the level of accuracy of the open smash on the Manunggal Jepara volleyball team.

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