



## **The Effect Of Hanging Ball Hitting Practice On Smash Results In Volleyball Games**

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### **Abstract**

**Study purpose.** This study sought to ascertain whether striking the ball practice had an impact on the outcomes of volleyball smashes performed by male students participating in extracurricular activities at SMA Negeri 1 Belitang 1.

**Materials and Methods.** In this study, an experiment with a one-group pre-test-post-test design was utilized as the method of data collecting. Statistics were used to ascertain the relationship between two symptoms. Smash punch evaluation to assess the impact of a smash in a volleyball match. The sample in this study comprised of 14 male students from SMA Negeri 1 Belitang 1, who were among the male students who engaged in volleyball training activities at the school.

**Results.** The hypothesis utilizing the t-test obtained a t-value of 1.951 and a t-table price of 1.761, indicating the size of the influence between the practice of hitting the ball on the outcomes of the smash punch. Therefore,  $H_a$  was allowed and  $H_o$  was rejected because the t-value was more than the t-table, indicating that there was a substantial impact of hitting the ball practice on the outcomes of volleyball smashes among male extracurricular students at SMA Negeri 1 Belitang 1.

**Conclusions.** According to the study's findings, hitting the ball practice had a substantial impact on the smash results of volleyball extracurricular students at SMA Negeri 1 Belitang 1.

**Keywords:** Practice Method, Hitting Hung Ball, Volleyball Game.

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### **Introduction**

Sport is a physical activity that must be done regularly to be able to improve physical performance to be better in daily life (Haryanto & Welis, 2019). (Mukrimaa et al., 2016) Sport is all systematic activities to encourage, foster, and develop physical, spiritual, and social

potential. The existence of sports has now become part of community activities, from children to the elderly, and is no longer underestimated. One of the sports that is growing and popular with the public is volleyball. The game of volleyball developed into a sport that is very popular with the public. Volleyball games are carried out by all walks of life, from children to the elderly, men and women, and urban communities to rural communities (Chaeril Saputra<sup>1</sup>, Ferri Hidayad<sup>2</sup>, 2022).

Volleyball is a type of game or sport that is popular among people both from the upper and lower classes (Maliki, 2018) Volleyball game is one of the big ball team games, this game is played on a rectangular court, and each team or team consists of 6 players, the teams facing off are separated by a net or net ((Showab & Djawa, 2019)(Izzuddin & Widyanti, 2021). To master these basic techniques requires various efforts or exercises and continuously, continuously, and continuously which is done repeatedly until you really master the technique. Volleyball as part of extracurricular activities as a whole is included in sports characterized by games such as football and basketball (Ananta Masru Dyas, Mahendra Agung, 2022)). (Irwandi & Iskandar, 2013) In terms of its characteristics, volleyball game activities contain elements of movement skills, namely in the form of passing, smashing, blocking or damping, and serving. As well as the game of volleyball contains social values, seen from the element of cooperation in the team understanding the superiority of playmates outside the team itself to improve mentally.

In the game Volleyball has a variety of techniques, according to the purpose of achievement, players are required to have qualified techniques and tactics (Lubis & Agus, 2017) Techniques in the game of volleyball that are very decisive include smash strokes. A smash punch is a type of hard and deadly blow in the game of Volleyball. The same thing said by (Destriana et al., 2021) one of the most effective techniques used in playing volleyball is smash where this punch is the main blow in attacking to achieve victory.

Other studies say that smashing is a technique done by diving hard at the opponent to produce numbers (Suhairi et al., 2020) This is in line with the opinion (Power et al., 2016) that when attacking using smashes on the net must be hard, directed, precise and the opponent is difficult to accept by placing the ball in an area that is difficult for opposing players to guess. Poor smash ability will have an impact on students' volleyball learning achievement (Halim et al., 2019) Based on these statements it can be concluded that smash is one of the most important techniques in the game of volleyball, this is also due to smash in making a positive contribution to success in the game of volleyball.

