



The Influence of *Sit-Up* and *Squat-Jump* Practice on Football Leading Results in Class Viii Students of SMP Negeri 8

Watampone

Muzakkir^{1*}, Andi Ogo Darminto², Umrah Bahar³, Adli Azhari⁴
Universitas Muhammadiyah Bone

Corresponding Author: Muzakkir zakkir472@gmail.com

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ABSTRACT

The purpose of this study was to find out the effect of sit-up and squat-jump exercises on the results of heading soccer games for class VIII male students of SMP Negeri 8 Watampone. This research was a quasi-experimental study with a "pre-test and post-test group design. The instrument in this study was the ball heading test (Nurhasan, in Huda, 2012: 73). The sampling technique uses purposive sampling with the following criteria: (1) Sampling must be based on certain characteristics, which are the main characteristics of the population; (2) The subjects taken as samples are truly the subjects that contain the most characteristics found in the population. The research subjects used were male students of class VIII SMP Negeri 8 Watampone, which consisted of 20 students. Based on the results of the study, there was a significant effect of sit-up exercises on the results of heading soccer games in male students of class VIII SMP Negeri 8 Watampone, with a mean pre-test of 4.01, a mean post-test of 5.63, and a p value of $0.017 < 0.05$. There was a significant effect of squat jump training on the results of heading soccer games in male students of class VIII SMP Negeri 8 Watampone, with a mean pre-test of 3.73, a mean post-test of 4.61, and a p value of $0.014 < 0.05$. Sit-up exercises are more effective than squat jump exercises for the results of heading soccer games in male students of class VIII SMP Negeri 8 Watampone, with a post-test difference of 1.015. Sit-up exercises are more effective than squat jump exercises, according to the results of heading football games in male students of class VIII SMP Negeri 8 Watampone, with a post-test difference of 1.015.

INTRODUCTION

Education is the process of changing the attitudes and behaviors of a person or group of people in an effort to mature humans through teaching and training efforts, processes, methods, and educational actions (Center for Language of the Ministry of National Education, 2002). According to Law No. 21 of 2003 (in Arif 2017: 108), education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills that are needed by themselves, society, the nation, and the state. In the world of education, there are various kinds of subjects, both at the elementary, middle, and high school levels. Particularly at the junior high school level, the subjects taught are complete and complex, including science, social studies, Indonesian, foreign languages, the arts, physical education, and others. Among the types of subjects taught, physical education is one of the subjects favored by junior high school students.

Sport is a form of planned and structured physical activity that involves repetitive body movements and is intended to improve physical fitness. Exercise is part of the basic needs of everyday life because it can increase one's immune system. Exercise can start at an early age and be done every day. According to Janpurba (in Ilham, 2021: 35), if a person does regular exercise, he will be able to increase his muscle mass because this exercise can stimulate muscle cells to grow bigger, and muscle cells that were originally resting will return to being active again. Sport has two goals: health and achievement.

Sports with the aim of maintaining health are described above, while sports for achievement, namely sports, are intended for anyone who wants to develop the interests and talents that exist within him to achieve glorious achievements. Sports activities are generally focused on practical activities in the field.

Football comes from two words, namely "football" and "ball." Kicking or kicking can be interpreted as kicking (using the foot), while "ball" is a round game tool made of rubber, leather, or the like. In a soccer game, a ball is kicked to and fro by the players. So in short, the meaning of football is a game that is carried out by kicking the ball to and fro, which is carried out by players, with the aim of putting the ball into the opponent's goal (Afdal 2019: 15). The goal to be achieved in this coaching is mastery of body movements. Exercise with the ball alone offers a lot of variety. A professional and quality soccer player clearly requires several abilities, including physical, technical, tactical, and mental.

According to Muchtar (in Pratomo, 2016: 11), football technique is divided into two parts, namely "body technique" and "ball technique". Body technique is a way for players to master their body movements in a game, which in this case involves how to run, jump, and feint. The ball technique is the way players control the ball, which consists of several types, namely kicking the ball, dribbling, controlling or holding the ball, heading the ball, seizing the ball, throwing in, feinting with the ball, and goalkeeper techniques. The

technique most often used in football is the technique of heading the ball (heading). Heading the ball (heading) is greatly influenced by the strength of the abdominal and leg muscles. These physical abilities are especially emphasized in the parts of the body that play a special and important role in heading, so one of the components of physical ability needed is the strength of the abdominal muscles and leg muscles (thighs and calves), in this case sit-ups and squat jumps.

