The Effect Of Hanging Ball Training On Smash Ability In Volleyball Games In The Lampo Village Team

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ABSTRACT

This study aims to determine whether there is an Effect of Hanging Ball Training on Smash Ability in Volleyball Games in the Lampo Village Team. This study uses a quantitative approach, involving the Lampo Village Volleyball Team as the population, and 12 people as samples using total sampling. The data collection technique was carried out by providing initial smash test treatment then hanging ball training treatment and final smash test treatment to the Lampo village team. The results of this study indicate that the average value before being given hanging ball training was 10.67, and after being given hanging ball training was 15.33 so that there was an increase of 4.66.Based on the results of the test sample calculation where t count = 16.197 while t table at the 5% level with degrees of freedom (db) = n-1 = 11 is 1.796 so it can be concluded that H0 is rejected and Ha is accepted because the t count value is greater than t table, which is 16.197 > 1.796. The results of the study show that there isThe Effect of Hanging Ball Training on Smash Ability in Volleyball Games in the Lampo Village Team.

AUTHORS' CONTRIBUTION

A. Conception and design of the study;
B. Acquisition of data;
C. Analysis and interpretation of data;
D. Manuscript preparation;
E. Obtaining funding

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INTRODUCTION

Volleyball is a game played by two teams of six players each. There are players with special roles such as libero and spiker. This game is played by passing the ball using a maximum of 3 touches before returning it to the opposing team (Andara et al, 2021). Volleyball remains one of the sports that continues to develop and is competed in, both at national and international championship levels. This game was created by William G. Morgan in 1895, and since then, volleyball has developed rapidly and is widely known among the public. (Tawakal in Guntori et.al, 2024).

Kardianto and Sunardi (Keswando et.al., 2022) Volleyball is a team sport, so each player needs to work together and support each other in order to form a good team unity. Meanwhile, Candra in Pranesta (2023) stated that volleyball is one of the sports that is very popular with the Indonesian people, from the lower to the upper classes. Volleyball is a team sport involving two teams facing each other, with each team consisting of six

players (Almaturidi in Mahfud et.al, 2023). From the opinions of the experts above, researchers can conclude that volleyball is a team sport played by two teams where each team consists of six players who have a special role to form mutually supportive cooperation between players. This sport is played by passing the ball a maximum of 3 touches before returning to the opposing team.

Smash is one of the basic techniques in volleyball which is done by hitting the ball as hard as possible towards the opponent to score points, Sinurat et.al in (Shofiyana et.al 2024). Smash is a technique in volleyball used by players to score points, in the form of a hard ball hit and usually difficult to bend by the opponent, so that the opponent's defense is broken and the ball is difficult to receive and return according to Nurfalah et.al (Runesi et.al 2023). Smash is the most effective attacking tactic because it is able to destroy the opponent's resistance and defense Zuhermandi in Sinurat et.al (2023). Based on the expert opinions above, the researcher concluded that smash is an important element in volleyball which not only functions as a basic technique for scoring points, but also as a powerful attacking tactic to destroy the opponent's defense and provide great advantages for the team that does it.

Hanging ball hitting practice is a type of structured practice that emphasizes accuracy of hitting, while maintaining strength. With the ball hanging at a certain height, players can focus on the target and practice consistent hitting patterns (Ramadhan et.al 2024). The hanging ball in question is a ball hung with a rope tied to a pole, with a height that increases gradually from 185 cm, 190 cm, 200 cm, 205 cm, 210 cm, to 250 cm Zuhermandi et.al in (Guntori et.al 2024). Hanging ball is also a simple training method that utilizes hanging ball as a tool to practice sending and receiving the ball. The concept is that the ball is hung on a pole with a height that can be adjusted based on field conditions, while smash practice with hanging ball can mechanically improve the accuracy and speed of the hit. The exercise begins with the initial steps and repeatedly hitting the ball, which can help improve response and jumping ability (Putri et.al in Putrianti et.al 2024).

First, volleyball is a popular sport in many areas, including Lampo Village which has an active team in training and competing. Second, smash ability is a key skill in volleyball that greatly affects team performance. Therefore, this study aims to explore whether hanging ball training, known as a training method to improve hitting technique and power, can have a positive impact on improving players' smashing ability. By focusing on Lampo Village, this study is expected to provide practical contributions to improving their performance in matches. So the hanging ball in question is used in volleyball training to help players train their precision, control, and accuracy in smashing, serving or other strokes. With this tool, players can focus on improving their technique and skills, as well as improving coordination and concentration in controlling the ball while playing. However, the term "hanging ball" refers more to a training aid and not part of the official volleyball game.

Based on observations made by researchers in Lampo Village related to hanging ball training in volleyball games, data was obtained that players still need to improve their smash skills related to hanging ball training in volleyball games. Where based on observations, researchers saw that players still had difficulty in controlling the ball so

that they often lost control of the ball. In connection with the things explained above, one of the actions that researchers want to solve is to find out how much smash ability has been mastered by the players of the Lampo Village team in hanging ball training. From the problems above, the author is interested in providing an explanation regarding the level of hanging ball training on smash skills in the Lampo Village team's volleyball game.

