



## **Different Effects of Bench Dip and Wheelbarrow Training on Swimming Speed in 25 Meters Freestyle KU IV Gading Swimming Club in 2022**

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### **Abstract**

The purpose of this study was to determine the significant effect of the bench dip exercise on the swimming speed of the 25 meter freestyle KU IV Gading Swimming Club in 2022, to determine the significant effect of the Wheelbarrow exercise on the swimming speed of the 25 meter freestyle KU IV Gading Swimming Club in 2022 , and to find out how much difference the bench dip and wheelbarrow exercises have to the swimming speed of the 25 meter freestyle at KU IV Gading Swimming Club in 2022. The research was conducted at the swimming club Gading Swimming Club. In the swimming pool of Villa Gading Mas, the Villa Gading Mas complex, Jl Bajak II, Harjosari II Village, Medan Amplas District. This research will be carried out for 6 weeks and will take place from 09 January 2023 to 17 February 2023. The number of samples in this study amounted to 10 people. This research is a type of experimental research. Research instrument to collect data with a 25 meter swimming speed test. The conclusion of the results of the first hypothesis analysis from the pre-test data and post-test data is that there is a significant effect of Bench Dip training on the 25-meter freestyle swimming speed of KU IV Gading Swimming Club athletes in 2022. In the results of the second hypothesis analysis there is a significant effect on Wheelbarrow exercise on the 25-meter freestyle swimming speed of KU IV Gading Swimming Club athletes in 2022. Furthermore, the results of the third hypothesis analysis show that the Bench Dip exercise has no significantly greater effect than the Wheelbarrow exercise on increasing the 25-meter freestyle swimming speed of KU IV Gading Swimming athletes. Clubs of the Year 2022.



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## INTRODUCTION

The sport of swimming is currently growing, as can be seen from various classes, both young people, adults and the elderly depending on personal goals. According to Haller (2015) says that "Swimming is a sport that can be enjoyed during free time and is healthy for the body because almost all the muscles of the body move so that all muscles develop rapidly and the strength of the swimmer increases". To float and move around the place when swimming, a person must move his hands and feet. Thus, each movement can be turned into a well-organized sequence that is more influential. Swimming is a physical activity that involves using the body to cross water using the hands and feet (subagyo, 2018). Badruzaman (2007) argues that the concept of swimming as outlined in the swimming theory module i can be defined as the act of floating an object in a liquid due to its buoyant or lifting force, so that it contains an effort to lift the object. Body above the surface of the water.

There are several styles in swimming, namely: Butterfly stroke, Backstroke, Breaststroke and Freestyle. Compared to the other three strokes, the freestyle has the best movement adjustment and the least resistance, making it the easiest and fastest swimming style. This is in line with Narlan & Ari (2016) that "freestyle has smooth and fast movements, balanced, good coordination, free drive, and has minimal obstacles". In breaking freestyle swimming the speed factor cannot be separated because it can help in swimming. Speed is the ability to make similar movements in succession in the shortest possible time. Freestyle is also a natural way of swimming, in which the body is parallel to the water or floating above it while the legs alternately move up and down like a person walking. Swimming using the chest position facing the flat of the water, both hands are alternately moved far forward based on a rowing motion, and the two legs

are alternately pushed up and down up and down (Sumarsono, 2019). Swimming is also an achievement sport which to this day is often a competitive sport. For swimming athletes themselves, the yardstick in swimming is speed so that an athlete is determined to be successful if he swims fast. The determining factor in almost all sports is speed such as running, swimming, cycling and others (Harsono, 2018). Given that speed is a requirement for every swimming competition, swimming athletes undertake exercises to train and develop their swimming speed abilities. In order to reach the goal, one has to practice frequently. An athlete cannot perform at the expected level without training. Every factor of the exercise is carried out, the participants are happy and excited about the results, and the participants take positive impressions, topics and techniques from the trainer, the exercise is considered successful. To score the desired results, participants need to finish swimming quickly. To get the best time to the finish requires powerful movements, because this sport requires speed (solihin & sriningsih, 2016).

Gading Swimming Association Swimming Club is one of several swimming clubs in the city of Medan. Under the auspices of this club, athletes have achieved various achievements. The progress of swimming as a sport requires the implementation of training that refers to research and training theory to maintain and improve swimmers' athletic performance. As a research need, the authors conducted field observations of Gading Swimming Club and based on the results of pre-observation research at Gading Swimming Club, athletes with age qualification (KU) IV needed longer time to rise when swimming the 25 meter freestyle. The lack of dexterity in the 25 meter freestyle swimming of these athletes is caused by the athlete's swimming technique which is still not good and the stroke of the hand which is still relatively weak. In this case, to increase

the swimming speed of the athletes, it is necessary to have a structured program, for advanced swimmers, experiencing hiccups in freestyle swimming speed that occurs due to errors such as arm muscle strength which is still very weak, which will hinder swimming speed and the results are not optimal to encourage because the arm muscles are not strong enough, so there is no strength to push.

