

The Effect of Decline Push Up and Bench Dip Exercise on Smash Outcomes in Puma Volley Club Volleyball Athletes

Benny Aprial. M^{1*}, Liliana Puspa Sari², Dicky Hendrawan³, Dewi Maya Sari⁴,
Epenetus Giawa⁵

¹²³⁴⁵Sekolah Tinggi Olahraga dan Kesehatan Bina Guna, Indonesia

*Corresponding Author: bennyaprial.m@gmail.com

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Abstract. This study aims to determine the effect of decline push up and bench dip exercises on the arm muscle strength of Puma Volley Club Volleyball athletes, Serdang Bedagai. This research was conducted at Puma Volleyball Club Serdang Bedagai Volleyball. The population of this study was 8 people and the sample used in this study were male athletes, totaling 8 people who were taken by simple random. This research method is an experimental method with the research design Pretest – Posttest One Group with decline push up and bench dip exercises carried out for 6 weeks. The test instrument used is a test of the results of the arm muscle strength. The data analysis technique used was the Lilifors normality test and the hypothesis test, namely the t-test with a significant level of 0.05. The results obtained from the hypothesis test, namely the strength of the arm muscles, obtained tcount (5.63) > ttable (1.90). Based on the criteria for testing the hypothesis, then Ha is accepted and Ho is rejected so that it can be concluded that there is an effect of decline push up and bench dip exercises on the arm muscle strength of Puma Volley Club Volleyball Serdang Bedagai athletes.

Key words: Decline Push Up, Bench Dip, Muscle Strength, Volleyball

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INTRODUCTION

Volleyball is a team sport, so players must work together and support each other to become a compact and tough team. Thus mastering the basic techniques of playing volleyball individually is very necessary for a volleyball player. Perfection in carrying out basic techniques can only be mastered properly if regular and programmed exercises are carried out properly. The right training methods will be able to reduce the mistakes made by a player.

According to Harsono (2000:12) that "strength is the ability of the muscles to generate tension or strength, force against a prisoner". According to Raharjo (2010: 2) skills as a process of basic technical training supported by adequate physical abilities. For this reason, basic technical skills in playing volleyball such as passing over, passing down, smashing, blocking and serving which are mastered by a player must be supported by good physical abilities. Mastery of automatic techniques is not easy, but requires a relatively long time. Ease in mastering techniques only depends on individual players, with high intelligence abilities and supporting physical abilities, will accelerate progress in learning techniques.

In volleyball, the smash is defined as the act of hitting the ball by jumping and entering the opponent's field. Smash is the act of hitting the ball into the opponent's court with great force, usually jumping up, hitting the ball into the opposite half of the field. It can be seen from the hardness of the resulting ball that the smash technique that comes with the ball is harder and more difficult for the receiver of the ball. All attitudes of hitting the ball into the opponent's area except serving and blocking are attack strokes. Therefore, the smash

technique is used as a weapon to attack and collect points in volleyball games. Given the importance of this, the implementation of smash techniques in matches must be effective.

Strength is defined as the energy used to change the state of motion or shape of an object. defines strength as energy to fight resistance or the ability to generate tension. Thus strength is an ability that is very closely related to the process of muscle contraction. Strength means the ability to expend maximum energy in one effort, strength ability means the occurrence of muscle contractions in humans. static, concentric and eccentric (Chan, F. 2012).

Muscle is a connective tissue in the body whose main task is contraction. Muscle contractions function to move body parts and substances in the body. There are three types of muscle cells in the human body, namely: cardiac, striated and smooth, but those that play a role in the movement of the human skeleton are striated muscles (Mustiadi, 2017).

With the ability of muscles to contract, they carry out 3 main functions, namely carrying out movements, maintaining posture and producing heat. There are basically 2 movements produced by muscles, namely body movements that are easily observed and body movements that are not easily observed.

Decline push-ups are done with both feet on the bench, body position face down facing the floor to reach the reverse position with the support on both hands, the next movement is the body is lowered until it almost touches the floor then the body is lifted parallel while clasping hands and returning to its original position. Thus this exercise is done repeatedly, this form of Decline Push-Up exercise can be carried out with predetermined sets and repetitions in the training program.

Bench Dip exercise, which is a movement that is performed on a low bench, the purpose of this exercise is to train the arm muscles, especially in the triceps muscles.

The way to do this movement is to place your hands on the sides of the base bench so that your body is perpendicular to the bench when you place your feet in front of you. Only your heels should be on the floor and your legs should be straight. Your arms should be fully extended with only your palms on the bench.

METHODS

According to Sugiyono (2018: 81) "the sample is part of the number and characteristics possessed by the population. For this reason, samples taken from the population must be truly representative. The sample in this research is 8 people.

This research is classified as a field experiment research in which the researcher wants to know the effect of Decline Push Up and Bench Dip Exercises on Smash Results in Puma Volleyball Club Volleyball Athletes in Serdang Bedagai in 2022.

In accordance with the problems and research objectives that have been described previously, the research method used is the experimental method. Treatment with data collection techniques using tests. This treatment was carried out for 6 weeks with a frequency of exercise 3 times a week.