To produce a good smash is influenced by several factors, including physical, technical, and mental (Adnan & Arlidas, 2019). Physical, among others, support the ability to jump to the maximum from the explosive power ability of leg muscles (Yanto & Barlian, 2020). (Chandra & Mariati, 2020) In performing a smash, athletes should have a good physical condition, namely: leg muscle explosive power is needed when jumping, jumping endurance is needed when pushing, jumping coordination is needed when hitting the ball, and punching strength is needed when hitting the ball. Apart from the explosive power of the leg muscles, the implementation of the smash is also supported by several factors such as body flexibility, endurance, speed, abdominal muscle strength, agility, and reaction. According to (Sjahriani & Ponanda, 2017) Muscle is an organ or device that allows the body to move. Some of the muscles of this body are attached to the muscular skeleton that can move actively so that it can move parts of the skeleton in a certain location. Muscles can contract quickly if they get electric current, cold mechanical stimulation, and so on. According to (Yulifri et al., 2018) The explosive power of leg muscles can be defined as the ability of a group of leg muscles to produce work in a very fast time. The explosive power of the limbs is the ability of muscles to cope with loads or resistance with a very high speed of contraction. Muscle explosive power is a combination of several physical elements, namely strength and speed. This means that the

ability of muscle explosive power can be seen from the results of a performance carried out using strength and speed. For example, the form of the explosive power of leg muscles is the result of jumping when doing Smash.

Regarding the importance of using smash in student volleyball games, side by side with this one of the weaknesses of the technique possessed by extracurricular students of SMA Negeri 1 Belitang 1 Ball, types of exercises were needed that were able to develop smash skills in the game. Departing from the description of the problem above, as well as the need for smash skills in volleyball extracurricular students at SMA Negeri 1 Belitang 1, a form of exercise model was needed that could be used as a guideline for extracurricular students to help develop game techniques, especially techniques in doing smash skills. Based on these problems, this study aimed to develop a training model for hitting the ball hanging against the results of smashes in volleyball games.

## **Materials and Methods**

### ***Study participants.***

This research was carried out in the field of SMA Negeri 1 Belitang 1. The research sample used was male students who participated in volleyball extracurricular activities at SMA Negeri 1 Belitang 1. A sample of 14 male students with a total sampling technique. The reason for taking total sampling was because the total population is less than 100 the entire population is used as a research sample (Sugiyono, 2017).

### ***Study organization.***

This type of research used pseudo-experimental research, with a One Group Pretest-Posttest design. (Arikunto, 2018)) said, that one group pretest-posttest design was a research activity that provides an initial test (pretest) before being given treatment, after being given treatment then giving a final test (post-test). In this design one group of subjects was used. First, measurement was made, then subjected to treatment for a certain period, and then measurement was carried out a second time.

### ***Statistical analysis.***

Before data analysis was carried out, it was necessary to carry out a prerequisite test, namely a normality test. To evaluate whether the distribution of the data obtained was normal, normality testing was performed; the computation of the pre-test and post-test normality tests may be found in the appendix. For road-based normalcy tests, namely the Liliefors test (Sudjana, 2017).

**Table 1.** Summary of Pre-test Normality Test and Post-test Results

| Data      | $L_{\text{tabel}} (N=14, \alpha=0,05 \ L_{\text{hitung}} \leq L_{\text{tabel}})$ |       | Conclution |
|-----------|----------------------------------------------------------------------------------|-------|------------|
| Pre-test  | 0,091                                                                            | 0,227 | Normal     |
| Post-test | 0,211                                                                            | 0,227 | Normal     |

Based on the data processing results from the data normality tests shown in the above table, it was determined that the population was normally distributed and that the zero hypothesis ( $H_0$ ) was accepted. From both sets of data, it was determined that  $L_0 \leq L_{\text{tabel}}$  at the real level  $=0.05$ .

## **Results**

After carrying out the training process and data collection, the researcher then carried out data analysis to see whether there was an effect of hanging ball hitting practice on students'

smash results. In this study, students played volleyball. smash test of 5 (five) strokes with a score on a predetermined field and the resulting time of the smash. Data collection using experimental methods through tests and measurements. Tests and measurements were carried out in direct practice in the field. The data obtained in this study was obtained from the results of the pre-test, namely making a volleyball smash shot five times with a score on a predetermined court and the time resulting from the smash punch Next, treatment was carried out for 16 (sixteen) meetings using the hanging ball hitting practice method, and then at the 18th meeting, a post-test was carried out for a volleyball smash shot test, namely to take the final test score after being given treatment. For more details, it can be seen in the table as follows:

**Table 2.** Preliminary test result data and final test

| Number                    | Name | Volleyball smash score results |            |
|---------------------------|------|--------------------------------|------------|
|                           |      | Pre-test                       | Post-test  |
| 1                         | MF   | 83                             | 102        |
| 2                         | DN   | 75                             | 93         |
| 3                         | SD   | 110                            | 92         |
| 4                         | FJ   | 95                             | 108        |
| 5                         | MR   | 105                            | 107        |
| 6                         | RN   | 93                             | 88         |
| 7                         | MP   | 85                             | 83         |
| 8                         | RD   | 97                             | 90         |
| 9                         | JD   | 107                            | 98         |
| 10                        | RS   | 100                            | 135        |
| 11                        | DV   | 93                             | 98         |
| 12                        | AR   | 133                            | 130        |
| 13                        | AD   | 73                             | 103        |
| 14                        | TP   | 113                            | 107        |
| <b>Average</b>            |      | <b>97</b>                      | <b>103</b> |
| <b>Standard deviation</b> |      | <b>16</b>                      | <b>15</b>  |

After testing the hypothesis or significance test in this study, t-test statistics were used, a t-value of 1.951 and t-table of 1.770 were obtained. Thus, it can be stated that  $t_{count} > t_{table}$  or  $1.951 > 1.770$ , then reject  $H_0$  and accept  $H_a$ , meaning a hypothesis that reads there was an effect of ball hitting practice on hanging ball on the results of volleyball smashes in extracurricular students of SMA Negeri 1 Belitang 1.

## Discussion

Exercise induced morphological, pharmacological, and physiological changes, according to the research of exercise physiology. Training, which comes from the word "training," is a process of honing the ability to exercise that includes both theoretical and practical material, using methods and rules of implementation with a scientific approach, using the principles of planned and regular exercise, so that the goal of exercise can be accomplished promptly. As the view of (Alnedral et al., 2020).

A planned training process would provide good results for athletes, for that the coach needs to pay attention to orientation, namely the direction of attention and focus of athletes on training (Gunawan Manullang et al., 2022) besides that coaches should also pay attention to the physical condition of athletes, because without good physical condition athletes will find it difficult to master basic techniques in sports, physical condition is the ability or physical ability

to work or exercise (Maizan & \_\_, 2020). Smash can be done in all positions, position four, position three, position two and back position (Alnedral et al., 2020) to jump athletes must have good leg muscle explosive power, leg muscle explosive power is a person's ability to use leg muscles for maximum strength in a short time (Ridwan & Sumanto, 2018), by raising his arm to prepare to hit the ball that will be baited, the batter will hit the ball as quickly as possible using a strong blister. Practice hitting the suspended ball is done to improve the accuracy of the smash. The ball is hung with two poles and uses rubber to tie the ball wrapped with cloth, then the ball is hung according to the height of the athlete, to get the results of the practice of hitting the ball hung the athlete must do it repeatedly so that the desired goal will be obtained. This exercise is done repeatedly, because as we know exercise is an activity that is done repeatedly within a certain time and there is a gradual increase in load (Lesmana et al., 2018)

It is possible to teach the proper ball-hitting response as well as to reach high ball achievement and high jumps by starting the step and striking the ball accurately while doing it frequently. The results of this study demonstrated that pupils could perform smashes effectively and ideally if they were given the opportunity to practice hitting the ball on the hang. Thus, it can be concluded that the smash training program used by students who participated in volleyball extracurricular activities at SMA Negeri 1 Belitang 1 was connected to the practice of striking the ball in the hang. Additionally, it can be discussed the significance of good hanging ball hitting practice for enhancing volleyball smash ability. The practice of hitting the ball on the hang also affects smash results, so the more physically fit a student is, the better they will smash. This is further supported by the treatment's outcomes, which show that hitting the ball on the hang can enhance smash performance.

## Conclusions

The author deduces from the research's findings that the initial test (pre-test) average for athletes who participated in volleyball matches was 97 with a standard deviation of 16. While the median final test (post-test) determined by athletes' smashes in a volleyball match had a standard deviation of 15, it was 103 on average. to ascertain the degree to which the ball-bouncing technique has an impact on the outcome of the smash. Additionally, a substantial test was run, and it was discovered that  $t_{\text{value}}$  was priced at 1.951 while  $t_{\text{table}}$  was priced at 1.761. This demonstrates that practicing hitting the ball had a substantial impact on the outcomes of the smash in volleyball extracurricular students.

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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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