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Effect of Push Up and Dumbbell Front Training on Kizame Gyaku Tsuki Punches' Speed for Karate Male Athletes

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Abstract

The aim of this study was to determine the effect of push-up and dumbbell front exercises on the speed of hitting Kizame gyaku tsuki in male athletes at Inkanas, Central Aceh 2022.The location of this research was carried out in the hamlet where the research was located at INKANAS Aceh Tengah, the hall of the Central Aceh Kodim hall. This type of research is an experiment. The population in this study were all karate athletes in Central Aceh INKANAS, totaling 15 people. The sampling in this study was carried out by purposive random sampling (conditional sample), the condition was that athletes were active in INKANAS Central Aceh. In this study, the sample to be made was 10 people. The data collection technique used is by taking the pre test, treatment, and post test.From the analysis of the data that has been done, it is known that the value of the hypothesis tcount is obtained at 44.75 and ttable 1.833, then tcount (44.75> 1.833 ttable), so that there is a significant effect of push ups and dumbbell front exercises on the speed of hitting Kizame Gyaku Tsuki in athletes Son in Central Aceh Inkanas in 2022.

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INTRODUCTION

Exercise is one of the most effective and safe areas for obtaining physical, and spiritual fitness. To get physical and spiritual fitness, exercise or physical activity is one of the activities that everyone needs to do. In addition, sports can also lift a person's degree yakmi with various achievements achieved through the championships held. Nowadays, sports are used as a lifestyle by people. People all over the world, including in Indonesia who understand the benefits of sports, ultimately love and love sports. This can be seen from the increasing number of fitness venues and sports-themed activities that are developing in the world, especially in Indonesia.

The sport of karate is a sport that prioritizes limb strength and speed of movement (Faradita et al., 2019). The word karate is a combination of two Japanese characters (words), consisting of two kanji bags: the first is Kara meaning Empty, and the second is Te which means Hand. When the two Japanese kanji are combined, it means "Empty Hands". Added suffix (suffix) – do (read:doe), meaning way. So karate-do is an application of karate as a way of life that is more than just self-preservation. Because, the victory or defeat of an athlete in a match is determined by mastery of technique. According to Bermanhot Simbolon (Bermanhot, 2014) karate techniques are divided into three main parts, namely; (1) Kihon, which are basic karate techniques such as punching, kicking, and parrying techniques; (2) Word, that is, skill training; (3) Kumite, i.e. sparring or fighting exercises. The number of karate athletes who Circles or government agencies make matches be it regional, national, to.. international. These matches are just to find seeds, superior karateka seeds to be further fostered and in the hope of becoming the karateka of the nation's pride. At the world level, Indonesia is one of the countries with the best karate athletes who have scored achievements at the international level with the best results that have been achieved by competing athletes. The success that has been achieved proves that Indonesia cannot be underestimated in this martial arts sport.
In karate martial arts, a karateka must have good basic techniques, because this is one of the many factors that determine the achievement of achievements, including the martial arts branch, namely karate based on the results of observations. At the initial level, the first move introduced in Karate is Tsuki (punch) (Gultom et al., 2019).

In particular, every athlete in martial arts must have good basic technical skills, namely the ability to hit, parry, and kick (Venkatraman et al., 2019). However, there are also physical factors that coaches and athletes must pay attention to in training and matches. These physical factors can be in the form of innate factors of athletes or factors of athlete seriousness in training. The innate factor (arm length) is an effective supporting factor for reaching the target towards the opponent, especially Gyaku Tsuki's punch. Meanwhile, the factor that

is biased to be trained (arm muscle strength) is a factor that can have the maximum impact in Gyaku Tsuki's punch.

At every karate match, the technique that is most often used is punching, this is because the blow is more quickly hit the goal and can be done repeatedly to create points as long as the technique is done correctly. Of the several punch techniques in karate martial arts, the kizame gyaku tsuki technique is one of the most effective types of punches used, this is because the movement process is quite easy, and the impact weight produced is very large because of the simple shape of the movement. In a karate match, the accuracy of the punch largely determines the points (values) to be obtained. Especially in kisame gyaku tsuki punches, the target of this punch is the solar plexus and face but for this part it is done by controlling the blow. Gyaku Tsuki's punch is a straight punch towards the solar plexus as opposed to the steps of the horses (Kadir & Haryanto, 2021). Which can be interpreted to mean that the punch uses the right hand, the left foot is in front and also the right foot is behind. So the blow requires the support of strong horses to support the body, the length of the hands to reach the target and also the maximum strength of the hand muscles in order to get the desired impact of the blow.