METHODS

In this study, the author uses a quantitative research method type. This research is experimental. According to Ibrahim N. S, the quantitative research method is a research approach that involves the use of numbers, starting from the data collection process to the interpretation stage (Ali et.al 2022). Quantitative research is research conducted in the field of science, with activities based on the scientific discipline of each field. This study also uses treatment materials that are arranged in standardized designs, to find solutions to a problem (Muhajirin 2024). This research is included in the category of experimental research (Yasriuddin et.al 2024).

This research was conducted in Lampo Village, Banawa Tengah District, Donggala Regency. This location was chosen by the researcher because this location is easy or accessible to the researcher, making it easier for the researcher to obtain the data and information needed in the research. Research activities began after the researcher completed the research. According to Arikunto (Amin et.al 2023), the population is all objects that 12 people are the focus of a study, which are then observed and all aspects are recorded as found in the field. On the other hand, Sugiyono (Amin et.al 2023), stated that the population is a collection of objects or subjects in a study that have certain characteristics and are the basis for drawing general conclusions. The population in this study was the Lampo village team of 12 people. The sample is a small part of the population used as the main data source in a study; thus the sample plays a role in representing the entire population studied (Amin et.al, 2023). In this study, the researcher took the entire population of 12 people as a sample.

Instruments are tools selected and used by researchers to facilitate and systematize the research process. Research instruments can also be interpreted as a means used to collect, manage, analyze, and present data in a structured and objective manner to solve a problem or test a hypothesis. This study aims to analyze the extent to which the effect of hanging ball training can improve the ability to smash in volleyball games for players from the Lampo Village team. In more detail, the objectives of this study include: Assessing the extent to which hanging ball training is effective in improving technique and increasing the power of smash strokes. Comparing the players' smash abilities before and after they undergo a hanging ball training program.

Tools and materials: Volleyball court and net, volleyball, whistle, stopwatch, raffia rope or chalk to divide the targets, test form and writing instruments. Implementation: Players stand in the attack area, around the place where the coach gives the pass. When the command is given, the player immediately executes a smash quickly within a time

span of 30 seconds. Implementation is carried out as many as 10 attempts. Scoring/assessment technique. The assessment in the smash test is determined based on the score obtained from the accuracy of hitting the target. Players will get a score of zero if the hit hits the net or if the ball falls outside the specified target area. The final score in the smash test is calculated based on the total value obtained from 10 attempts, and the results are recorded as the participant's final score.

RESULTS AND DISCUSSION

This research was conducted using an experimental method where it was carried out with hanging ball training which aimed to determine the influence of the Smash ability in volleyball games on the Lampo Bola village team. After conducting a study, the author will present the presentation of the results of data analysis and discussion.Based on the results of the initial test (pre-test) of smash ability in volleyball games on the Lampo village team before being given training, out of 12 people the highest score was (14), while the lowest score was (8). After obtaining the results of the initial test (pre-test) of smash ability in volleyball games on the Lampo village team before being given training, the next step is to provide treatment (treatmean). The treatment (treatmean) in this case is a hanging ball training program in 1 week and given training as many as 3 meetings for approximately 6 weeks.

After the hanging ball training was completed for a predetermined time, the next step was to give a final test (post-test) in the form of a smash ability test in volleyball on the Lampo village team. Furthermore, the data obtained was recorded and analyzed. The results of the final test (post-test) of the smash ability in volleyball on the Lampo village team after being given treatment (treatment) namely hanging ball training were obtained from 12 people, the highest point was (21) while the lowest point was (12).

Data normality test is a test to measure whether the data obtained has a normal distribution so that it can be used in statistics. In other words, the normality test is a test to determine whether the empirical data obtained from the field is in accordance with a certain theoretical distribution. The purpose of the normality test is to determine whether the distribution of data approaches a normal distribution. Normality Test with SPSS "Kolmogorov-Smirnov"

Table 1.
Normality Test

		Initial Test	Final Test
N		12	12
Normal Parametersa,b	Mean	10.67	15.33
	Std. Deviation	2,060	2,535
Most Extreme Differences	Absolute	,158	,155
	Positive	,152	,155
	Negative	-,158	-,114
Test Statistics		,158	,155
Asymp. Sig. (2-tailed)		,200c,d	,200c,d

ResultsNormality testing using the SPSS application "Kolmogorov-Smirnov", it is known that the initial Sign test value of smash ability is .200> 0.05 and the final Sign test

value is .200> 0.05. So it can be concluded that the data for the initial test and the final test of smash ability are normally distributed.

The hypothesis test used here is the t-test, because this test aims to determine whether there is an Effect of Hanging Ball Training on Smash Ability in Volleyball Games on the Lampo Village Team. Based on the existing t-test table, the results obtained state that there is an increase in volleyball smash ability on the Lampo Village Team. It can be concluded that the results of the Ha value (Alternative Hypothesis) are accepted if they fall in the Ha acceptance area, and Ho (Null Hypothesis) is rejected. So that further analysis can use parametric tests with t-tests.