Nugraha (2011) explains that the generation of thrust to push the body forward in swimming is obtained through two sources of power, namely the pulling force generated by the movement of the arms, and the whipping or pushing of the legs. The application of force in a rhythmic and synchronous manner will result in optimal body thrust forward. There needs to be diversity in training to avoid boredom and boredom, (Bompa, 2013). For maximum propulsion, it is recommended to incorporate exercises that focus on building arm and shoulder strength, such as the Bench Dip and Wheelbarrow exercises. Bench Dip can be categorized as a moderate intensity exercise that requires the individual to use their own body weight while positioning both hands on the bench and extending the legs horizontally (Dolan Michele., 2016). The exercise is carried out by two people, the person doing the push-up position and his friend holding his feet is called wheelbarrow (trisminarwan, 2012). Wheelbarrow can be used for many types of resistance training, such as those involving body weight and body weight. Exercises that involve using a significant amount of body weight are usually more feasible in any environment. "exercise with dependents tends to be easier to do anywhere because the loading procedure only uses your own body weight" (kristi, p. D., & nasrullah, 2014).

The muscles involved in wheelbarrow exercise undergo isometric contraction, which is characterized by a lack of change in the length of the muscle. "The condition in which the muscle continues to

fight against an obstacle without any length transition from the muscle is called contraction" (Wiguna, 2017). Based on the problems above, the authors took the initiative to increase the speed of the 25-meter freestyle swimming of KU IV Gading Swimming Club athletes. There is a need for instruments that can increase muscle strength and athletes. Among them is by providing Bench Dip and Wheelbarrow exercises. So that the writer is interested in conducting scientific research by drawing the title "The Effect of Bench Dip and Wheelbarrow Training on the Speed of 25 Meter Freestyle Swimming in KU IV Gading Swimming Club Athletes".

## METHODS

This research is a type of research using experimental methods. Experimental research methods can be interpreted as research methods used to find the effect of certain treatments on others under controlled conditions (Sugiyono, 2017). According to Sugiyono (2007) a research instrument is a test tool used to collect data to support the success of a study. The instruments used in this study were Dartfish and two-handed back and back motion test instruments.

### Participants

Initial data was taken by researchers from 10 Gading Swimming Club athletes. Researchers used the speed of a 25-meter freestyle to measure speed and see if the movement was correct.

### Sampling Procedures

The sample is part or representative to be studied in Arikunto (2013). The sampling technique used in this study was a purposive sampling technique because not all Unimed Tennis Community athletes met the following criteria: (1) Ivory Swimming Club Swim Athletes trained for at least 6 months (2) Men Swim Athletes (3) Age group IV. The researcher conducted a preliminary test

and also carried out a temporary analysis test by looking at the video in the initial test. After carrying out a temporary analysis test, the researcher saw the weakness of the athlete's hand stroke when doing freestyle swimming, the researcher was very interested in conducting research on the differences in the effect of bench dip and wheelbarrow exercises on freestyle swimming speed, with the aim of increasing the arm muscle strength of Gading Swimming Club athletes.

### Materials and Apparatus

Based on theoretical studies, problem formulation, and several explanations that have been described previously. Then a conceptual framework is made with the following definitions: A collection of the relationships between variables that are arranged from various materials that have been interpreted is an explanation of the thinking framework. (Sugiyono, 2016). Swimming is driven by speed, technique, flexibility, power, endurance and coordination. Swimming speed or swimming as fast as possible is the basis of swimming performance. To increase the athlete's speed, training methods are needed, so one form of freestyle training is to train arm muscle strength using bench dips and wheelbarrow exercises. Athletes undergo a pretest (initial test) before receiving treatment and after being given treatment are tested again (posttest). The treatment was carried out using a different training agenda but with the same total training agenda. Until you can identify which rules are good between bench dips or wheelbarrow exercises. The efficacy of hand strokes in freestyle swimming is very important in determining swimming speed, training groups should be designed to increase arm strength to ensure optimal stroke performance.

