

THE EFFECT OF PLYOMETRIC TRAINING ON BASKETBALL LAY UP SHOOT ABILITY

Rury Rizhardi, Bambang Priyono, Nasuka, Hadi

¹ Universitas Negeri Semarang

² Universitas Negeri Semarang

³ Universitas Negeri Semarang

⁴ Universitas Negeri Semarang

*Corresponding author: ruryrizhardi@students.unnes.ac.id

Abstract: The issue in this research is the lack of lay-up shooting skills among the athletes of Rajawali Lahat basketball club, this prevented the Rajawali Lahat club from winning several basketball championships. Therefore, it is necessary to apply plyometric exercises to improve the lay up shooting ability of Rajawali Lahat athletes. This research employs two variables, the independent variable being plyometric training, and the dependent variable being the results of lay-up shooting. The sample in this research used a total sampling technique totaling 26 people. The research method used in this research is the experimental method and the data collection technique used is tests and measurement of training results and using the statistical data analysis technique t-test. Based on the results of data analysis, the average initial ability value (pretest) was 4.26 meanwhile, the average result of the final test (post-test) was 5.57. Furthermore, the existence of an influence is also proven through testing the research hypothesis H_0 where the $t_{count} > t_{table}$ values are $10.71 > 1.7$. Therefore, it can be concluded that H_0 is rejected and H_a is accepted, indicating that there is an effect of plyometric exercises on the results of lay-up shooting in the Rajawali Lahat basketball club.

Keywords: Plyometric Exercises, Lay Up Shoot, Basketball

© 2024 Universitas Negeri Semarang

INTRODUCTION

Sports have become a culture in the lives of people in Indonesia. One of the sports that is in great demand in Indonesia is the sport of basketball. Sports is defined as physical activity activities as a result of which it allows its practitioners to receive maximum health and achievement (Yenes et al., 2023). Basketball is one of the popular and popular sports and is also a sport for everyone that can be played by anyone, be it athletes, students and the general public both indoors and outdoors. Basketball is a means to channel a child's talents and interests (Rahman Arif & Ivano Avandi, 2022). The goal of this game is to create as much value as possible by inserting the opponent's basketball (basket) and preventing the opposing player from getting points (Misfajar, 2019). The development of

basketball is also in great demand in Lahat Regency, precisely at the Rajawali Lahat Basketball Club. The Rajawali Lahat Club is very focused on coaching achievements, especially basketball in Lahat Regency. Coaching is one that is carried out efficiently and effectively to obtain results according to the target (Ramadhan & Siantoro, 2021). One of the coaching of sports achievements must pay attention to the age of athletes, training age, and the character of sports so that the training program can be prepared according to these measures and the goals of the competition to be aimed at (Kurniawan, 2022). A player needs to master basketball game techniques such as dribble, passing, shooting, and lay up (Misfajar, 2019). In basketball games, lay-up shots are one of the alternatives to generate as many points as possible, lay-up shots are also the most effective and efficient attack alternative. Lay up shoot is an effective type of shot because it is done and is as close to the basket as possible (Ibrahim, 2018). Lay up movements have a greater chance of scoring points, because when directed as close as possible to the basketball hoop (Mertayasa et al., 2016). In addition to the lay-up shoot technique, the player's height and jumping ability are the main factors in making a layup shoot (Yenes et al., 2023).

Based on the problems on the field, the achievements of the basketball game at the Rajawali Lahat basketball club starting from the establishment of the basketball club, until now where there has not been much talk in every competition event. This is because the players have not fully mastered the techniques of the basketball game, especially in good lay-up shoot movements. Nowadays, lay up shoots are increasingly varied, there are several elements that need to be considered in the lay up shoot technique, including footsteps, hand outstretched and jumping (Husnul, 2022). The form of training chosen will also be very decisive in achieving the desired training target (Aulia Eka Putri, Donie, Adnan Fardi, 2020). Lay-up shots are the most important element in the game of basketball and are very effective in scoring as many points as possible. There are still many athletes who have not been optimal in doing lay-up shoot movements, especially when jumping and stepping, this results in a lack of leg muscle strength and wrong footsteps when stepping. One of the solutions applied by researchers by providing a form of exercise that can be used to increase leg muscle strength and train footsteps is by means of plyometric exercises that are carried out regularly and programmatically. Plyometric exercise is a popular form of exercise among sports trainers that has the characteristics of training with jumping or bouncing activities of the limbs and requires the explosive ability of the leg muscles or arm muscles (Putra et al., 2023). Plyometric exercise is defined as a fast and explosive exercise that uses energy stores and increases muscle activity during the muscle contraction phase during exercise (Irvan Charis et al., 2019) . With the above problems, researchers take a solution to overcome this problem by providing plyometric exercises to improve the results of lay-up shoots in basketball games

