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Efforts to Improve the Long Jump Ability of the Squart Style through Rubber Paralon Jump Exercises for PJKR-SD FIK UNM Students

Ikadarny[1ABC*], Muhammad Akbar Syafruddin[2DE]

[1]Faculty of Sports Sciences, Makassar State University, Makassar, Indonesia
[2]Faculty of Sports Sciences, Makassar State University, Makassar, Indonesia
*Coresponding Author: ikadarny@unm.ac.id

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ABSTRACT
This research is experimental research conducted to find out whether rubber paralon jumping training can improve the squatting style long jump ability of PJKR-SD FIK UNM students. This research was conducted at the Faculty of Sports Science, Makassar State University in the odd semester of 2024. The sample in this research was 20 male students of the PJKR-SD FIK UNM Study Program, which was determined using a random sampling technique. Data analysis was carried out using the paired sample t test using the SPSS application. Based on the results of data analysis, the sig (2-tailed) value of the pre-test and post-test data for students' squatting style long jump ability was 0.000 or <0.05 with a difference in mean value of -18.050. So it can be concluded that rubber paralon jumping training has been proven to be able to improve the long jump squatting style of PJKR-SD FIK UNM students.

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INTRODUCTION

Martiani et al. (2024) defines athletics as a collection of sports which include running, walking, throwing and jumping. This sport is considered the oldest form of sporting activity in human civilization (Sudarsono et al., 2024). In British culture and some other countries, this athletic activity is referred to as track and field, denoting a combination of running, jumping, and throwing. Someone who takes part in athletic sports is called an athlete (Budi, 2015). Athletics is generally considered the ancestor of sports. Jumping is a discipline in athletics that involves various movements. This is also done a lot in other sports. Jumping has significant popularity in the world of sports because it serves as an indicator of a

person's strength. As an illustration, consider the jumps of athletes competing to demonstrate their physical prowess by trying to jump as far as possible. Likewise, high jump athletes want to show their strength by reaching the highest height. Jumping and jumping are often mistakenly considered the same, but in reality they differ in the number of legs used (Rinaldi et al., 2022). Jumping involves the use of one leg, while skipping involves the use of two legs (Alif & Sudirjo, 2019). The difference lies in the use of leg count.

According to Adang Suherman et al. (2001), long jumping is a locomotor ability that involves pushing oneself from one place to another by pushing forward as hard as one can(Armanda et al., 2019). The fundamental premise of the long jump is to obtain maximum initial speed while maintaining the ability to generate a powerful upward thrust with one leg to gain the height necessary to achieve a significant jump distance. Therefore, a skilled jumper must have adequate physical and technical abilities. The jumper's physical condition will have a direct impact on his starting speed and his pushing force in the long jump. As a result, the synchronization of initial movement and thrust movement is highly dependent on technical proficiency. As long as the initial speed and force applied during the start and push are carried out with the correct procedures, the results of the jump will also be good. An example of the most extraordinary athlete in the world is Mike Powell, an American long jumper who reached an incredible distance of 8.95 meters (Rayhan, 2019). Powell's achievements are still unmatched, because his world record has not been broken to date.

According to Sukadiyanto and Dangsina Muluk (2011), training is a transformative process that aims to improve the physical quality, functional capacity of the body, and psychological well-being of children (Rahmadani & Sulistyarto, 2024). According to James Tangkudung and Wahyuningtyas Puspitorini (2012), training is a repetitive and progressive activity that aims to increase potential and achieve optimal performance (Ramadhan, 2018). Training is a methodical and repetitive process where the quantity of load and intensity of training increases gradually over time. The term "exercise" comes from the English words "practice", "exercise", and "training" (Wati et al., 2018). Paralon is a plastic pipe composed of various combinations of vinyl materials. The term "Paralon pipe" is a synonym for polyvinyl chloride (PVC) (Nuâ et al., 2019).

Paralon pipes have a longer lifespan and are highly resistant to damage, including rust, rot, and exposure to various chemicals. Rubber bands are elastic knots made from rubber that are designed to secure or tie objects together. Rubber bands are available in various sizes, from large to small, and from thick to thin. Rubber bands are made from natural rubber obtained by processing latex from rubber trees. The result is yellow rubber. Dyes are used to produce bright rubber bands. A rubber paralon is an adaptation tool made from a plastic pipe with a rubber ruler attached to it. The equipment required for future research is purpose-modified equipment, designed to be highly cost-effective, accessible, safe, inexpensive, and readily available. Simply intertwine the rubber bands one by one to form a larger, elongated structure. This rubber assembly is then placed on a single rod measuring 40 cm high and 70 cm wide, resembling a ruler. This is used as a modification for teaching students in long jump technique (Armanda et al., 2019).

It serves as a medium in training for the long jump, with the aim of improving long jump performance. Rubber paralon provides benefits as a training tool for students in jumping, with the aim of maximizing their jumping distance by increasing the force exerted by their feet. In the PJKR-SD FIK UNM study program, there are still many students who have not fully mastered the long jump technique. This is caused by a lack of understanding of long jump tactics. There are several factors that cause the low performance of PJKR-SD

FIK UNM students in the long jump sport. One of these factors is the low performance of students in sports as evidenced by the student's jumping distance which is below the optimal limit when compared to the average student jumping distance. The lack of variety and stimulation in training methods causes boredom to emerge more quickly in students who take part in lecture activities. The author is interested in conducting research on "Efforts to Improve Long Jump Ability in Squat Style Through Rubber Paralon Jumping Exercises for Students of the PJKR-SD FIK UNM Study Program.