The movement pattern of the kizame gyaku tsuki punches is carried out with hard and fast punches straight forward with both targets. It depends on which athletes do it, which one is mastered and right to achieve the target. Seeing the characteristics of the kizame gyaku tsuki punch, then to increase the ability of the speed of the blow, physical exercises must be given which leads to an increase in the speed ability of the kisame gyaku tsuki punch because while in the book according to (Harsono, 2018) page 61 explains that strength is an ability of the muscles possessed by the body to arouse muscle tensions against a muscle resistance of the body. The main goal and objective of training is to help athletes improve their skills and achievements as much as possible, so that push-ups are a form of exercise to produce powerful energy quickly, and precisely. The speed of the blow is the speed of the kizame gyaku tsuki punch which is carried out quickly in reaching the target and with the fastest possible time. In accordance with the definition of speed is the ability of a person to work on continuous movements in the same form in the shortest time.

The strength of the arm muscles in the outline for most martial arts sports is a tool for attacking opponents, deflecting opponents' attacks, and bias is also the fulcrum of the body (Amertha et al., 2020). Karate athletes themselves must have qualified hand muscle strength to be used in attack techniques and defensive techniques, because in essence Karate is a martial arts sport with limbs as a tool.
This physical ability is especially emphasized on the part of the physical body that plays an important role in making punches, such as the physical element of arm speed. Therefore, to increase the speed of blows, it can be

done by providing regular and systematic physical exercises through the application of methods or forms of exercise that focus on the speed of the blow and must be guided by the principles of training.

Karate itself developed punch and kick skills techniques to the advanced level, namely the level where a person can perform a fast and precise punch and kick movement (Kadir & Haryanto, 2021) (Kadir, 2020). To have fast and precise movement of punches and kicks requires quite a long practice. One of the pukulah in the sport of Karate is Gyaku Tsuki's punch, which is the dominant punch, is done by a Karate athlete in kumite (individual) between Oi tsuki jodan and Uraken punches (Matutu et al., 2019).

Similarly, push up training is also the case and dumbbell weights are a form of weight physical training, where push up and dumbbell weight training are used as a weight tool in the implementation of the exercise. This form of exercise when 5 is performed regularly, systematically and continuously. Through a proper training program and guided by the principles of exercise, it will be able to increase the physical element of arm strength and speed, where this physical element plays a very important role and supports the creation of fast punches. Thus, it is suspected that the application of push up and dumbbell weight training in terms of concentration, this study has an influence on increasing the speed of kisame gyaku tsuki punches in boxing.
Providing a good training program will reduce the error rate during the practice and match period and this will have an impact on improving physical and technical ability as well as mental condition and points achievement (Subekti et al., 2018). The use of the right training program for athletes in an effort to improve the quality and quantity of elements of physical condition is a very important thing for a coach to do (Bell et al., 2020). Various training methods to improve punching techniques (tzuki) in the sport of karate have been widely applied by trainers in improving the technical abilities of karatekas for example with drill systems, conventional karate training, ordinary weight training and others (Nikola et al, 2020).

The rationale in making this thesis. based on the experience when making initial observations carried out in Inkanas Central Aceh as a training ground for karate athletes. The author found that karate athletes when training the kisame gyaku tsuki technique is one of the most effective types of punches used, this is because the movement process is quite easy, as well as the weight of the impact produced. It is very large because the shape of the movement is very simple. The author sees a flaw when hitting kizame gyaku tsuki which is still lacking in punch speed. This is the researcher's assumption that the speed of the kizame gyaku tsuki punch is influenced by several factors, one of which is push ups on the observed athlete. There are still many athletes lacking in kizame gyaku tsuki punches because athletes still lack the speed of their punches.

Based on preliminary data collection from 10 inkanas Aceh Tengah karate men's athletes conducted by researchers in November 2021. The data included in the sample of 10 athletes is contained in appendix 2 of the initial data of the 2022 Central Aceh Inkanas athletes.

