INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH AND ANALYSIS

ISSN(print): 2643-9840, ISSN(online): 2643-9875

Volume 06 Issue 12 December 2023

DOI: 10.47191/ijmra/v6-i12-08, Impact Factor: 7.022

Page No. 5495-5499

Effect of Training Using Pullbuoy on Breaststroke Swimming Speed in Club RD Athletes

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ABSTRACT: Speed in swimming is very important because it affects the results of matches and the athlete's efficiency. Optimal speed results in shorter journey times, providing a competitive advantage. This study aims to determine the effect of the pull buoy training method on the breaststroke swimming speed of RD Rejang Lebong club athletes. This type of research is experimental research using a one group pre-test and post-test research design. The population in this study was the RD Rejang Lebong club, totaling 90 athletes and the sampling technique used purposive sampling with certain considerations totaling 30 athletes. The tool used to measure breaststroke swimming speed is the 50 meters swimming test. Data analysis used a paired t-test. The research results obtained t = 0.0002 t table = 1.699 at a significance level = 0.05 and the correlation test results were 49.10%. It can be concluded that there is no significant influence of the training method using a pull buoy on the 50 meters breaststroke swimming speed of RD Rejang Lebong club athletes. This is of concern to researchers and the study conducted regarding the research results is that there are several factors that make the research unsuccessful or the independent variables do not have a significant effect on attachment variables such as the level of physical readiness of athletes in carrying out training, increasing the number of training from the frequency of training per week before. and quite serious training from athletes even though in the end the research results showed insignificant results for this training.

KEYWORDS: Athlete, Breaststroke, Club, Exercise, Speed, Swimming.

I. INTRODUCTION

Sports activities carried out by the community are not just a hobby, but many functions are obtained from these sports activities, such as building character, improving physical and spiritual fitness, and social relations between athletes and some even focusing on becoming an athlete. Ideally by realizing that sport is a necessity that can be an achievement especially for the younger generation, namely teenagers. There are many sports that can be learned by this teenager, one of which is swimming.

Swimming, as one of the most exciting aerial activities, provides a unique opportunity to combine aspects of play with health benefits and personal development. Through playing, children learn to understand the world around them, express themselves, and practice new skills [1]. Swimming is not just for fun, it also provides significant health benefits. This aerial activity engages almost all the muscles of the body, helping to build muscle strength, cardiovascular endurance and freezing. Swimming also has a positive impact on the respiratory system and blood circulation. Therefore, playing in the water through swimming is not only exhilarating, but also a form of exercise that is beneficial to the body.

Swimming is a sport in water[2]. Swimming is an activity carried out in water, with various forms and styles that have long been known to provide many benefits to humans [3]. Swimming has been divided into several types of movements or styles, namely freestyle, backstroke, breaststroke and butterfly stroke. Breaststroke is a style in swimming which is done by alternating strokes and kicks [4]. In the sport of swimming there is an economic principle of spending as little capital as possible and getting as much profit as possible [5]. Likewise, swimming has the same principle of expending as little energy as possible, and getting the maximum possible speed.

Based on observations and information obtained from the coach of RD club, especially intermediate class athletes, only won 1 gold medal and 1 bronze medal in the 50 meters breaststroke number, so the head coach emphasized athletes to be more active in training to improve their own best time because their speed is still quite far from the national limit and the head

coach will add variations to the exercises because so far breaststroke training uses the same exercises so the training results are not optimal.

Various kinds of aids in swimming can be used to reduce water resistance, one of which is a pull buoy. Media is a tool for conveying something to other people, be it in the form of electronic equipment, drawing equipment, equipment, or the people themselves as conveying information [2]. Learning media in the learning process can increase students' interest and motivation in the learning process in class [6]. The same principles regarding the use of media in the learning process can also be applied in the context of club swimming practice. The use of media in swimming practice can provide similar benefits, such as increasing students' interest, motivation, and understanding of swimming techniques and related concepts. In an effort to optimize swimming training results and achieve significant progress, the use of media has become an increasingly important aspect of the training process.

Media in the context of swimming training refers to various tools or technologies used to help athletes understand, practice and improve their swimming techniques. The use of pull buoys in swimming training has attracted attention as an effective medium for improving various aspects of swimming technique and skills. Pull buoy is swimming equipment which is a kind of floating aid which is often used for training children [7]. The function of the pull buoy is almost the same as the kick board but the buoyancy of the pull buoy is much smaller so this tool is only suitable for athletes who are experts in swimming or not for people who are just learning to swim [8]. The reasons regarding the benefits of media in the learning process include teaching methods that will be more varied [9]. New training methods can accommodate diverse training styles, increase athlete engagement and ensure deep understanding and practical application. New training methods have the potential to optimize training results, create competent athletes and face future challenges with confidence.

In breaststroke swimming, swimming strength focuses on leg movement. The leg movements in breaststroke swimming form outward and inward sweeping movements. This is due to the continuous movement of the limbs. Because it is done continuously or continuously, strong leg muscle strength is needed so that it can move up and down while swimming. This is evidenced by the results of the record time for the 50 meters breaststroke athlete club RD which is relatively low.

