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The Impact of the Smash Training Method with the Ball Media on the Efficacy of Smash Punches during Volleyball Games among PBVSI Oku Timur Athletes

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Abstract

Objective. In this study, the issue at hand pertains to the suboptimal results of smash blows. Specifically, the practice method of utilizing smash drills with the medium of a ball on the hang, which can significantly contribute to smash blows, has not been implemented. This omission has led to a failure to maximize smash-blow outcomes.

Materials and Methods. This research aims to investigate the impact of smash training and hanging ball media on the efficiency of volleyball smashes in male athletes of PBVSI OKU Timur. The research employed an experimental approach, utilizing a One Group Pre-test Post-test design, and statistical analysis to determine the correlation between the two variables under examination. The data was collected through a smash punch test, which measured the effectiveness of a smash punch in a volleyball game. The study population consisted of 12 male athletes participating in volleyball training at PBVSI OKU Timur.

Results. After conducting an experimental analysis to measure the impact of smash training and hanging ball media on the efficiency of smash punches, a hypothesis was tested using the t-test. The results showed a t-count of 3.428 and a t-table of 1.782, indicating that the influence of the two factors was significant. In other words, the training and use of hanging ball media positively affected the results of smash punches.

Conclusions. The study found that smash training with ball media hanging had a significant effect on the results of smash punches in volleyball games among athletes of PBVSI OKU Timur. Specifically, H_a was accepted and H_o was rejected, indicating that the training technique was effective in improving the athletes' performance.

Keywords: Smash Practice Method, Hanging Ball Media, Smash Punch Result, Volleyball Game

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Introduction

Volleyball is a fun and versatile sport that can adapt to different conditions (Pahrian et al., 2017). It is a team game played with a large ball by two teams facing each other with the

aim of dropping the ball inside the opponent's area to win the game (Wulandari et al., 2022;Paiman, 2021). Volleyball games have attractive features that capture the attention of many people, making it a popular sport in Indonesia (Listina et al., 2012). The increasing number of volleyball clubs and the introduction of Pro Liga demonstrate the growth and progress of volleyball in Indonesia. Furthermore, volleyball is commonly taught in school institutions as part of the curriculum.

(Keolahragaan et al., 2020) The responsibility of coaching and developing sports has become a collaborative effort, starting from the center and extending to the regions through parent organizations. The aim is to achieve maximum success, including in the sport of volleyball, which has now become part of the sports industry. Any spelling, grammar, or punctuation errors have been corrected. One of the techniques frequently used by volleyball players to score points and win a match is the smash attack (Manullang, 2023). During volleyball games, it's common for athletes to miss the target area when trying to smash the ball over the net. Researchers believe that this is due to improper hand placement during the hit, resulting in inaccurate aim. Many players make similar mistakes when attempting a smash, which is why effective training is crucial to improve accuracy. One training method involves practicing hitting the ball while it's in the air, which can help improve hand-eye coordination and accuracy when aiming at the target.

(Chaeril Saputra, Ferri Hidayad, 2022) Achieving success in sports requires much more than a simple wave of the hand. It takes consistent repetition and a lengthy process to achieve optimal physical condition. This can be accomplished through well-designed and carefully measured exercise programs. Training is a step-by-step process that aims to enhance an individual's potential, resulting in maximum performance. (DR. Harwanto et al., 2022) To improve your volleyball smash results, try practicing with a hanging ball. This exercise will help you develop your jumping and hitting skills for smashing the ball (Usman et al., 2020) Smash is a punch technique that is done hard and deadly towards the opponent, this technique aims to get points or value in the game of volleyball. The practice of hitting the ball hung mechanically is able to develop the speed and accuracy of hitting the ball (Hidayah et al., 2021) By doing smash training assisted by hanging ball media, it is hoped that it can train the ability of athletes' smash punches to help achieve achievements, especially for volleyball athletes at the PBVSI OKU Timur Club, where so far the journey of the PBVSI OKU Timur Club has never received the desired achievement because the PBVSI OKU Timur Club has advantages such as minimal funding.

Materials and Methods

Study participants.

The research study was carried out on the volleyball court of the PBVSI OKU Timur club, from June to July 2023. The target population comprised all the athletes who participated in volleyball training activities at the club, which numbered 12. Considering the limited population, the research sample consisted of all 12 athletes from the PBVSI OKU Timur club, using the total sampling technique. This sampling technique involves using the entire population as the research sample, which is appropriate when the population is less than 100. This approach ensures that the sample is representative of the population and provides reliable results (Sugiyono, 2022).

Study organization.

The method utilized to conduct this study is known as the research method. A pseudo-experiment was employed, utilizing the One Group Pretest-Posttest design. This methodological approach allows for the observation of a single group before and after the test, providing a means of assessing the impact of the test on the group (Aksara, 2021).

Statistical analysis.