In the process of observation, the study found that athletes lacked the speed of the punch which in the movement the speed of the punch was still very fast in the blow, which still did not reach the punch, the problem in the athlete then encouraged the researcher. To make a deepening observation of the speed of Kizame Gyaku Tsuki's punches, researchers found that there are most athletes when running athlete training sessions there are still many athletes in strokes that are not fast or Still lacking in his movements in 10 seconds or the athlete himself. In this case, writing takes the influence of exercises found in push ups and dumbbells where push up exercises in simple exercise movements, but are effective to help increase strength in the upper or core body. This exercise, which uses body weight as a weight, can train the muscles of the Didada and triceps, namely the muscles at the back of the upper arm. Dumbbell exercises are one of the variations of weight training that have the aim of increasing the strength of the arm and shoulder muscles, especially the biceps muscles. Exercises use tools in the form of dumbells and benches.

In its application, athletes when performing kizame gyaku tsuki punches some karateka experience difficulties such as stiff accuracy of punches, not on target, weak punch speed and unable to repeat the correct stroke speed movement several times. If it continues to happen and is allowed, it will affect the athlete's achievement in learning karate. To further strengthen the background of the problem the author also made observations. In addition, performing the capture of the stroke velocity data is seen in the appendix. When making observations in Inkanas Aceh Tengah, the coach conveyed several complaints that occurred in Inkanas, one of which was that many of its members had stiff bodies, especially in the arm muscles, so the author when making observations focused more on the blows of kizame gyaku tsuki. Lack of depth In the kizame gyaku tsuki punch, it is necessary to be given a push up and dumbbell training which hopefully can be a solution to increase body flexibility, especially when doing kizame gyaku tsuki punches so that it can increase the achievements of karate athletes in Inkanas Central Aceh. So the author raised the title of this thesis, The effect of variations in push up and dumbbell front exercises on the speed of kizame gyaku tsuki punches in male athletes in Inkanas in the middle of 2022".

METHODS

The location of this research is the place where the research was carried out, namely at INKANAS Aceh Tengah field or in the Kodim Hall in Central Aceh. The timing of this study will be held from July 17, 2022 to August 21, 2022. This study has been carried out for 5 weeks (18

meetings) with a frequency of three times a week held on Tuesdays, Thursdays, Fridays. Pukul 16:00–18:00 WIB. The population used in this study was all INKANAS Central Aceh karate athletes who numbered 15 people. The sampling in this study was carried out with purposive random sampling (a sample of the berkurat) which is a requirement for active athletes and in INKANAS. Central Aceh and men in this study sampled 10 people. The research method used is an experimental method with data collection techniques that involve two free variables, namely Push up exercises and Dumbbell exercises.

Experimental research is research that is intended to determine whether or not there are consequences of "something" imposed on the subject of research (Suharsimi, 2006) the research design used is in the form of One Group Pre–test and Post–test design, which is an experiment carried out in one group only without a comparison group (Suharsimi, 2005).

Table 1. One Group Pre–test, Post–test Design

Data Description	**Punch Speed Kizame Gyaku Tsuki**	
	Pre-test	**Post-test**
Sum Sample (N)	10	
average	17,3	26,9
Deviation Reciprocally	1,636	2,998
Average Difference-Flat	26,9	
Deviation Different Standards	1,9	
T- count	44,75	
T-tabel	1,833	

In this study, the test was carried out twice, namely before and after treatment. The difference between pre-test and Pro–test is assumed to be the effect of treatment or experimentation. So that the results of the treatment are expected to be known more accurately, because there is a comparison between the conditions before and after being treated. The treatment given in the exercise is push up and dumbbell exercises.

Data obtained as individual scores, both from tes push ups, and dumbbells, on karate athletes from kisame gyaku tsuki punches. Furthermore, the data is processed using statistical procedures that use calculations. regation of the litas norm test and homogeneity test.

RESULT

The results of measurement tests carried out in the field are the data obtained and the results of research observations.Done for reveals the truth and hypotheses that have been put forward. The results of the study were then analyzed using statistical formulas. The purpose of this study was to determine the effect of variations in Push up and Dumbbell front exercises on the results of kizame punch speed gyaku tsuki on the men's athlete IKANAS Aceh Tengah 2022. From the pre-test results on push up exercises and frount dumbbells against the speed of the kizame gyaku tsuki punch from 10 people the sample studied, obtained from the pre-test results of the kizame gyaku tsuki punch speed with an average value of 17.3 and a standard deviation of 01.636 and after treatment was carried out, a post-test was

obtained with an average value of 26.9 and a standard deviation of 2.998. From the average pre-test and post-test, the average value of the difference is 26.6 and the standard deviation is different by 1.9. So that in can the calculated value> ttabel with a value of 44.26 for thitung and a value of 1.833 for ttabel.

