



The Effect of Resistance Band Leg Press and Resistance Band Lying Leg Press on Leg Muscle Power Shooting Results in Athletes Aged 15-16 Years Ssb Sejati Pratama Medan Johor in 2024

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Abstract

This study aims to determine the effect of Resistance band leg press and Resistance band lie leg press exercises on the power of shooting range muscles of SSB Sejati Pratama students aged 15-16 years. The method used is an experiment with a one group pretest-posttest design. The population used in this study were all students of the Sejati Pratama Football School (SSB) totaling 35 people and a sample of 10 athletes with a sampling technique using a purposive sampling technique. The data collection technique used is by taking pre-test, treatment and post-test. Hypothesis testing of 12.256 and ttable 1.833 then ($t_{count} > t_{table}$), so it can be seen that there is a significant effect of providing variations of Resistance band leg press and resistance band lie leg press exercises on increasing muscle power including SSB Sejati Pratama students aged 15-16 years. From the Shooting data that has been done, it is known that the tcount value of the hypothesis is 7.36 and ttable 1.833 then ($t_{count} > t_{table}$), so it can be seen that there is a significant effect of providing Resistance band leg press and resistance band lie leg press exercises on increasing Shooting results of SSB Sejati Pratama students aged 15-16 years. Therefore, there is an Effect of Resistance band leg press and resistance band lie leg press Exercises on Increasing Muscle Power in Shooting Results in Students Aged 15-16 SSB Sejati Pratama in 2024.

Keywords: *Leg muscle power, Shooting, Resistance band leg press and resistance band lying leg press*

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INTRODUCTION

Football is a sport that is most favored by people around the world, both in developing countries and developed countries. According to Nidhomuddin & Suryandari (2021) soccer is a sport that knows no boundaries of age, race, rich, or poor. Players involved in this sport also reach hundreds of millions. Meanwhile, soccer fans are estimated to be more than half of the earth's population, touching all ages, from children to adults.

According to Addy Idris (2015) Football is a team game, namely two teams competing with each other which has physical, technical, tactical, and mental elements. With the aim of creating as many goals as possible, defending the goal from conceding. In line with that Agung Widodo (2018) said the game of soccer is trying to score as many goals as possible into the opponent's goal and also protect or prevent opponents from scoring goals.

According to Amir Supriadi, (2017: 2) In soccer games there are several good basic techniques that require a systematic training program, so that you will get automatic movements in playing. One of them is shooting technique. Shooting technique is one of the techniques that every soccer player must master. According to Suparno (2003: 3), shooting is kicking the ball with all your strength either with the inside leg, outside leg, or instep. Shooting techniques are useful for creating a goal. The importance of shooting techniques in soccer requires certain conditions as a basis for shooting techniques, including leg muscle power for power so that the ball can lead right into the opponent's goal.

There are several forms of factors that determine whether or not the opponent's goal kick (shooting) is done by a player. The ability to pinpoint the direction of the kick is important so that it becomes accurate. In addition to the level of accuracy of the kick, the strength of the kick is important because with a strong kick the ball can slide quickly towards the goal. The strength of the kick can make it difficult for the goalkeeper to block the kick and the chances of the ball entering the goal are greater. Leg muscle power is useful when swinging legs to kick the ball. The greater the leg muscle power, the better the kick results.

From the results of observations on August 27, 2023 at SSB Sejati Pratama students 15-16 years old where it is the golden age to develop, therefore correct and appropriate training will lead students to the peak of achievement. After being observed in training sessions and matches. The research saw that the students' leg muscle strength was weak so that the kick towards the opponent's goal did not have power and accuracy, so the opposing goalkeeper easily blocked the kick from the SSB Sejati Pratama student.

During the observation, the researcher also interviewed about the training program made by the coach of SSB Sejati Pratama, it was also answered by the coach. the answer that the researcher got from the coach was that in 1 week there would be 3 meetings, namely every Monday, Thursday and Sunday. The coach makes 2 days doing combination or variation training and 1 day physical training. Physical exercises that are made are such as running around the field, beep tests and others. This researcher did not get the training program made by the coach could not affect leg muscle power and did not use weight tools such as resistance bands.