The gap caused by low achievement is caused by the conventional training methods used by trainers. If seen from the point of view of swimming athletes, especially at the Rejang Lebong RD club, there is a lack of knowledge about modern breaststroke swimming. Therefore, it is necessary to evaluate the program and types of training in the RD club. Because by doing an evaluation you can find out the success of the program that has been implemented [10]. The form of evaluation carried out by researchers is by applying the exercise method using a pull buoy.

Therefore, researchers use a pull buoy to be flanked on the thighs when doing breaststroke swimming, so indirectly the thighs are forced not to be pulled forward and widen to the sides to minimize frontal resistance. Therefore, to find out the effect of the training method using the pull buoy on breaststroke swimming speed, the researcher is interested in finding facts about the effect of the training method using the pull buoy on the breaststroke swimming speed of the RD Rejang Lebong club athletes.

II. MATERIAL AND METHOD

The type of research used in this study is quantitative, using experimental methods. This method involves observing, and measuring certain variables to identify cause-and-effect relationships. This method is used on the basis of the consideration that the nature of experimental research is to try something to find out the effect or effect of a treatment or treatment. This is reinforced by the theory of the experimental method, which was revealed that experimentation is a way to look for causal relationships (clausal relationships) between two factors that are deliberately generated by researchers by reducing or setting aside other factors that can interfere [11]. The research design is quasi-experimental, the quasi-experimental design uses "Pre-test and Post-test One Group Design".

The results data analysis technique used is the normality test, homogeneity test, hypothesis testing, and correlation test using the Microsoft Exel 2013 calculating tool. The normality test is carried out in order to find out whether the variable you want to use is normally distributed or not, for each score i use the Liliefors. After that, a statistical tool that can be used to determine the degree of linear relationship between a variable and another variable uses correlation analysis with the correlation formula. Comparing the ability to swim the 50 meters breaststroke pre-test and post-test using the data analysis of athletes swimming at the Rejang Lebong club RD, analysis using the t-test. The data tested relates to the results of this study and is used to better analyze. Using the hypothesis test formula

III. RESULT AND DISCUSSION

Result

The training method uses a pull buoy for breaststroke swimming speed before giving treatment to the sample, a pre-test is carried out and after being given treatment, 16 meetings are held (post-test). For the pre-test, 30 samples achieved the fastest time of 49.59 seconds and the longest time of 74.31 seconds with an average of 49.99 seconds. After being given treatment using the training method using a pull buoy, a final test was carried out and the fastest time was 40.70 seconds and the longest time was 74.82 seconds with an average value of 49.99 seconds.

Table 1. **Pre-test and Post-test Statistics**

Statistics	*Pre-Test*	*Post-Test*
N	30	30
Average	49,99	49,99
Variance	99,99	100,01
Standard deviation	9,99	10,00
Minimum	30,97	29,07
Maximum	75,33	67,99

The results of descriptive statistical analysis of the 50 meter swimming pre-test, obtained a minimum value = 30.97, maximum value = 75.33, average = 49.99, with standard deviation = 9.99 and variance = 99.99 while post-test minimum test score = 29.07, maximum score = 67.99, average = 49.99, with standard deviation = 10.00 and variance 100.01. After being tested using the correlation test, there was a change in speed, namely 49.10%.

A. Testing Analysis Requirements

1. Test Data Normality

The data normality test for the variables was carried out using the Liliefors test. For more details, see the table below as follows.

Table 2. **Summary of Data Normality Test Results**

Variable	N	Lo	Ltab	Distribution
Pre-test	30	0,14	0,161	**Normal**
Post-test	**30**	**0,124**	**0,161**	**Normal**

The table above shows the results of normality testing for pre-test data for samples that have not been treated with the training method using a pull buoy, obtained Lo = 0.14 with N = 30, and Ltab at the significant test level a = 0.05, which is obtained at 0.161 which is greater than Lo. it can be concluded that the pre-test data comes from a normally distributed population. Furthermore, from the results of normality testing for post-test data for samples that were treated with the training method using a pull buoy, Lo = 0.124 with N = 30, and Ltab at the significant test level α = 0.05, obtained 0.161 which is greater than Lo. it can be concluded that the post-test data comes from a normally distributed population.

2. Homogeneity Test

The data homogeneity test is carried out using the Bartlett Test formula. For more details, see the table below as follows:

Table 3. **Summary of Homogeneity Test (Bartlett's Test)**

N	X^2 count	X^2 table	Conclusion
30	**0,00**	**42,55**	**Homogen**

The table above shows that the results of the homogeneity test for the pre-test and post-test data for the sample group treated with the training method using a pull buoy obtained a score of X2count = 0.00 and X2table = 42.55. So X2table is greater than X2count, so it can be concluded that the two data are homogeneous.

A. Table Captions

3. Correlation Test

The results of the correlation test show that there is a correlation between variables with a value of 0.700 > 0.367 at the significance level α = 0.05 (n-1). Then the result will be squared and multiplied by 100%, the result is 49.10%.