The variables studied in this study were decline push up and bench dip exercises as the independent variables and arm muscle strength as the dependent variable. In practice, before the athlete is given treatment, the athlete first performs a pre-test, namely by testing the strength of the arm muscles using an Expanding Dynamometer. Then the athletes or samples were given exercises as mentioned above, namely decline push up exercises and bench dip exercises with a pre-arranged training program.

Then after 6 weeks of undergoing programmed training, at the beginning of the 7th week the sample did a final test (post-test) the same as the initial test which is useful to find out whether the form of training given can affect the athlete or sample.

The research design used was a pre-test and post-test one group design. The study was conducted for 16 meetings (6 weeks), with a frequency of 3 times a week. Where the pre-test data is taken then given the treatment and at the end the post-test data is taken.

Table 1. One Group Pre-Test and Post-Test Design

Pre-test (T1)	Treatment	Post-test (T2)
Arm muscle strength test using an Expanding Dynamometer	Decline Push Up and Bench Dip exercises	Arm muscle strength test using an Expanding Dynamometer

Source: Arikunto, 2006

The assessment in this study was a test of the results of arm muscle strength. the results of the arm muscle strength test were given after the administration of decline push up exercises and bench dip exercises

which were performed. The technique for obtaining data is by testing the arm muscle strength of the Serdang Bedagai Volleyball Club Athlete Puma Volleyball.

RESULT AND DISCUSSION

This study aims to determine the effect of decline push up and bench dip exercises on the arm muscle strength of Serdang Bedagai Volleyball Club athletes in 2022. This can be seen from the increase in the average value of arm muscle strength which shows significant results in decline training. push ups and bench dips on the arm muscle strength of Puma Volley Club Volleyball Serdang Bedagai athletes, with intensive and regular training carried out for 6 (six) weeks with 3 (three) meetings a week (18 training meetings), in order to obtain significant findings in this study.

From the calculation data on the results of testing the hypothesis on the arm muscle strength of the Serdang Bedagai Volleyball Club athletes, it is obtained $t_{count} = 5.63$ and $t_{table} 1.90$ with $dk (n - 1) = (8 - 1) = 7$ at a significant level of $0.05 (\alpha = 5\%)$, it can be stated that $t_{count} > t_{table} (5.63 > 1.90)$. Based on the criteria for testing the hypothesis, H_a is accepted and H_o is rejected. It can be concluded that there is an effect of decline push up and bench dip exercises on the arm muscle strength of Puma Volley Club Volleyball Serdang Bedagai athletes in 2022.

Based on the background of the problem written, the results obtained are that it can be interpreted that decline push up and bench dip exercises are one of the exercises that are quite influential in increasing arm muscle strength in Puma Volley Club Volleyball Serdang Bedagai athletes. This research was also achieved due to the enthusiasm and motivation of the athletes who were good at doing the exercises and carrying out the training programs that had been well planned by the researchers. Likewise with good technique mastery and athlete discipline during decline push up and bench dip exercises, giving good results on arm muscle strength.

During the training process the athletes were enthusiastic about doing the exercises that the authors provided, on the one hand the athletes had never received a physical exercise program as the authors provided, they more often received physical exercises such as running around the field just not focusing on muscle strength training, in carrying out the training program the only problem is in the discipline of time, they are not on time, some are always late for the given practice time, in practice everything goes quite well, the athlete's response is also good, they have no complaints about the training program, from the beginning to the end of the entire training process running smoothly.

The Decline Push-Up and Bench Dip exercises aim to increase arm muscle strength, so why this exercise is influential in increasing arm muscle strength is because in this form of exercise the movement focuses on the arm muscles and the load is on the athlete himself, the movement begins by bending arm from a straight position, then bending the arm until the athlete's body position drops down and then lifts it up again by straightening the position as before (starting stance), the movement is repeated and indeed this exercise focuses on training arm muscle strength in the triceps and biceps muscles, the daily impact that occurs after using the Decline Push-Up and Bench Dip forms of exercise in terms of the muscles seen is that there is no development or no muscle building during the training period, but can be seen in the results of the muscle strength test it appears that the results have increased, can We can see from the results of the pre test and posttest results that this exercise has an effect on increasing arm muscle strength for Puma Volley Club Volleyball Serdang Bedagai athletes.

The results obtained from the 2 forms of exercise given to Puma Volleyball Club Volleyball athletes Serdang Bedagai stated that the 2 forms of exercise had an effect on increasing the arm muscle strength of athletes Puma Volleyball Club Volleyball Serdang Bedagai why the author focuses on training arm muscle strength only, because in LTAD it is explained that the main focus of the form of physical training is to train basic strength, which is a component of physical condition, so that when the basic strength component is formed the athlete is able or has easier to undergo or enter the next stage of training, such as power training, endurance, flexibility and other components of physical condition.

CONCLUSION

Based on the discussion above, it can be concluded that there is a significant effect of Decline Push Up exercises and Bench Dip exercises on the arm muscle strength of Puma Volley Club Volleyball Serdang Bedagai athletes in 2022.

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