LITERATURE REVIEW

Based on the results of the author's observations in the field when carrying out observation activities at SMP Negeri 8 Watampone, class VIII students, especially male students, are still very lacking when carrying out football sports activities. It can be seen when they do heading that is not very good or not far enough, and when carrying out training for these students, they pay little attention to physical conditions that really help heading skills in soccer games, such as sit-ups and squat jump exercises, so that when they do heading, they often experience difficulties or always get unsatisfactory results for teachers or coaches. This is shown when heading the ball is not optimal, so when heading the ball, sometimes the ball is not too far due to the lack of training given to students. The exercises referred to in this case are sit-ups and squat-jump exercises.

Based on the results of field observations that have been carried out, the writer will carry out a study entitled "The Effect of Sit-Up and Squat Jump Exercises on the Results of Heading Soccer Games in Male Students of Class VIII SMP Negeri 8 Watampone".

METHODOLOGY

This type of research is quasi-experimental. According to Suryabrata (2019: 92), "The purpose of quasi-experimental research is to obtain information that is an approximation of the information obtained by actual experiments in circumstances that do not allow control and manipulation of all relevant variables."

According to Sugiyono (2013: 72), in experimental research, there is treatment, whereas in naturalistic research, there is no treatment. Thus, the experimental research method can be interpreted as a research method used to find the effect of certain treatments on others under controlled conditions.

The experimental method is a way to look for a causal relationship between two factors that the researcher deliberately causes by eliminating, reducing, or setting aside other factors that can interfere. Experiments are always carried out with the intention of seeing the effects of a treatment (Arikunto, in Fajar 2017).

Experimental research has many kinds of designs; the use of these designs is adjusted to the main research aspects of the problem to be disclosed. The research design used in this study is the "pre-test and post-test group" design (Arikunto, 2013: 124). The research design can be described as follows:

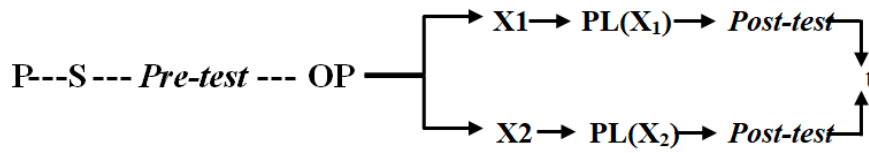


Figure 3.1 Research Design
(Source: Fajar, 2019)

Description:

Q: Population

S: Sample

Pre-test: Preliminary Ball Heading Test

OP: Ordinal Pairings

X1: Experimental Group A (Sit up exercise)

X2: Experimental Group B (Squat Jump Exercise)

PL(X1): Sit up exercise treatment

PL(X2): Squat jump exercise treatment

Post-test: Ball heading final test

T: Impact of Exercise Results

This study aims to determine how much the ratio of sit-ups and squat jump exercises contributes to the results of heading the ball. Furthermore, information testing was carried out involving the information checking strategy in this review, which used the t-test with a sig level of 0.05 using the SPSS 20 application.

RESEARCH RESULT

Descriptive Analysis

1. Pre-test and post-test results of group A sit-ups for class VIII male students at SMP Negeri 8 Watampone

The results of the study are described using descriptive statistical analysis as follows: For pre-test results, the minimum value is = 1.40, the maximum value is = 7.70, the average (mean) = 4.01, the median value (median) = 4.05 , the value often appears (mode) = 4.70, with a standard deviation (std. deviation) = 1.87 For the post-test results, the minimum value = 3.65, the maximum value = 7.20 average (mean) = 5, 63, median (median) = 5.60, frequently occurring (mode) = 5.60, and the standard deviation (std. deviation) = 1.14. In detail, see the following table:

Table 4.1 Descriptive Analysis Pre test and post test results of the sit up group heading

Statistik	Pre Test A Sit up	Post Test A Sit up
N	10	10
Mean	4,0100	5,6300
Median	4,0500	5,6000
Mode	4,70	5,60
Std. Deviation	1,87466	1,14727

