

The Effect Of Obstacle Jumping Practice And Jumping Up Practice On Smash Skills In Volleyball Games

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A. Conception and design of the study; **B.** Acquisition of data;
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ABSTRACT

This study is a field experiment research that aims to determine the difference in the influence between obstacle jumping and jumping up training on smash skills in volleyball games in students of SMA Negeri 6 Makassar. The population is male students of SMA Negeri 6 Makassar with a sample of 60 people. The data analysis technique is a t-test at a significant level of 95%. The results of the obtained values show that: There is a significant influence between obstacle jumping practice on smash skills in volleyball games ($t_o = 23.453 > t_t = 2.045$). There is a significant influence of jump-up practice on smash skills in the game of volleyball ($t_o = 14,765 > t_t = 2,045$). There was a significant difference in influence between obstacle jumping training and up jumping training on smash skills in volleyball games ($t_o=10,522 > t_t=2,000$), and obstacle jumping training was better than obstacle jumping training.

Keywords : Exercise; Obstacle Jumping; Jump up; Smash; Bolavoli.

INTRODUCTION

To foster sports achievements, of course, coaching is needed as early as possible through search, talent monitoring, and nurturing. The expected way to get this is through schools (Sahabuddin, Hakim, Husniati, et al., 2022). School is a forum for coaching that is used as a potential place for self-development. School is also the beginning of the introduction of sports because school is inseparable from sports lessons and is sometimes used as a benchmark to measure students' skills (Sahabuddin et al., 2023). And it will have a positive impact on students in shaping their personality character, especially discipline. But basically, each individual has differences in choosing the sport he likes (Erawan et al., 2023).

Volleyball is one of the sports that is loved by the public. This sport is carried out by all levels of society from children to the elderly, men and women. This reality is very visible in the regions, especially in South Sulawesi. This game is mushrooming, because the facilities and infrastructure are very affordable and involve many people (Sahabuddin, 2018).

In the efforts to revive a game of volleyball (Jahrir, 2019), one must master the basic techniques of the game of volleyball and the applicable regulations (Srianto, 2018b). In the game of volleyball, smash is one of the techniques that has an important role. To achieve a good level of smash skills, it is necessary to master the movements of good smash techniques with varied practice patterns (Indrayana, 2018). A smash is a hard, straight and swooping punch. Usually a deadly program (Daulay & Daulay, 2018), smash aims to kill and is considered the most prominent and most exciting part of the game (Pranopik, 2017). In a dynamic part, a player jumps high, hits an object that moves with the right force and direction and goes beyond the net or net (Utomo, 2019). In general, smash is the most important and last work movement in the attack work movement (Sahabuddin, Hakim, Sudirman, et al., 2022). Serve ball, the trick movement that is carried out does not meet the target or is easily controlled by the defending opponent so that the opportunity to receive the ball well (Karmida et al., 2017). Then the receiver goes to the tosser (feeder) passes the ball to the smasher and launches an attack or smash (Jusran, 2019). This means that an attack is held on the touch of the third ball. However, in modern volleyball games, direct attacks on the first ball (served time) or second ball are often carried out depending on the presence of the ball or the position of the ball at that time as well as the ability and readiness of the batter (Hidayat et al., 2018).

If viewed from the aspect of implementing the smash movement, of course, it has four phases of implementation, namely; Starting from the beginning, repulsion, punching, and landing (Sahabuddin, 2019). To get range when jumping to grab the ball, it is necessary to support the ability of the legs (Mujriah, 2017). Limbs as the main perpetrators in making achievements, it is very necessary to be supported by physical skills (Huda, 2018). Physical abilities are acquired with systematic and programmed exercises (Aulia & Hermanzoni, 2018). Exercise is a systematic activity to improve the physical functional capacity and endurance of exercise, with the ultimate goal of improving sports performance (Nasriani & Mardela, 2019).

The most used physical elements are strength and speed, the two physical elements are a combination of explosive physical components that are generally needed in taking off, in this case jumping up to reach the ball on the net to hit the ball faster (Hermansyah & Permadi, 2018). Effective and optimal smash skills must be supported by some appropriate and appropriate training methods (Srianto, 2018a). Training is a systematic process of practising or working, which is carried out repeatedly with the increasing amount of weight in training or work. This is needed to improve the body's physical and physiological functional skills. So that it is easy to learn movement techniques in volleyball (Putra, 2018a).

