

THE EFFECT OF LEG MUSCLE STRENGTH TRAINING ON SQUATTING LONG JUMP ABILITY IN STUDENTS OF SENIOR HIGH SCHOOL 1 KUTACANE CLASS XI SCHOOL YEAR 2024/2025

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Abstrak

The research entitled "The effect of training "Limb Muscle Strength on the ability of long jump squatting style in SMA Negeri 1 Kutacane Class XI Students of the 2024/2025 Academic Year". This study aims to reveal the effect of training "Limb Muscle Strength on squatting style long jump ability in SMA Negeri 1 Kutacane Class XI Students of the 2024/2025 Academic Year totaling 124 people. The research sample was 35% of the total population of 24 students. The sampling technique was determined by Random Sampling technique. This research is included in Experimental research. The research design carried out was one group pretest-posttest design. For data collection, long jump measurements were used. Based on the results of data calculation and hypothesis testing and discussion of the results of the study, the average value of the calculation of long jump ability before training "Leg muscle strength in SMA Negeri 1 Kutacane Class XI Students of the 2025/2025 Academic Year is 2.80 meters and after training 3.10 meters. Based on the analysis of the mean difference test, the value of 0.3 meters was obtained. While t count is (1.76) and t table is (1.71). It can be concluded that there is a significant influence between the ability of the long jump after and before training "Leg muscle strength in SMA Negeri 1 Kutacane Class XI Students in the 2024/2025 Academic Year. This can be proven by the comparison of the t-count value greater than the t-table, (1.76 > 1.71).

Kata kunci: Limb Muscle Strength, Squatting Style Long Jump

INTRODUCTION

Athletics is one of the oldest sports that has existed and been practiced by humans since ancient times until now. It can even be said that since the existence of humans on this earth, athletics have existed and been carried out by humans. This is because every movement in athletics such as walking, running, jumping and throwing is a manifestation of basic movements in everyday human life. In ancient times, the movements carried out by humans were very important because they were related to fulfilling their needs, namely hunting and gathering food. For this reason, primitive humans are required to have strength, speed, endurance and agility, especially in using ancient equipment such as javelins, arrows, boomerangs, stones and so on which can be obtained from doing various athletic movements even though they are not aware of it (Depdikbud, 1992: 1). In ancient times, the movements carried out by humans were very important because they were related to the fulfillment of their life needs, namely hunting and gathering food. For this reason, primitive humans are required to have strength, speed, endurance and agility, especially in using ancient equipment such as javelins, arrows, boomerangs, stones and so on which can be obtained from doing various athletic movements even though they are not aware of it (Depdikbud, 1992: 1). The movements found in all sports, in essence, are basic movements derived from movements in athletics. Therefore, it is no exaggeration to say that athletics is the mother of all sports (Syarifuddin, 199: 1). Athletics is also a means of physical education for students in an effort to increase endurance, strength,

speed, agility and so on. According to Mellerowies (1992: 7) states: All movements in athletics require speed strength, in other words that strength and speed are needed including for sprinting, jumping, throwing or rejecting and all running numbers in general. Athletic sports when viewed in terms of its movement is one of the sports that has a complex natural human movement, which includes a comprehensive movement, in the implementation requires strength, speed, endurance, flexibility, and good coordination in a unity of motion. This is in accordance with Jonath's opinion (1983: 7) that: "Athletic training is a very good way to improve physical abilities in general because it will improve blood circulation. The nervous system and so is the development of basic physical abilities that meaningfully include strength, speed, endurance, flexibility and agility".

The long jump sport requires a prefix that is influenced by maximum speed and repulsion (leg power) to be able to produce the maximum jump distance. In order for coaching to achieve the desired goals, it is necessary to know several factors that influence and determine the success of an athlete, especially in athletics. These factors according to Sajoto (1988: 15) include the following: 1) Physical development, 2) Technical development, 3) Mental development, 4) The maturity of the champion is one element of physical condition, namely power or explosive power training (Sajoto, 1988: 17). While exercises that can increase explosive power (explosive power) include: 1) Jumping bouncing far forward (bounds), 2) Vertical jumps (hops), 3) Jump (jump), 4) Jump on tiptoe (leaps), 5) Short steps (skips).

Based on this, the author suspects that these physical condition components certainly have different roles in supporting a person's abilities. Among the physical components that will be examined in this study is leg muscle strength. SMA Negeri 1 Kutacane students who consist of various study programs, especially PE, have various problems. Among these problems is the level of long jump ability in students does not show significant ability. This can be seen from many athletic events that do not show encouraging achievements among fellow students, both events at school and outside school. Muscle strength is a very important component to improve overall physical condition. Therefore strength must absolutely be possessed by an athlete before he practices developing other elements, strength is the basis of all components of physical condition.