Researchers also took statistical data in the match between SSB Sejati Pratama and SSB Sahata, in the match won by SSB Sahata with a score of 2-0. SSB Sejati Pratama excels in passing and ball control but is lacking in dual and shoot on target. There is often a loss of the ball during a duel, which is most regrettable for SSB Sejati Pratama's shooting which is very

minimal because it is often off target and not on target. According to Sucipto (2000) Good shooting ability is very useful for creating a goal in playing soccer, it would be unfortunate for a team if it could not shoot. Kicking the ball into the goal is the ultimate goal in a soccer game.

The cause of the problem of SSB Sejati Pratama students aged 15-16 years is not providing the right portion of training on the problem of the student's leg muscles. The coach does not provide a form of physical exercise to improve leg muscles in SSB Sejati Pratama students aged 15-16 years. According to Adi Imam Sarifudin (2023) the hardness of shooting produced by players is influenced by physical factors such as leg muscle power.

The following are the results of the initial test conducted by research at SSB Sejati Pratama. To strengthen the research conjecture on the problem at SSB Sejati Pratama age 15-16 years. The initial tests given to SSB Sejati Pratama students were the Vertical Jump test and the Shooting test. From the results of the Vertical jump test that the author has done, it looks unsatisfactory where no student gets a good score. In the Vertical jump test is done with two attempts and takes the highest value. After conducting the research test, the results of the Vertical jump test showed that 2 students scored very poorly with a score of 30.38 and there were 7 students who scored less with a score of 40, 43, 43, 45, 47, 48, and 49, with only 1 person with a score of 54.

In the Shooting test carried out which the author has done, there are two trials whose results are combined. After conducting the research test, the results of the shooting test showed that the shooting ability of Sejati Pratama students was classified as lacking, we can see from the results of the initial Shooting test conducted by the research that none of the students got the maximum results. The highest score is 5 as many as 3 students, score 4 as many as 2 students, score 3 as many as 4 students, and the lowest score is 2 as many as 1 student.

METHOD

This research method uses experimental quantitative research. Sugiyono (2012), revealed that experimental research is a research method used to find the effect of certain treatments on others under controlled conditions. The independent variables of this study consisted of resistance band leg press and resistance band lying leg press. The dependent variable consists of two variables, namely leg muscle power and shooting results in 15-16 year old SSB Sejati Pratama students. In this study, the population was all students at the Sejati Pratama Soccer School (SSB) totaling 35 people. The sample used in this study were students of SSB Sejati Pratama Tagun 2023, In this sampling using total sampling technique, namely as a group of the population sampled. The size of the sample taken is guided by Sugiyono's

opinion (2018) the sample is a journal of the characteristics possessed by the population. In accordance with the above opinion, this researcher wants to examine part of the population with a total of 10 students aged 15-16 years. The data collection technique was carried out during the pretest and posttest. Data analysis techniques in this study used normality test, homogeneity test, and hypothesis testing in this case using the t test.

RESULTS AND DISCUSSION

Result

Table 1. Normality Test

DATA	L_{count}	L_{table}	Information
<i>Pre-test</i> <i>Vertical Jump</i>	0,0618	0,258	Normal
<i>Post-test</i> <i>Vertical Jump</i>	0,0735	0,258	Normal
<i>Pre-test</i> <i>Shooting</i>	0,0808	0,258	Normal
<i>Post-test</i> <i>Shooting</i>	0,0409	0,258	Normal

From the vertical jump pre-test data, $L_{calculated} = 0.0618$ $L_{table} 0.258$ with $n = 10$ and a real level of 0.05. Because $L_{calculated} < L_{table}$, it can be concluded that the sample comes from a normally distributed population. From the vertical jump post-test data obtained $L_{calculated} = 0.0735$ and $L_{table} 0.258$ with $n = 10$ and a real level of 0.05. Because $L_{calculated} < L_{table}$, it can be concluded that the sample comes from a normally distributed population.

From the pre-test Shooting data obtained $L_{calculated} = 0.0808$ and $L_{table} 0.258$ with $n = 10$ and a real level of 0.05. Because $L_{calculated} < L_{table}$, it can be concluded that the sample comes from a normally distributed population. From the Shooting post-test data, $L_{calculated} = 0.0409$ and $L_{table} 0.258$ with $n = 10$ and a real level of 0.05. Because $L_{calculated} < L_{table}$, it can be concluded that the sample comes from a normally distributed population.