Of the many forms of training that exist. The researcher only chose the two forms of exercise that were used as research material by looking at the allocation of exercises, namely obstacle course jumping and upward jumping exercises. Obstacle jumping exercise is a form of exercise that is carried out by jumping on an obstacle with both feet holding a rejection at the same time and landing at the same time (Suriatno & Yusuf, 2018). While the jump-up exercise is a form of exercise with a standing position, both hands are straightened up and jumping with a high movement (Zakaria et al., 2018). With the training program given and carried out systematically, the two forms of exercise have the same goal, namely to improve physical skills (Putra, 2018b) such as the strength and speed that contracts in the leg muscles. Obstacle jump exercises and upward jump exercises affect the muscles of the legs. Increased strength as a result of muscle training due to; (1) Increase in muscle cross-sectional area, (2) Increase in nerve volume to muscles. This change is caused by an increase in the number and size of myofibrils, an increase in the total number of contractile

proteins, especially myosin contractile, in addition to an increase in capillaries, an increase in the number of connective tissues as well as joints and cartilage.

METHODS

The implementation of research is basically to obtain information or data to solve the problem being researched. The expected information must go through a systematic and directed procedure and be scientific. In connection with the above, the field experiment method was chosen, the method is considered more appropriate to reveal the influence of obstacle jumping and upward jumping exercises on volleyball smash skills. The research design or research design used in this study is a "Randomized Pretest – Posttest Design". The population in this study is all students of SMA Negeri 6 Makassar. The sample used was 60 male students in grade XI of SMA Negeri 6 Makassar. The sampling technique in this study is based on random sampling, in this case, representatives of each class II are taken, and then a lottery technique is carried out. Meanwhile, the research group was formed based on the pretest and then the ordinal machine technique was carried out. The hypothesis of this study is tested based on the data obtained using statistical analysis techniques. The data processing results of this study used two types of statistical techniques, namely: descriptive statistics intended to obtain an overview of the data, and Indirect statistics using t-tests at a significant level of 95%, intended to find out whether there was a difference between the two training methods.

RESULTS AND DISCUSSION

Result

The results of the descriptive calculation of smash skill data in the volleyball game of SMA Negeri 6 Makassar students can be seen in the summary of the results of the descriptive data analysis.

Table 1.

Results of descriptive data analysis of smash skills in volleyball games.

Descriptive	Group A		Group B	
	Initial test	Final test	Initial test	Final test
N	30	30	30	30
ΣX	87	105,6	86,1	97,8
ΣX ²	259,7	380,08	253,87	326,38
μ	2,9	3,52	2,87	3,26
Sd	0,4967	0,5281	0,4748	0,5017

The normality test used is chi-squared analysis as a form of analysis to determine the distribution of sample normality. As in the following table:

Table 2.

Sample normality test results

Group	χ^{20}	χ^{2t}	Information
A	2,465	11,070	Usual
B	5,127	11,070	Usual

The sample homophobicity test uses the F-test, which is intended to determine the characteristics between the two groups given the exercise. One of the requirements in

sampling is that the training of the two groups must have the same or almost the same characteristics in other words the two groups are homogeneous. In the calculation of the sample homogeneity test, the value of $F_o = 1.09 < F_{table} = 1.86$ was obtained. Thus the two experimental groups have the same characteristics or are homogeneous.

The order of hypotheses that are tested for correctness in this study is as follows:

There is an effect of obstacle jumping practice on smash skills in volleyball games in SMA Negeri 6 Makassar students.

Following the results of data analysis of the difference between the initial test and the final test in the Obstacle Jump exercise (group A), it was obtained in Table 3 as follows:

Table 3.
 Results of the first hypothesis test

t observation	T table	Information
23,453	2,045	Significant

The results of the data analysis in the attachment obtained an observation t-value = 23.453 greater than the t-value of the table at a significant level of 5% = 2.045. Then H_o is rejected and H_1 is accepted, meaning there is a difference between the initial test and the final test. Thus, it can be concluded that there is a significant influence of obstacle jumping practice on the ability to smash in the game of volleyball in students of SMA Negeri 6 Makassar.