B. Hypothesis Testing

The hypothesis proposed is that there is no influence of the training method using a pull buoy on the breaststroke swimming speed of RD Rejang Lebong club athletes. Based on the formula (paired t-test) carried out, the results of the analysis (paired t-test) in the table below are as follows:

Table 4. Summary of Results (t Test)

n-1	Tcount	T_{table}	Conclusion
29	0.0002	1,699	Not significant

The results of the t test analysis stated that there was no influence of the training method using the pull buoy (x) on the 50 meters breaststroke swimming speed (y) of the RD Rejang Lebong club athletes in the intermediate class, totaling 30 athletes. This is based on the results of the t test analysis, where th = 0.0002 < t table = 1.699 at the significance level α = 0.05 and the correlation test results are 49.10%. It can be concluded that there is no significant influence from the training method using a pull buoy on the 50 meters breaststroke swimming speed of RD Rejang Lebong club athletes.

IV. DISCUSSION

Description of the results of the data above regarding "The training method using a pull buoy on the 50 meters breaststroke swimming speed of RD Rejang Lebong club athletes, aims to determine the effect of the training method using a pull buoy on the breaststroke swimming speed of RD Rejang Lebong club athletes. In this research, the data that will be discussed is based on observation results, statistical calculation results and documentation results. The following is a discussion of the research conducted.

Based on calculations and hypothesis criteria, namely Ho is accepted and Ha is rejected, and because from the data obtained tcount < ttable when tested using the t-test, it is concluded that the training method using the pull buoy does not have a significant influence on the breaststroke swimming speed of RD Rejang club athletes. Lebong.

Exercise is providing stimulus to create a need for the body to adjust (adaptation) [12]. Exercise and aerobic exercise are physical activities that cause different stresses for the body. To achieve an achievement in sports, it is necessary to carry out regular and continuous exercises which can be outlined in a training program which ultimately improves abilities significantly so that the desired sporting achievements can be achieved. A good and correct training process must take into account and adjust the volume, frequency and internal recovery or rest period during training, especially in the overload principle. In the training program, researchers used the step type approach or ladder system which is based on the aim of the training, namely increasing maximum performance and skills [13].

In the training zone, there are limits for doing exercises which must be achieved by measuring the heart rate. Determining the training program is also based on testing the athlete's maximum ability to carry out exercises using a pull buoy for 1 minute. Training using a pull buoy results in physiological changes in the body parts, especially in the leg system, because in the training program the researchers aim to improve the athlete's leg technique in order to increase the 50 meters breaststroke swimming speed. The increase in work ability from the program, as a result of this exercise, is caused by physiological changes that occur in the legs.

The definition of speed is the ability to carry out similar movements in succession in the shortest time or the ability to cover a distance in a short time [14]. Training using a pull buoy is an exercise to improve breaststroke leg technique using the principle of resistance training using a sponge. During the research, all samples experienced changes in terms of doing exercise using a pull buoy. Athletes who were initially laypeople when it came to doing this form of exercise have now become proficient over time, which is certainly very different from when this form of exercise was first introduced to them. Athletes also feel pleasure when practicing new things because of the psychological condition of athletes who are in the teenage category.

Training using the pull buoy was carried out in 16 meetings, which means that when carried out it took 4 weeks to complete. In carrying out this exercise, the athlete's perseverance in carrying it out can be seen. However, the influence provided by this training method after carrying out the post-test and processing the data produced an insignificant influence. Based on the results of the initial test using the 50 meters breaststroke swimming test instrument, the average result was 49.99 seconds. Next, treatment was given in the form of a training method using a pull buoy for 16 meetings, then a final test was carried out using the same instrument. From this test, namely the 50m breaststroke swimming speed, results were obtained with an average of 49.99.

This became a concern for researchers and a study was carried out regarding the results of the research, namely that there were several factors that made the research unsuccessful or the independent variables did not have a significant effect on the dependent variable, such as: the athlete's level of physical readiness in carrying out training, an increase in the amount of training from the frequency of training per week before. and quite serious training from athletes even though in the end the research results showed insignificant results for this training.

It can be concluded that the training method using the pull buoy has no effect on the 50 meters breaststroke swimming speed of the RD Rejang Lebong club athletes.

V. CONCLUSIONS

Based on the results of data analysis and discussion by testing the hypothesis using the paired t-test. The results of the analysis of the effect of the training method using a pull buoy are 0.0002 < 1.699 (t count < t table) with a significant rate of α = 0.05. Thus, Ho is accepted, namely that there is no significant influence of the training method using the pull buoy on the breaststroke swimming speed of RD Rejang Lebong club athletes. it can be concluded that the training method using the pull buoy has no effect on the 50 meters breaststroke swimming speed of the RD Rejang Lebong club athletes.

ACKNOWLEDGEMENTS

The authors would like to send their deepest gratitude to the all students who were willing to accomplish this research. This journey has been one of growth, discovery, and collaboration, and it would not have been possible without the support, guidance, and contributions of numerous individuals and entities. In expressing my heartfelt gratitude, I extend my appreciation to those who have been instrumental in shaping this endeavor.

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