Normality Testing

The normality test aims to test the normality of the research data. Normality tests are tested against research pre-test and post-test data. The normality test formula used in this study is the lilliefors test. Data can be said to be normal if it meets the criteria at α 0.05 Lhitung < Ltabel.

Table 2. Results of the Normality Test of Research Data

Exercise	Data	Variance	F_{count}	F_{tabel}	A	Conclusion
Push Up and Dumbbel l Front	Pre-test	1,697	1,768	3,39	0,5	Homogen
	Post-test	2,999				

Testing the normality of the data using the lilliefors test, from pre-test and Post-test data of push up exercises and front dumbbells against the speed of the kizame gyaku tsuki blow obtained Lhitung = 0.173 and 0.137 and Ltabel = 0.258 with n = 10 and a level of α = 0.05. Since Lhitung < Ltabel it can be concluded that the sample comes from a normal distribution population.

Homogeneity Testing

The homogeneity test in this study aims to find out whether the research data is homogeneous or not. The data in the study is said to be homogeneous if it meets the criteria, namely Fhitung < Ftabel. In this study, the homogeneity test formula used was the F test.

Tabel 3. Homogeneity Test Results

Data	Lcount	Ltabel	Information
Pre-test kizame gyaku tsuki	0,173	0,258	Usual
post-test kizame gyaku tsuki	0,137	0,258	Usual

Normality of Research Data

Based on the calculation results attached to the appendix, it is known that the F test result of the Pre test data is 1.697. And post-test data of 2,999. Where the data criteria are said to be homogeneous if F counts < Ftabel. The Fhitung is worth 1.768 and the Ftabel value is 3.39. Then the value of F counts < Ftabel (1.768 < 3.39). It can be concluded that the data in this study are homogeneous.

Hypothesis Testing

Hypothesis Testing is used to see if free variables in research have an effect on bound variables. The hypothesis test was used in this study to determine whether there was a significant variation influence on push ups and front dumbbells on the results of the speed of kizame gyaku tsuki punches in the men's athletes of IKANAS Aceh Tengah 2022. The hypothesis is accepted if at the level of significance 0.05 thitung > ttabel and vice versa.

DISCUSSION

The results of the research conducted obtained a calculated hypothesis test of 44,259. Furthermore,

the price is compared with the Ttabel price with dk = n-1 = 10-1 = 9 at the level of α = 0.05. In the hypothesis testing criteria, it is stated that at the calculation of > ttabel 44.259 > 1.833) with a level of α = 0.05 then Ho is rejected and Ha is accepted. Based on the results of the research hypothesis received, it can be concluded that there is a significant influence on the variation of push ups and front dumbbells on the results of the speed of kizame gyaku tsuki punches in the men's athletes of IKANAS Aceh Tengah 2022.

The types of punches will increase in number at a later level (Venkatraman & Nasiriavanaki, 2019). In each sport, the need for physical condition varies (Woods et al., 2019). There are sports that require strength, speed, endurance, but there are sports that only require flexibility and strength and so do sports that require all the perfect physical qualities. Push Ups are movements that can train the strength of the biceps and triceps muscles. In the sport of karate push up exercises are indispensable for training the endurance of the shoulders and arms. Strong muscles are muscles that have great muscular endurance so that they can be sure to have a large strength value as well. Strong muscles are muscles that have great muscular endurance so that they can be sure to have a large strength value as well. Strength is a combination of a person's physical condition about his ability to use muscles to receive weights while working. With this basis, the exercises given programmatically and systematically and the increased loading is expected to increase the strength of the arms. Dumbbell training is a weight training program that aims to train the strength of the shoulder and arm muscles. This exercise greatly affects fitness activities and quality of life or reduces the risk of injury that hinders the ability to do an activity. This exercise program aims to achieve an increase in free movement in order to produce maximum strength (Bafirman & Wahyuri, 2019).

CONCLUSION

Based on the research results that have been obtained by analyzing and testing the hypotheses, it can be concluded that there is a significant effect of variations in the push up and dumbbell front exercises which have a significant effect on increasing the speed of hitting Kizame Gyaku Tsuki in the male athletes of IKAN Central Aceh 2022.

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