RESEARCH METHODS

This research is included in the experiment, namely research that intends to determine the effect of a treatment or training on certain variables. Experimental research is that the author deliberately seeks the emergence of variables and then controls them to be able to see their effect on other variables. To obtain data in accordance with the objectives of this study, it uses experiments, namely by giving treatment to students in the form of initial test activities, treatment or exercises and final tests. To get data in this study the steps that must be taken are: 1. The initial test (Pre Test) was conducted to obtain data describing the initial ability of the sample before receiving the "Leg Squat" exercise treatment. The initial test was carried out on the entire sample, on the ability to long jump squatting style, and took the time taken after reaching the finish line. Those results will be used as data in this study. 2. Providing the Exercise Program performed is a form of Leg Squat exercise. The training system used is a set system, in the first week 5 sets of training are given, and training is carried out for three days on Monday, Wednesday, Friday, Saturday. Set additions are made per week. 3. The Final Test (Post Test) is carried out after the training program runs four weeks, the aim is to see the extent to which the development of ability / speed in the squatting style long jump, increases after being given

the Leg Squat training program. These results will then be tested with a statistical formula to see how much influence Leg Squat training has on squatting long jump ability.

Population is the whole of the research object to be studied. In this study, the population is SMA Negeri 1 Kutacane Class XI students in the 2022/2023 academic year, totaling 124 people. . The sample is a homogeneous part that is used as a subject in research. In this study the sample collection technique used is as stated by Arikonto (1991: 94) if the subject is more than one hundred then the sample can be taken as much as 10% to 15% or 20% to 25% or more. The number of samples taken was 24 people from the population, this was taken. 19% of 124 students. The sampling technique uses Purposive sampling or a purposeful sample taken with certain considerations from the researcher.

RESULTS AND DISCUSSION

Based on the research results obtained, it is necessary to discuss them with the support of theory, so that the validity of the research results is more guaranteed. The discussion of the research results is carried out to explain the research results by comparing one scientific concept from experts related to the research problem. Thus, researchers can understand and draw a conclusion from the results of the research that has been done. The long jump is part of the jump number in athletics, which is technically and implementation is different from other jump numbers such as high jump and jump. According to the opinion of Syarufuddin (1992: 90) the long jump is a form of jumping movement lifting the legs up front in an effort to carry the body's weight point as long as possible in the air or hovering in the air which is done quickly and by making a repulsion on one leg to reach the furthest distance. Sudarminto (1993: 349) states that the main elements of the long jump with a prefix are running, departing, flying in the air, and landing. Each of these parts has its own style of movement that contributes to the achievement of jumping distance. However, the main requirement is the development of power distance. This power is developed from practicing a fast start and a strong upward jump from repulsion. So in essence, the long jump is the movement of rejecting one foot that is influenced by horizontal and vertical velocity and the force of attraction of the earth to produce a jump that is as far as possible. This exercise uses the leg as a means of supporting the body weight or external load, so that in its implementation it will have a direct effect on increasing the ability of the muscle structure or tissues of the leg muscles. The above opinion is the right reason to conclude that leg muscle strength training can be chosen as one of the models to improve the ability of tungakai muscles, especially explosive explosions so that it will affect jumps for long jump athletes. After the research obtained data on the average long jump ability before being given leg muscle strength training of 2.80 meters, while the average long jump ability after being given leg muscle strength training of 3.10 meters. While the t-table (thit) is 1.71. Thus the t-count (tit) of 1.76 is greater than the t-table (ttabel). Based on the results of the study, it is clear that leg muscle strength training has an effect on long jump ability. This proves that the exercises performed have a positive influence on the development of leg muscle abilities in general and long jump sports in particular.

CONCLUSIONS AND SUGGESTIONS

Based on the results of data calculations and hypothesis testing as well as discussion of the research results, a conclusion can be made regarding leg muscle strength training in relation to the long jump ability of SMA Negeri 1 Kutacane Class XI Students in the 2022/2023 Academic Year as follows: 1. The average value of the calculation of long jump ability before training leg

muscle strength of SMA Negeri 1 Kutacane Class XI Students of the 2022/2023 Academic Year is 2.80 meters and after training leg muscle strength is 3.10 meters, and the average difference before and after training leg muscle strength is 0.3 meters. 2. There is a significant influence between the ability of long jump after and before training on leg muscle strength of SMA Negeri 1 Kutacane Class XI Students in the 2022/2023 Academic Year. This can be proven by comparing the value of $t\text{-count} > t\text{-table}$, ($1.76 > 1.71$). In connection with the conclusions of the study, several suggestions can be made, namely: 1. For students to continue to develop themselves in various sports and do leg muscle strength training to improve leg muscle ability. 2. For coaches and athletes, especially in long jump numbers, so that they can model the results of this study, namely the leg muscle strength training method as a form of training to improve leg muscle ability. 3. For researchers, there is further research with a broader scope both in terms of research methods, subject variables, and so on, so that the results of research related to leg muscle strength training and long jump will be more tested.

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