<i>Minimum</i>	1,40	3,65
<i>Maximum</i>	7,70	7,20

2. Pre-test and post-test results of group B heading squat jump for male students of class VIII SMP Negeri 8 Watampone

The results of the study are described using descriptive statistical analysis as follows: For pre-test results, the minimum value is = 1.80, the maximum value is = 5.80, the average (mean) = 3.73, the median value (median) = 3.60, and the value that often appears (mode) = 1.80, with a standard deviation (std. deviation) of 1.44. For the post-test results, the minimum value = 3.10, the maximum value = 5.80 average (mean) = 4.61 , the mean value (median) is 4.65, the value that occurs frequently (mode) = 5.80, with a standard deviation (std. deviation) of 0.94. In detail, see the following table:

Table 4.4 Descriptive Analysis Pre test and post test results of group B squat jump heading

Statistik	<i>Pre Test B Squat jump</i>	<i>Post Test B Squat jump</i>
N	10	10
<i>Mean</i>	3,7300	4,6150
<i>Median</i>	3,6000	4,6500
<i>Mode</i>	1,80	5,80
<i>Std. Deviation</i>	1,44611	0,94753
<i>Minimum</i>	1,80	3,10
<i>Maximum</i>	5,80	5,80

HYPOTHESIS TEST

The hypothesis in this study uses a paired sample t test and an independent sample t test. The t test was used to determine whether there was an increase in the results of heading the ball with sit-ups and squat jumps based on the results of the pre-test and post-test. The conclusion of the study is stated to be significant if the t count > t table and the probability value (sig.) > 0.05 then there is no increase (Sugiyono, 2013: 163). The results of hypothesis testing are as follows:

1) The results of the pre-test and post-test sit-up

The first t-test was used to test the hypothesis, which read, "There is a significant effect of sit-up exercises on the results of heading in the soccer game of class VIII male students of SMP Negeri 8 Watampone. Based on the results of the analysis, the following data were obtained: The full results are presented in the table below.

Table 4.9 The results of the t pre test and post test sit up

<i>sit up exercise</i>	Mean	t _{hitung}	t _{tabel}	Mean Defference	Sig. (2-tailed)
<i>Pre test</i>	4,0100	2,908	2,262	1,62000	0,017
<i>Post test</i>	5,6300				

Based on the results of the analysis of the t test on the results of heading the ball with sit-up exercises, the mean pre-test is 4.01 and the mean post-test is 5.63 while the t count value is 2.908 > t table is 2.262 and the p value (sig.) (0.017) < than 0.05. So that there is a significant effect of sit-up exercises on the results of head football games in male students of class VIII SMP Negeri 8 Watampone. When displayed in the form of a statistical diagram, the data on the results of heading a football game for male students of class VIII SMP Negeri 8 Watampone with sit-up exercises can be seen in the following figure:

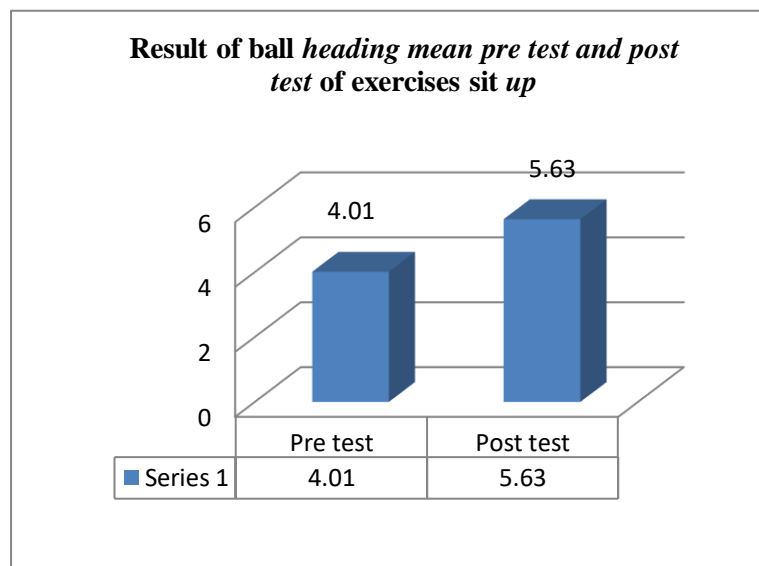


Figure 4.5 Figure diagram of the mean pre test and post test sit up exercises

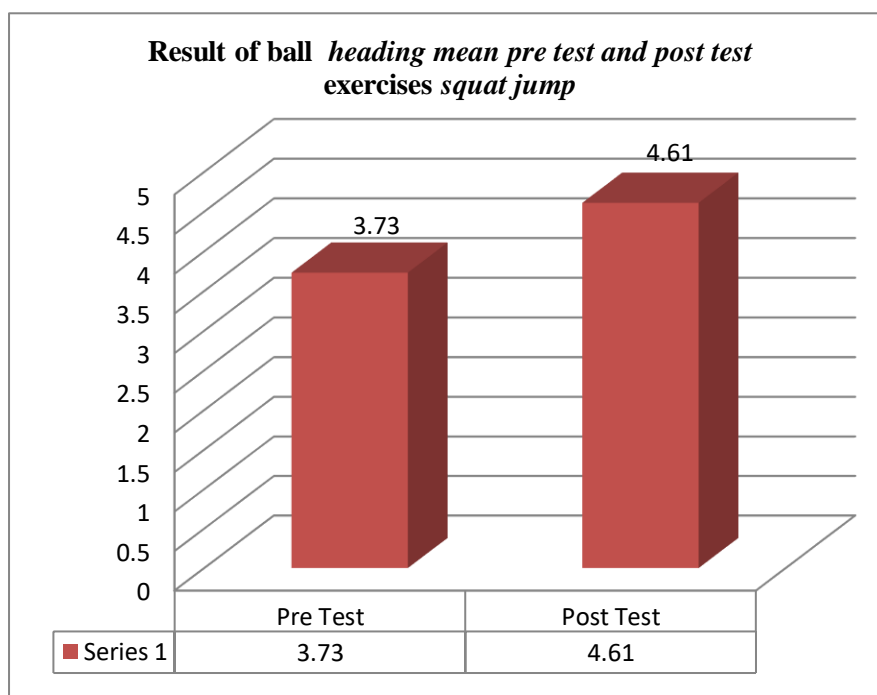
2) The results of the t pre test and post-test squat jump

The second t-test was used to test the hypothesis, which reads "There is a significant effect of squat jump training on the results of heading in the soccer game of class VIII male students of SMP Negeri 8 Watampone" Based on the results of the analysis obtained, the following data were The full results are presented in the table below.

Table 4.10 The results of the t pre test and post test squat jump

<i>Squat jump exercises</i>	Mean	t _{hitung}	t _{tabel}	Mean Defference	Sig. (2-tailed)
<i>Pre test</i>	3,7300	3,030	2,262	0,88500	0,014
<i>Post test</i>	4,6150				

While the results of the analysis of the t test on the squat jump exercise obtained mean pre-test results of 3.73 and 4.61 post-test, The result of the t count value is 3.030 > t table 2.262 and the p value (sig.) (0.014) < than 0.05. So that there is a significant effect of the squat jump exercise on the results of heading football games in class VIII male students of SMP Negeri 8 Watampone. When displayed in the form of a data diagram, the results of heading a soccer game to male students of class VIII SMP Negeri 8 Watampone with the squat jump exercise can be seen in the image below:



4.6 Figure diagram of the mean pre test and post test squat jump exercise

3) T-test results Comparison of post-test sit-ups and squat jump exercises

The third hypothesis, "There is a significant difference in the results of sit-up and squat jump exercises on the results of heading in the soccer game of class VIII male students of SMP Negeri 8 Watampone", can be seen through the difference in the post-test between the sit-up practice group and the squat-jump practice post test. The results of the post-test analysis of the results of heading the ball with the sit-up exercise method and the squat jump exercise can be seen in the table below. The full results are presented in the table below.

Table 4.11 Results of the t-test Comparison of the post-test sit-up and squat jump exercises

Group	Mean	t _{hitung}	t _{tabel}	Mean Defference	Sig. (2-tailed)
Post test sit up	5,6300	2,157	2,101	1,01500	0,045
Post test squat jump	4,6150				

From the results of the t test on sit-up exercises, the mean post-test results were 5.63, and for the squat jump, the mean post-test results were 4.61. It can be seen that the t-value is $2.157 > t\text{-table } 2.101$, and the significant value is $p \text{ (sig.) } 0.045 < 0.05$. With a difference in the post-test results of groups A and B of 1.015. The results of this test are to show if sit-up exercises are more effective than squat jump exercises. The results of heading football games in male students of class VIII SMP Negeri 8 Watampone can be seen in the image below:

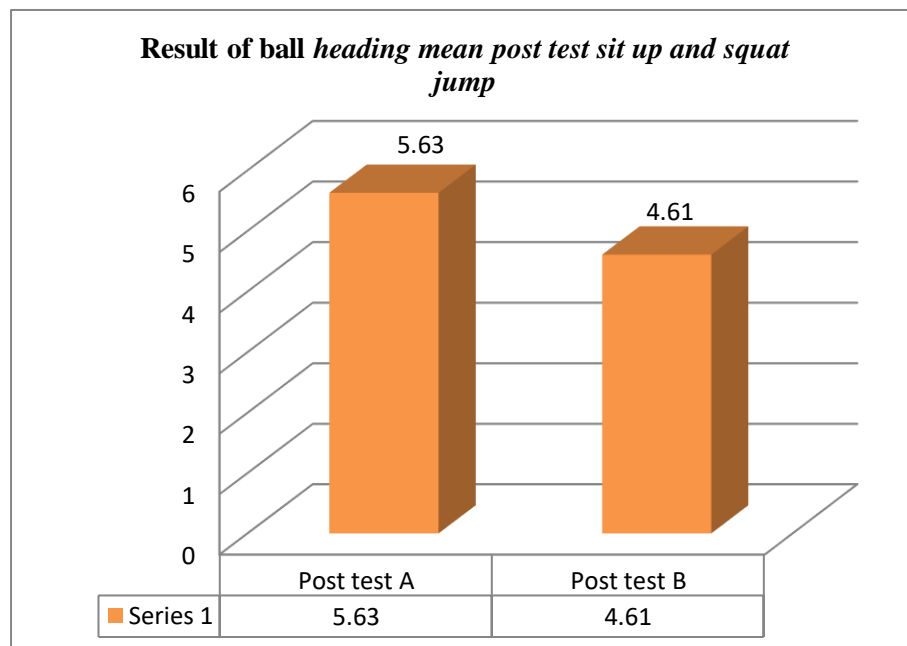


Figure 4.7 Diagram of the mean post test sit up and post test squat jump

DISCUSSION

1. Effect of Sit up Exercise

Sit-up exercises, namely sitting lying down, involve a transfer of the center of body weight from the whole body while lying down to some of the muscles of the waist. When the body is in a sitting position, a contraction occurs that involves some of the muscles in the front of the body, while the muscles of the two legs contract very little (Aziz, 2016: 116).

This exercise is quite popular with students who are used to physical exercises such as sit-up exercises, so there are no significant obstacles to

undergoing the training process. In contrast to students who were not used to doing physical exercises or sit-up exercises, they had quite a few difficulties in the first few meetings lifting their bodies, but after going through the process, the students were able to adapt to the exercises given.

Based on the results of the sit-up exercise t test analysis, the mean pre-test data was 4.01 and the mean post-test was 5.63. So it can be concluded that there is a significant effect of sit up exercises on the results of head football games in male students of class VIII SMP Negeri 8 Watampone.

2. The Effect of *Squat jump* Exercise

Squat jump is a form of exercise that involves lowering the body position to a half-squat with hands intertwined behind the head, moving up strongly, and keeping the head upright. Sajoto (in Rokhman, 2011: 7)

The exercise is quite liked by students because the squat jump exercise is not difficult compared to the sit-up exercise. In practice, the repetition of this exercise is the same as the sit up exercise; it's just that the squat jump exercise is easier to do than the sit-up exercise.

Based on the results of the t test, the mean pre test was 3.73 and the mean post-test was 4.61. So these results show that there is a significant effect of squat jump training on the results of head football games in male students of class VIII at SMP Negeri 8 Watampone.

CONCLUSIONS AND RECOMMENDATIONS

Based on the research results obtained through data analysis and hypothesis testing, the following

1. There is a significant effect of sit-up exercises on the results of heading soccer games in male students of grade VIII SMP Negeri 8 Watampone, as indicated by the tcount value of $2.908 > t$ table of 2.262 and the value of p (sig.) $(0.017) < 0.05$ with a distance difference of 1.62.
2. There is a significant effect of squat jump training on the results of heading soccer games in male students of grade VIII SMP Negeri 8 Watampone, as indicated by t count $3.030 > t$ table 2.262 and p value (sig.) $(0.014) < 0.05$ with a distance difference of 0.885.
3. Sit up exercises were more effective than squat jump exercises on the results of heading football games in male students of class VIII SMP Negeri 8 Watampone, with a difference in the post-test of 1.015.

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