MATERIALS AND METHODS

The research methodology used in this research is the experimental method. Experimental techniques are a study approach used to determine the impact of certain treatments on other treatments under controlled conditions (Susila, 2021). The research design used in this research is Pre-Experimental, specifically the One-Group Pretest-Posttest design. This design is carried out with a pretest before providing treatment to obtain more precise findings. This is achieved by comparing the results of the treatment with the initial conditions before the treatment was given. In this approach, testing is carried out twice, namely before the experimental test and after the experimental test. Tests carried out before the experiment are called pre-tests, while tests carried out after the experiment are called post-tests. The research sample only consisted of male students who took athletic courses. A total of 20 students actively participating in lecture activities were selected to serve as samples using random sampling techniques. To obtain the data necessary for this research, experiments and measurements were carried out. The test used in this research was the long jump assessment. The normality testing analysis approach used is the Kolmogorov-Smirnov method, with the help of SPSS 16.0 for Windows. The hypothesis testing process uses SPSS Statistics software and uses the Paired-Samples T-Test method, with a significance threshold determined at 0.05.

RESULTS

Before conducting a hypothesis test to answer the questions in this research, it is necessary to first carry out a prerequisite test. The prerequisite test that must be carried out in the t test is the normality test, which aims to find out whether the data that has been collected is normally distributed or not. The results of the normality test in this study are as follows.

Table 1. Normality Test

Data	P	α	Explanation
Pre-Test	0,451	>0,05	Normal
Post-Test	0,189	>0,05	Normal

Based on the table above, it can be seen that the probability value from the pre-test Kolmogorov-Smirnov test is 0.451 > 0.05 and the post-test is 0.189 > 0.05. So it can be concluded that the data is normally distributed. After carrying out the prerequisite tests, the next hypothesis test is carried out using t test analysis or paired sample t test. This test aims to find out whether the exercises applied can have an influence on the long jump ability of PJKR-SD FIK UNM students. The results of the hypothesis test can be seen in the following table.

Table 2. Hypothesis test

Pre-Test dan Post-	N	Mean	df	Sig (2-tailed)
Test	20	-18,050	19	0,000

Based on the table above, it is known that from the results of the hypothesis test of 20 samples, the Sig (2-tailed) value was 0.000 or <0.05, which means that the rubber paralon jumping exercise had an effect on increasing the squat style long jump ability of PJKR-SD Study Program students. FIK UNM with an average difference of -18,050.

The explanation below discusses the significant impact on results that can be observed after implementing the training treatment using rubber paralon. Based on the results of research and data analysis, the pretest long jump ability was measured at 412 cm, while for the short jump it was 372 cm. After the training process is complete, a posttest is carried out to assess the students' jumping performance after receiving training. Next, the posttest results determined that the maximum jump distance was 463 cm, while the minimum jump distance was 393 cm. After the pre-test and post-test data were collected, data analysis was then carried out starting with a normality test. The respective normality test results obtained a Kolmogorov-Smirnov test value of 0.451 for pre-test data and 0.189 for post-test data. Because both data are > 0.05 or above the significance limit, the pre-test and post-test data on students' long jump abilities are normally distributed.

After carrying out the normality test, the hypothesis test was then carried out using paired sample t test analysis. The results of hypothesis testing regarding the effect of rubber paralon jumping training on the squatting style long jump ability of PJKR-SD FIK UNM students obtained a sig (2-tailed) value of 0.000 or <0.05, meaning that there is a significant effect of training using rubber paralon on long jump results. squatting style of PJKR-SD FIK UNM students. Utilizing rubber paralon jumping exercises in long jump sports can significantly improve jumping performance. Therefore, incorporating this training approach into an athletic training program for students is beneficial.

According to Sukadiyanto and Dangsina Muluk (2011) in (Rahmadani & Sulistyarto, 2024), training is a transformative process that aims to improve the physical quality, functional capacity of the body, and psychological well-being of children. According to James Tangkudung and Wahyuningtyas Puspitorini (2012) in (Ramadhan, 2018), training is a repetitive and progressive activity that aims to increase potential and achieve optimal performance. Training is a methodical and repetitive process where the quantity of load and intensity of training increases gradually over time (WHISNU, 2022). The term "exercise" comes from the English words "practice", "exercise", and "training" (Wati et al., 2018). Paralon is a plastic pipe composed of various combinations of vinyl materials. The term "Paralon pipe" is a synonym for polyvinyl chloride (PVC) (Nuâ et al., 2019). It serves as a medium in training for the long jump, with the aim of improving long jump performance. Rubber paralons provide benefits as a training tool for students in jumping, with the aim of maximizing their jumping distance by increasing the force exerted by their legs (Armanda et al., 2019).

Efforts to improve student learning outcomes in the lecture process are the responsibility of every lecturer. Especially in long jump athletics courses, of course appropriate methods are needed to encourage student success in achieving the goals they want to achieve (Ismoko & PUTRO, 2017). In the field of physical education and sports, achievement cannot be achieved without consistent and continuous practice (Syafruddin et al., 2022). Moreover, to improve an athlete's performance, of course more effort and training is required compared to the learning process at school or college (Gani, 2020). For example, in this research, improving students' long jump squatting style can be done by

applying the rubber paralon jumping training method. Where the results of this research are strengthened by research conducted by (Armanda et al., 2019) with different samples.

CONCLUSION

Based on the results of research and data analysis, it can be concluded that rubber paralon jumping training can improve the squatting style long jump ability of PJKR-SD FIK UNM students. So it is hoped that this research can provide input in efforts to improve long jump performance by providing early training through various existing training methods.

CONFLICT OF INTEREST

There are no conflicts of interest in this article.

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