### Procedures

The stages of research that will be carried out by researchers are as follows:

1. Coordinate with trainers to carry out research
2. Determine the object that will be the target of research, in this case the object of research is the KU IV Gading Swimming Club athlete in 2022
3. Make observations on KU IV Gading Swimming Club athletes in 2022 and collect data and find problems in more detail
4. Looking for references related to the problems found, in this case the problem found is the weakness of the KU IV Gading Swimming Club athlete's stroke against freestyle swimming speed
5. Search for and study related theories on how to increase arm muscle strength
6. Provide a form of exercise to increase arm muscle strength, in this case the researcher uses a form of bench dip and wheelbarrow exercises in each exercise group
7. Analyze the results of the research by making a data grouping table
8. Make a presentation of the research results obtained
9. Draw conclusions and provide suggestions

### Design or Data Analysis

The research instrument is to use a speed assessment tool. According to Bayu Dwi Febrianto (2019), the freestyle swimming speed test is carried out by measuring the swimmer's stroke time. All athletes do the initial test (pre test). Then after that do matching pairing (for two groups). After that, give wheelbarrow treatment to group one and bench dip to group two. After that, do the 25 meter freestyle swimming speed test (post test).

### RESULT

Data acquired from the research with appropriate statistical analysis described in the methods section should be included in this section. In this part, the same data/information given in a table must not be

repeated in a figure, or vice versa. Tables and Figures should be self explanatory and it is not acceptable to repeat extensively the numerals from tables into text and give lengthy and unnecessary explanations of the Tables and Figures.

### Figures

From all pretest and posttest data from the bench dip and wheelbarrow training groups, the following results were obtained:

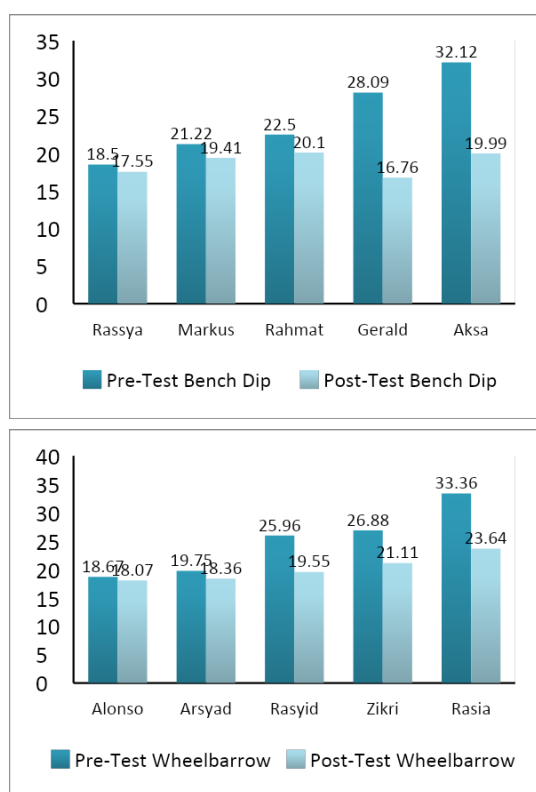


Fig 1 & 2. Pre Test & Post Test

### DISCUSSION

Based on the results of the research that was carried out and discussed in the previous chapter, the researchers drew the following conclusions: The results of testing the first hypothesis showed that there was a significant effect on the bench dip group on increasing the speed of the 25 meter freestyle swimming at KU IV Gading Swimming Club. This is because the bench dip exercise is a form of exercise that has the aim of increasing the strength of the arm muscles so

that the hand strokes are stronger so that swimming can be faster. From the results of testing the second hypothesis, it shows that there is a significant effect in the wheelbarrow training group on increasing the speed of the 25 meter freestyle swimming at KU IV Gading Swimming Club. The wheelbarrow exercise aims to enable athletes to increase arm muscle strength so that the hand strokes for freestyle swimming can be stronger because if the hand strokes are stronger it will result in the freestyle swimming going faster.

The results of testing the third hypothesis showed that the bench dip group had no greater effect than the wheelbarrow group on increasing swimming speed in the 25 meter freestyle at KU IV Gading Swimming Club. Basically, these two forms of exercise have the same characteristics of increasing strength in the arm muscles, however, the bench dip exercise is performed using one's own body weight where the arms are placed on a bench with the legs stretched horizontally, while the wheelbarrow exercise is carried out by two people, the person doing it. push up position and his legs held by his friend.

### CONCLUSION

Based on the results of the research and discussed in the previous chapter, this study draws the following conclusions:

1. There is an effect of Bench Dip training on the swimming speed of the 25 meter freestyle athletes of KU IV Gading Swimming Club in 2022.
2. There is an effect of Wheelbarrow training on the swimming speed of the 25-meter freestyle athletes of KU IV Gading Swimming Club in 2022.
3. The Bench Dip exercise has no greater effect than the Wheelbarrow exercise on the 25 meter freestyle swimming speed of KU IV Gading Swimming Club athletes in 2022.

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