METHOD

In this research, the researcher used an experimental method. The experiment was carried out by conducting an initial test before being given plyometric training and a final test after being given plyometric training to see if there was an effect of plyometric training on the results of lay-up shoots in basketball games. The population in this study is the entire athlete who participated in basketball training activities at the Rajawali Lahat club as many as 26 people. The number of samples used in this study is the total number of students who participated in basketball practice activities at the Rajawali Lahat club which amounted to 26 people. The test used in this study was the basketball lay-up shoot test. In this study, the researcher used statistical data techniques with pre-test and post test methods (initial test and final test). To process the results of the initial test and the final test, statistical steps are used that are guided by the t-test formula.

RESULTS

The implementation of this research activity is guided by the bracelet jumping training program that has been prepared beforehand. In this study, the test was given two tests, namely the initial test and the final test. After conducting the training process and collecting data for two months, the researcher then carried out data analysis with the aim of seeing if there was an effect of plyometric training on the results of lay-up shoots in the basketball game of Rajawali Lahat club athletes. Based on the results of the tests that have been given by the researcher to the eagle basketball athletes with a research sample of 26 people who were given the treatment of plyometric exercises and conducted two tests, namely the initial test and the final test, with the test instrument being a lay-up shoot on the basketball game.

Tabel 1. Result Of Pretest and Posttest

Statistics	Initial Test	Final Test
Mean	4,26	5,57
Standard Junction	1,27	2,71
Slope Curve	0,67	0,94
<i>Highest Lay-up</i>	8	8
<i>Lowest Lay up</i>	3	3

For hypothesis testing b, based on the t-test , $t_{count} = 10.17$ while $t_{table} = 1.71$ In accordance with the hypothesis, H_0 is rejected if $t_{counts} > t_{table}$ because $10.17 > 1.71$ means that H_0 is rejected and H_a is accepted so that it can be said that

there is an influence of plyometric training on the results of the Lay up shoot in the basketball game of Rajawali athletes.

DISCUSSION

This research aims to find out how much influence the practice of jumping over the bracelet on the results of lay-up shoots in the basketball game of Rajawali Lahat athletes. The data collection technique in this study uses a measurement test. The test is an instrument or tool used to obtain the results of a lay-up shoot after being given a plyometric practice treatment in a basketball game. The measurement test in question is to make a lay-up shoot as much as possible within 30 seconds and the value recorded is the number of balls that enter the basket or basketball hoop within 30 seconds.

Based on the results of the research that has been carried out by providing the treatment of jumping over the bracelet and based on the calculation and analysis of the data that has been described, the average initial test score of athletes is 4.26 with a standard deviation of 1.27. Meanwhile, the average value of the final test score of 5.57 with a standard deviation value of 2.71 is included in the medium category. From the results of the initial test and the final test, 10.71 was obtained with a significant level of 5% with $dk = 24$, a value of 1.71 was obtained. These findings show that there is an effect of plyometric training on the results of lay-up shoots in the basketball game of Rajawali athletes. The results of this study are also in accordance with the results of the study (Husnul, 2022) which stated that plyometric exercises using box jumps on the ability to lay up shoot basketball are reviewed from the length of the legs of the Harisma Bone basketball club. Furthermore, in line with research (Putra et al., 2023) which explains that plyometric jump to box and depth jump exercises also have a significant effect on students' leg muscle power.

CONCLUSION

The results of this research were carried out through the stages of pretest, treatment and posttest. Based on the data from the above test results, it can be concluded that there is an effect of plyometric training on the results of Lay-up Shoot in the basketball game of Rajawali basketball athletes. Research related to plyometric training is also strengthened by relevant research and has a significant influence on the ability to lay up shoot basketball athletes.