Table 2.
Difference in Volleyball Smash Ability of the Lampo Village Team Before and After Being Given Hanging Ball Training.

NO	NAME	X1	X2	D (X2–X1)	d (D–MD)	d2
1	Desi	14	21	7	2.4	5.76
2	Fian	12	18	6	1.4	1.96
3	Ila	10	15	5	0.4	0.16
4	Laura	12	16	4	-0.6	0.36
5	Goddess	11	15	4	-0.6	0.36
6	Zipporah	12	16	4	-0.6	0.36
7	Aini	8	12	4	-0.6	0.36
8	Michael	9	13	4	-0.6	0.36
9	Asia	11	15	4	-0.6	0.36
10	Widi	8	13	5	0.4	0.16
11	Willy	13	17	4	-0.6	0.36
12	Fitri	8	13	5	0.4	0.16
	∑	128	184	56	0.8	10.72

To calculate the Mean Deviation (MD), you can use the following formula:

$$|MD| = \frac{\sum D}{N}$$
$$= \frac{56}{12}$$
$$|MD| = 4.6$$

The difference in the number of scores before and after being given hanging ball exercises in volleyballLampo Village Team,The overall results of the initial test (pretest) were $\sum X1 = 128$, then in the final test (posttest) the total was $\sum X2 = 184$, so that the difference value between the initial test (X1) and the final test (X2) was $\sum D = 56$.

Next, continue with the t-test calculation using the following formula.

$$t = \frac{|MD|}{\sqrt{\frac{\sum d^2}{n(n-1)}}} = \frac{4,6}{\sqrt{\frac{10,72}{12(12-1)}}} = \frac{4,6}{\sqrt{\frac{10,72}{12(11)}}}$$

$$= \frac{4,6}{\sqrt{\frac{10,72}{132}}} = \frac{4,6}{\sqrt{0,081}} = \frac{4,6}{0,284}$$

$$t = 16,197$$

Fromstatistical calculations obtained t count = 16.197 significant level 5% from dk = (n-1) = (12-1) = 11, obtained t table value 1.796 so it can be concluded that H0 is rejected and Ha is accepted because the t count value is greater than the t table value, namely 16.197 > 1.796.

Based on the results of the hypothesis testing, it was proven that the average volleyball smash ability was. Lampo Village Teambefore being given the hanging ball training treatment was 10.67, while the volleyball smash ability was atLampo Village Teamafter being given the hanging ball exercise treatment was 15.33 so that there was an increase of 4.66. Based on the results of the test sample calculation Where t count = 16.197 while t table at the 5% level (0.05) with degrees of freedom (dk) = n–1 = 11 is 1.796 so it can be concluded that H0 is rejected and Ha is accepted because the t count value is greater than t table, which is 16.197> 1.796.

The research results show that there is The Effect of Hanging Ball Training on Smashing Ability in Volleyball Games in the Lampo Village Team.Hanging ball hitting practice is a type of structured practice that emphasizes accuracy of hitting, while maintaining strength. With the ball hanging at a certain height, players can focus on the target and practice consistent hitting patterns (Ramadhan et.al 2024). The hanging ball in question is a ball hung with a rope tied to a pole, with a height that increases gradually from 185 cm, 190 cm, 200 cm, 205 cm, 210 cm, to 250 cm Zuhermandi et.al in (Guntori et.al 2024). Hanging ball is also a simple training method that utilizes hanging ball as a tool to practice sending and receiving the ball. The concept is that the ball is hung on a pole with a height that can be adjusted based on field conditions, while smash practice with hanging ball can mechanically improve the accuracy and speed of the hit.

In addition to data collection in this study, the researcher also helped the Lampo Village volleyball team to improve their volleyball game, so that through this hanging ball training they continue to apply it to improve their abilities, so that in the training treatment process, changes occur in themselves, both in their physical condition and their volleyball game.

Thus, overall, it can be said from this research that the proposed research hypothesis has been accepted and answers the problems and achieves the objectives of this research. In determining the population, sample, research variables and implementation of research activities such as pretest (initial test), treatment (treatment), posttest (final test) all are based on existing theories and rules so that they can provide a good basis for implementing this research.

CONCLUSION

Based on the research results that have been presented, it can be concluded that there is a significant influence of hanging ball training on smashing ability in volleyball games.Lampo Village Team.The tcount obtained is 16.197 while the ttable at a significance level of 5% (0.05), from (dk)(n–1) = 12–1 = 11 is 1.796. This means that the tcount value is greater than the ttable or 16.197 > 1.796, then the hypothesis (H0) which states that there is no effect is rejected, and the alternative hypothesis (Ha) is accepted.

In addition to data collection in this study, the researcher also helped the Lampo Village volleyball team to improve their volleyball game, so that through this hanging ball training they continue to apply it to improve their abilities, so that in the training

treatment process, changes occur in themselves, both in their physical condition and their volleyball game.

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