Jurnal Pendidikan Jasmani (JPJ)
Vol. 3, No.1,Juni 2022
ISSN: 2723-2816 (Online)

The Effect of Circuit Training on Mawashi Geri's Kick Speed Results for Kumite Athletes at the KKNSI Dojo Don Bosco Disci College in 2020

Indra Irianto[1], Rahman Situmeang[2]

[1,2]Fakultas Ilmu Keolahragaan, Universitas Negeri Medan, Street Willem Iskandar Medan Estate, North Sumatera, 20221, Indonesia

Abstract
The purpose of this study was to determine the effect of circuit training training on the results of Mawashi Geri's kick speed in Kumite athletes Go to KKNSI Don Bosco Diski in 2020. The location of this research was carried out at Dojo Don Bosco Diski Catholic School Deli Murni Diski. When this research was conducted in July until August. The research method used in this research is the experimental method. The population was all athletes of the Don Bosco Diski Dojo totaling 26 people and the number of samples was 8 people obtained by simple random sampling technique. Research instrument for data collection. This research was conducted for 18 meetings with a frequency of training 4 (four) times a week. To see the effect of the independent and dependent variables, t-test calculations were used. With this research, it can provide accurate data about the effect of Circuit Training training on increasing Mawashi Geri's kick speed in the Don Bosco Diski Kumite Dojo athlete in 2020. The results of this study indicate that there is a significant effect of Circuit Training training on the improvement of Mawashi Geri's tendanga speed in Don Bosco Diski Kumite athletes with hypothesis analysis from the pre-test and post-test data, the results of the kick speed results obtained tcount = 11.80 and t table of = 1.86 with α = 0.05 (tcount> ttable) or (11.80> 1.86) means that Ho is rejected and Ha is accepted.
Keywords: *Circuit Training, Mawashi Geri's Kick Speed*

Correspondence author: Indra Irianto, Universitas Negeri Medan, Indonesia.
Email: Indraaruan16@gmail.com

INTRODUCTION

The highest sporting achievement is certainly always desired by every athlete (Brown et al., 2018), especially for athletes or those who pursue it well individually or in groups. To achieve this, the right way to do this is to provide coaching and training for each achievement sport with a good training program according to the rules and regulations that apply in training.

Karate is one of the many sports, especially martial arts, which has been developing for a long time in Indonesia (Simbolon & Siahaan, 2020). Karate is also an achievement sport that is competed both in the national and international areas. In karate, there are two types of motion components that are contested, namely kata and kumite. Kata is a move which is a combination of

all the basic techniques, namely parry, fist, jerk, or kick and strung together in such a way in a single unit in a tangible form". While "kumite is a battle of two people facing each other and displaying each other's techniques".

Many factors determine the success of the achievement, such as technical, physical, tactical and mental factors (Fadilah & Wibowo, 2018). Of the four supporting factors, the one that needs to be trained and developed is the physical condition factor, where the physical condition factor is a must-have factor in an effort to achieve maximum performance. The physical condition consists of several components, namely "strength, endurance, speed, agility, flexibility, balance, accuracy, coordination, and reaction are a unified whole that needs attention in improving and maintaining (Rustiawan, 2020).

Karate has several Kihon or basic movement techniques that must be learned, including Dachi (stances), Uke (blocks), Tsuki (punches), and Geri (kicks). In this study the researchers discussed the mawashi geri kick, mawashi geri is a circular kick with chusoku. Where this research was conducted at the Dojo of the Indonesian Karate-do Naga Sakti Unity Don Bosco Disci. Dojo Don Bosco Diski is one of the dojos that was established in 2005 which was trained by Hobby Sihombing's sensei who holds a black belt and a national V/training certificate. From the observations of researchers at the Indonesian Karate-do Naga Sakti Dojo, Don Bosco Diski, that athletes who practice already have a good mawashi geri kick technique, this can be seen when researchers observe and observe where their feet rest, the position of their hands is in front of their chest, their bodies are upright. do not bend and when kicking the hand movements are in rhythm with the rotation of the waist. However, when viewed in terms of speed in achieving the desired target, there are some athletes who are still slow in kicking. This is because the trainer only provides speed training in the form of cues and sprints.

Furthermore, from the results of the researcher's interview with the sensei dojo of the Indonesian Karate-do Naga Sakti Unit, Don Bosco Diski, it turned out that the athlete's achievements were less than satisfactory, where the results of the matches they participated in at the junior and senior levels of the Kejurda and National Championships of the Indonesian Karate-do Naga Sakti Unity Don Bosco Diski were not yet successful. got satisfactory results in this regard, in every match the Indonesian Karate-do Naga Sakti Dojo athlete, Don Bosco, had not yet

won a medal according to the target, where in the North Sumatra Forki Championships match he only got a bronze medal on behalf of Wilson and the Forki National Championship could not get a medal. After being observed, it turned out that this was caused by the lack of speed in making mawashi geri kicks that were easily anticipated by the opponent so that they did not produce points. This is influenced by the absence of an inadequate form of physical exercise, where during exercise the form of physical exercise is only in the form of sprints with a distance of 10-15 meters, push-ups with a total of 20 repetitions, sit-ups with a total of 20 repetitions, even though kicks are like mawashi geri when done. quickly, accurately and powerfully will get bigger points, namely getting 2 points, while the mawashi geri kick technique is good this can be seen when the researcher observes and observes where their feet rest, the position of their hands is in front of their chest, their bodies are upright not bent and when kicking hand movements are in sync with the rotation of the waist. The athlete's physical condition is not adequate because the training program is set 3 times a week with the training forms described above.