Conflict of Interest

This research has no conflict of interest in its implementation because the researcher took important steps to identify all conflicts of interest carried out objectively and transparently. With these steps, it is able to reduce the conflict of

interest so that it can focus on research objectives at the Rajawali Lahat basketball club.

Acknowledgment

This research is fully supported by various parties so that it can be carried out smoothly. The researcher would like to thank the management of the Indonesian Basketball Association (PERBASI) of Lahat Regency, South Sumatra and the management of the Rajawali Lahat basketball club. Hopefully this research can be used as a guideline in compiling an exercise program and can be used as the development of further research.

REFERENCES

- Aulia Eka Putri, Donie, Adnan Fardi, R. Y. (2020). Metode Circuit training Dalam Peningkatan Daya Ledak Otot Tungkai Dan Daya Ledak Otot Lengan Bagi Atlet Bolabasket. *Jurnal Patriot*, 2(3), 680–691. <http://patriot.ppj.unp.ac.id/index.php/patriot/article/view/661>
- Husnul, D. (2022). Pengaruh Latihan Box Jump Terhadap Kemampuan Lay-Up Shoot Bola Basket Ditinjau Dari Panjang Tungkai Klub Harisma Bone. *Prosiding Seminar Nasional Ilmu Keolahragaan*, 2(1), 1–5. <http://conference.um.ac.id/index.php/ss/article/view/3044>
- Ibrahim. (2018). Efforts to Improve Learning Outcomes Lay-up Shoot In Basketball Games Using Audio Visual Media Learning In SMA Negeri 7 Medan Academic Year 2013/2014. *International Journal of Science and Research (IJSR)*, 7(2), 1526–1531. <https://doi.org/10.21275/20021803>
- Irvan Charis, S., Aldha Yudi, A., & Mariati, S. (2019). Pengaruh Latihan Plyometric Terhadap Kemampuan Lompat Jauh. *Jurnal Peforma*, 4, 2528–6102. <http://performa.ppj.unp.ac.id/index.php/kepel/index>
- Kurniawan, D. D. (2022). Pengaruh Latihan Metode Drill dan Game Terhadap Peningkatan Prestasi Lompat Jauh Pada Atlet Remaja. *Sport Science and Health*, 2(5), 285–292. <https://doi.org/10.17977/um062v2i52020p285-292>
- Mertayasa, K., Rahayu, S., & Soenyoto, T. (2016). Metode latihan plyometrics dan kelentukan untuk meningkatkan power otot tungkai dan hasil lay up shoot bola basket. *Journal of Physical Education and Sports*, 5(1), 24–31.
- Misfajar, M. (2019). *Indonesia performance journal*. 3(1), 22–26.
- Putra, A. Y., Putra, M. A., & Kusuma, A. A. (2023). Sport Education and Health Journal Universitas Pasir Pengaraian Pengaruh Latihan Plyometric Jump To Box Dan Depth Jump Terhadap Power Otot Tungkai Pada Siswa Ekstrakurikuler Sepak Bola Smp Negeri 5 Rambah Samo Kabupaten Rokan Hulu. *Sport Education and Health Journal*, 4(1), 36–45.
- Rahman Arif, W., & Ivano Avandi, R. (2022). Analisis Status Gizi Dan V02Max Pada

- Klub Bolabasket Western Basketball Surabaya Putra Ku-14. *Jurnal Prestasi Olahraga*, 41–49.
- Ramadhan, S. A. F., & Siantoro, G. (2021). Analisis Pembinaan Klub Bola Basket Perbaspa Saat Pandemi Covid-19. *Jurnal Prestasi Olahraga*, 58–65.
<https://ejournal.unesa.ac.id/index.php/jurnal-prestasi-olahraga/article/view/40369%0Ahttps://ejournal.unesa.ac.id/index.php/jurnal-prestasi-olahraga/article/view/40369/35042>
- Yenes, R., Saputra, H., & Neldi, H. (2023). Perbedaan Pengaruh Metode Latihan Kooperatif Dengan Metode Latihan Drill Dan Konsentrasi Terhadap Kemampuan Lay-Up Shoot Atlet Bolabasket SMK Negeri 7 Pekanbaru. *Wahana Didaktika - Jurnal Ilmu Kependidikan*, 21(1), 112–129.