There is an effect of jumping up practice on smash skills in volleyball games in SMA Negeri 6 Makassar students.

Following the results of data analysis of the difference between the initial test and the final test in the jump-up exercise (group B), it was obtained in Table 4 as follows:

Table 4.
 Results of the second hypothesis test

t observation	T table	Information
14,765	2,045	Significant

The results of data analysis in the attachment obtained an observation t-value = 14.765 greater than the t-value of the table at a significant level of 5% = 2.045. Then H_o is rejected and H_1 is accepted, meaning there is a difference between the initial test and the final test. Thus, it can be concluded that there is a significant influence of jumping up practice on smash skills in volleyball games in SMA Negeri 6 Makassar students.

There is a difference in the influence between obstacle jumping and jumping up training on smash skills in volleyball in SMA Negeri 6 Makassar students.

Following the results of the analysis of the final test data for the difference between obstacle jumping practice and jump-up training on smash skills in volleyball games, it is obtained as in the following Table 5:

Table 5.
 Results of the third hypothesis test

t observation	T table	Information
10,522	2,000	Significant

The results of the data analysis in the attachment obtained an observation t-value = 10.522 greater than the t-value of the table at a significant level of 5% = 2.000. So H_o was

rejected and H1 was accepted, meaning that there was a difference in the influence between obstacle jumping practice and jumping up practice on smash skills in volleyball in SMA Negeri 6 Makassar students. The group that gets the obstacle jump practice is more effective and efficient for improving the smash skills in the game of volleyball compared to the group that exercises jump up. Thus, it can be concluded that there is a significant difference in influence between obstacle jumping and jumping up training on smash skills in volleyball games in SMA Negeri 6 Makassar students.

Discussion

State of the two research groups before the treatment of results

The results of data analysis on data normality and sample homogeneity showed that the two groups, namely obstacle jump training and upward jump training, were normal and homogeneously distributed. This is due to the similarity of the characteristics of the two groups, so that if they are given different treatment and in the end, there is a difference in ability, it means that it is influenced by the influence of treatment (training).

The effect of obstacle jumping practice on smash skills in volleyball

The results of the data analysis showed that there was an effect of obstacle jumping practice on smash skills in the game of volleyball. This reality is caused by all members of the group doing regular and continuous training. In addition, the training materials provided have been designed through a training program whose implementation is guided by training principles. In addition, the implementation of obstacle jumping exercises aims to increase the element of explosiveness, especially the leg muscles which are physical needs in supporting smash skills in the game of volleyball.

The effect of jumping up practice on smash skills in volleyball

The results of the data analysis showed that there was a significant influence of jump-up training on smash skills in the game of volleyball. This fact is basically due to the training that is given in a directed manner and followed by group members systematically and continuously. In addition, the implementation of jumping-up exercises aims to increase the element of explosiveness, especially leg muscles which are physical needs in supporting smash skills in the game of volleyball. Jumping up exercises perform jumping in a vertical direction (up) using weights so that the leg muscles can contract.

The difference in the influence between obstacle jump training and up jump training on smash skills in volleyball

The results of the data analysis showed that obstacle jumping exercises had a more significant influence on smash skills in volleyball games than jumping-up exercises. This fact is because obstacle jumping exercises in their implementation are more effective. After all, they are done by jumping over obstacles as a weight, which will provide a more effective activity for the ability of the leg muscles. Because directly in doing a soccer smash, of course, when taking off, it is necessary to have a prefix to help bring the weight point up. Compared to the upward jump exercise, although it has the same goal, namely the formation of explosive physical elements, the implementation of vertical jumps is only carried out on the spot to make a jump. So the development of contractions or muscle performance is rather slow and results in the achievement of jumping when grabbing the ball (take off) is not optimal. The results obtained by both forms of training make a positive contribution to improving smash skills in the game of volleyball.

CONCLUSION

After researching the problem of the influence of obstacle jumping and jumping-up training on smash skills in volleyball, the following conclusions were drawn:

1. There is a significant influence of obstacle jumping practice on smash skills in the game of volleyball.
2. There is a significant influence of jump-up practice on smash skills in the game of volleyball.
3. There is a significant difference in influence between obstacle jumping exercises and upward jump exercises on smash skills in the game of volleyball. Obstacle jump training is better.

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