Table 2. Homogeneity Test Results

Training	Data	Varians	F_{Count}	F_{table}	A	Conclusion
Resistance band leg press and resistance band lying leg press exercises on leg muscle power	Pre-test	44,45	1,03	3,18	0,05	Homogen
	Post-test	47,87				
Resistance band leg press and resistance band lying leg press exercises on shooting	Pre-test	1,16	1,75	3,18	0,05	Homogen
	Post-test	3,56				

Based on the results of resistance band leg press and resistance lying leg press exercises on leg muscle power, the results of $F_{\text{calculated}} = 1.03$ at the $\alpha = 0.05$ level obtained $F_{\text{table}}(10,10) = 3.18$. Then $F_{\text{hitung}} 1,03 < F_{\text{table}} 3,18$. It is concluded that this research data is homogeneous. Based on the results of the resistance band leg press and resistance lying leg press exercises on Shooting, the results of $F_{\text{calculated}} = 1.75$ at the $\alpha = 0.05$ level obtained $F_{\text{table}}(10,10) = 3.18$. Then $F_{\text{hitung}} 1,75 < F_{\text{table}} 3,18$. It is concluded that this research data is homogeneous.

Based on the results of descriptive statistics, the average training results of pre-test data of 43.7 and post-test data of 48.9 showed a descriptive difference and an increase in the average value of the two sets of data. This finding is based on statistical calculations using the t-test.

Tabel 3. Hypothesis I

T count	T table	information
12,09	1,833	$T_{\text{count}} > T_{\text{table}}$

The calculated T value of $12.06 > T_{\text{table}} 1.833$ (df $n-1 = 9$) which shows H_0 is rejected and H_a is accepted, according to the table above. Thus "There is an Effect of Exercise Resisitance band leg press and resisitance band lying leg press on Increasing Limb Muscle Power in Students Age 15-16 Years 2024 Ssb Sejati Pratama".

Based on the results of descriptive statistics, the average training results of the pre-test data of 7.5 and post-test data of 11.7 showed a descriptive difference and an increase in the average value of the two sets of data. This finding is based on statistical calculations using the t-test.

Tabel 4. Hypothesis II

T count	T table	information
7,36	1,833	$T_{\text{count}} > T_{\text{table}}$

The calculated T value of $7.36 > T_{\text{table}} 1.833$ (df $n-1 = 9$) which shows H_0 is rejected and H_a is accepted, according to the table above. Thus "There is an Effect of Exercise Resisitance band leg press and resisitance band lying leg press on Increasing Shooting Results in Students Age 15-16 Years 2024 Ssb Sejati Pratama.

Discussion

Thus "There is an Effect of Exercise Resisitance band leg press and resisitance band lying leg press on Limb Muscle Power in Students aged 15-16 years SSB Sejati Pratama 2024

and the calculated T value of $7.36 > T_{table} 1.833$ (df $n-1 = 9$) which shows H_0 is rejected and H_a is accepted, according to the table above. Thus "There is an Effect of Exercise Resistance band leg press and resistance band lying leg press on Increasing leg muscle Power shooting results in Students Age 15-16 Years SSB Sejati Pratama Year 2024.

For this reason, researchers provide resistance band training to overcome the above problems. Resistance band training is an exercise method that can be used to increase strength and speed which has a very wide application in sports activities, and specifically this exercise is very useful for increasing leg muscle power. Resistance bands are sports equipment made of rubber which is useful for adding weight to the workout movements performed. According to Ismayawati (2016) where a combination of resistance band exercises is effectively used to increase jump height and leg strength, increase speed, agility. This is in line with the opinion of Suharjana (2013) that weight training is a form of exercise that uses weight tools with the aim of improving fitness, muscle strength, speed, muscle toning, muscle hypotherapy, rehabilitation, increasing weight, losing weight. Resistance band training has several forms of exercise. For this reason, researchers chose two forms of exercise, namely resistance band leg press and resistance band lying leg press.

CONCLUSION

Based on the research results that have been obtained by analyzing and testing hypotheses, it can be concluded that the data is significant which can be seen from the value of tcount greater than ttable which shows that the null hypothesis is rejected and the alternative hypothesis is accepted. Thus "There is an Effect of Exercise Resistance band leg press and resistance band lying leg press on increasing leg muscle power Shooting Results in Students Age 15-16 SSB Sejati Pratama in 2024".

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