Data collection techniques are crucial in research as they enable researchers to obtain data that meets set standards (Sugiyono, 2022). The aim of this study is to gather research data pertaining to the PBVSI OKU Timur club athletes. The researchers selected 12 participants to ensure accurate data collection. To collect data, the researchers employed a variable identification test, specifically the volleyball smash test. In order to determine the instrument data, a pre-test was conducted with the participants. Following the pre-test, the participants were trained with smash exercises using a hanging ball media. Finally, the researchers conducted a smash result test during a volleyball game to obtain accurate data for the study (Ahmad, 2020). The individual scores obtained from the smash test results were analyzed using static procedures to determine whether the hypothesis proposed in this study could be accepted or rejected. The goal was to understand the impact of the smash training method involving the ball media hanging on the smash results at the OKU Timur club PBVSI athlete.

Results

Achieving accurate conclusions requires proper data analysis. Therefore, before analyzing data, it is crucial to perform an analysis requirements test, specifically a normality test. This test aims to determine whether both the independent variable (X) and the bound variable (Y) in the resulting regression equation are normally or abnormally distributed. A regression model that demonstrates a normal or near-normal distribution is considered to be of high quality.

To perform a normality test, the Kolmogorov-Smirnov tool on SPSS 25 for Windows is used. The test is evaluated based on the Asymp Sig value. If the Asymp Sig value is more than or equal to 0.05, the data can be deemed normally distributed. On the other hand, if the Asymp Sig value is less than 0.05, the data distribution is considered abnormal. Regarding the normality test results for the smash training variable (X1) and the smash punch (Y), they are as follows:

Table 1. One-Sample Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test		
		Score
N		12
Normal Parameters ^{a,b}	Mean	97.0000
	Std. Deviation	11.5443
Most Extreme Differences		8
	Absolute	.147
	Positive	.147
Test Statistic	Negative	-.083
		.147
Asymp. Sig. (2-tailed)		.200 ^{c,d}

Looking at the table above, it is clear that all the research variables (X1, Y) follow a normal distribution. This conclusion is based on the normality test criterion, which states that if the Asymp Sig value is greater than or equal to 0.05, then the data is normally distributed. In the table, we can see that the Asymp Sig value is 0.200, which is greater than or equal to 0.05, indicating that all the variable data is normally distributed.

Table 2. Hypothesis Test Calculations

Sample	O ₁	O ₂	d	d ²
N-1	101	107	6	36
N-2	94	97	3	9
N-3	117	120	3	9
N-4	86	90	4	16
N-5	83	87	4	16
N-6	82	83	1	1
N-7	98	97	-1	1
N-8	77	80	3	9
N-9	96	93	-3	9
N-10	96	100	4	16
N-11	98	100	2	4
N-12	107	110	3	9
Σ	1135	1164	29	135

A significant test was conducted to determine the influence of smash training with ball media on the smash punches of athletes. The calculated value obtained was 3,428, while the table price was 1,782. As $t_{\text{calculate}}$ is greater than t_{table} , H_a is accepted and H_o is rejected. This means that there is a significant influence of smash training and hanging ball media on the smash results of PBVSI OKU Timur athletes. These findings are supported by previous relevant research and theoretical basis, but this study introduces new updates such as the use of PBVSI Timur OKU athletes as samples, the values obtained, and the treatment provided, such as the smash training method with the ball media hanging.

Discussion

Training refers to the process of putting in effort to improve one's overall physical condition through a systematic and repeated approach that involves increasing the amount of training load, time or intensity. People exercise in order to achieve a particular goal, and for training to produce optimal results, the program or training format should take into account the basic abilities of individuals while adhering to the principles of training (Notriya, S, 2018) accuracy of hitting the ball, reinforced by the results of research (Alnedral et al., 2020)(Alnedral et al., 2020) Repeatedly practicing the initial step and accuracy of hitting the ball can help train the correct ball-hitting response and improve one's ability to achieve high jumps and effectively smash the ball. The findings of this study suggest that practicing smashes using a hanging ball media can significantly improve a student's ability to perform successful smashes. Furthermore, the results of this study indicate that training with hanging ball media is important for all athletes looking to improve their volleyball smash ability. Smash ability is trained using a form of hanging ball exercise, and proven effective in increasing smash ability (Manullang, 2023). The increased smash ability is likely due to the suitability of the hanging ball training performed and the training program is as needed. In addition, the hanging ball exercise program implemented in this study applies the principle of exercise. The application of the principle of planned training can achieve the goals to be achieved. In addition, hanging ball practice has advantages in terms of ease of execution. The existence of hanging balls as a practice medium makes it easier for students to learn volleyball. With the ball hung using a rope and tied to a pole, students can easily control the ball, making it easier for them to master basic techniques (Fitriady et al., 2020) In addition, hanging balls can also be held by hand, so that if exposed to the touch of the foot, the ball will return to an upright position and remain suspended on the rope and pole. Therefore, hanging ball exercises can be used to improve smash accuracy.

Conclusions

Based on thorough research, the author has concluded that the initial test results (pre-test) of smash performance among PBVSI OKU Timur athletes averaged at 95 with a standard deviation of 11. On the other hand, the average final test results (post-test) were 97 with a standard deviation of 11. A significant test was conducted to determine the impact of smash training with hanging ball media on top smash results. The obtained value of price = 3.428 while t sub count, t sub table= 1.782, which indicates a significant influence between the two factors on smash performance among PBVSI OKU Timur athletes.

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Conflict of interest

The author states that there is no conflict of interest whatsoever in this study.

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