Based on the results of observations and interviews in the field, the researcher wishes to increase the speed of the mawashi geri kick by providing a form of exercise that has not been fully utilized, namely the form of circuit training. circuit training is an exercise system that can simultaneously improve the overall fitness of the body, namely the components of endurance, speed, flexibility, mobility, and other physical components. Circuit training not only develops one physical component but can also develop other physical conditions (Sari et al., 2021).

From the description above, it is known that physical conditions consisting of strength, speed, endurance, reaction, coordination, and balance are factors that can increase the speed of mawashi geri kicks which can be overcome by circuit training. So researchers are interested in researching "The Effect of Circuit Training on Mawashi Geri's Kick Speed on Kumite Athletes at the Indonesian Karate-do Naga Sakti Unity College Dojo Don Bosco Disci.

METHOD

This research was conducted at the Dojo Don Bosco Disci Catholic School Deli Murni Diski. This research was carried out for 18 meetings within 4 meetings per week, starting on 27 July to 31 August 2020. The population is the entire research subject. In this study, the population

is all karate athletes Dojo Don Bosco Diski. The sample is part of the representative to be studied. The sample that will be used in this research is all of the kumite karate athletes Dojo Don Bosco Diski.

In accordance with the problems and research objectives that have been described previously, the research method used is the experimental method. Treatment with data collection techniques using tests. This treatment was carried out for 5 weeks with a frequency of exercise 4 times a week .The variables studied in this study were the circuit training method as the independent variable and the mawashi geri kick speed as the dependent variable. In practice, before the athlete is given treatment, the athlete performs an initial test, namely by testing the ability to kick as quickly as possible with the correct technique. Then the athlete or sample is given training as mentioned above, namely the circuit training method with an exercise program that has been prepared.

Then after 5 weeks of programmed training, at the beginning of the 5th week, the sample did a post-test the same as in the initial test which was useful to find out whether the form of exercise given could affect the athlete or the sample. The research design used was a pre-test and post-test one group design (Dede Pebriandi Sihotang & Novita, 2021). The study was conducted for 18 meetings (5 weeks) with a frequency of exercise 4 times a week. Where pre-test data is taken then given treatment and finally post-test data is taken. The assessment in this study is a test of the speed of the mawashi geri kick. The kick speed test was carried out after the circuit training method was given. The technique for obtaining data is by testing the speed of the mawashi geri kick.

RESULTS AND DISCUSSION

Result

The results of tests and measurements carried out in the field are the findings of research conducted during 18 meetings. Done to reveal the truth of the hypothesis that has been proposed. From the results of the pre-test Mawashi Geri kick obtained an average value of 1.75 and standard deviation of 0.04. From the post-test results obtained an average of 1.41 and standard deviation of 0.04. From the average pre-test and post-test, the average value difference is 0.0425 with a standard deviation of 0.0103, so that tcount is 11.80 and ttable is 1.86.

Testing Requirements Analysis

Testing the requirements of the analysis is a requirement that must be met before the t-test analysis is carried out. There are two conditions that must be met before conducting the t-test analysis, namely (1) normality test and (2) population variance homogeneity test. To test the normality of the data in this study using the Lillifors test and to test the homogeneity of the population variance using the Variance Test both at a significance level of = 0.05.

Normality test

Testing the normality of data from Mawashi Geri's kick results on KKNSI Dojo Don Bosco Disci college kumite athletes in 2020 was carried out on the overall data of athletes who were given the stages of training (pre-test and post-test).

Testing the normality of the data using the Lilifors test, from the list column of the Circuit Training pre-test to increase Mawashi Geri's kick speed, L_0 = 0.0194 and L_table = 0.285 with n = 8 and level = 0.05, because L_(count) < L_table it can be concluded that the sample comes from a normal population. From the post-test list column of Circuit Training exercises to increase Mawashi Geri's kick speed, it is obtained L_0 = -0.0337 and L_table = 0.285 with n = 8 and level = 0.05, because L_(count) < L_table it can be concluded that the sample comes from from the normal population.

Homogeneity Test

The homogeneity test of the pre-test and post-test data from Mawashi Geri's kick speed results obtained F_count = 1.22, it is known that n = 8 v = N-1 = 8-1 = 7 so that F_((0.05)(8, 8)) = 3.79 with a significance level of = 0.05 then F_count <F_table (1.22 <3.79) it can be concluded that the data comes from homogeneous variance.

Hypothesis test

Hypothesis testing was carried out with a paired t-test to determine the effect of Circuit Training on increasing Mawashi Geri's kick speed. Based on the results of the calculations carried out, the obtained t_count is 21. Then this value is compared with the value of t_table with dk= n-1 (8-1=7) at a significant level = 0.05 is 1.86, thus t_count> t_table (11 ,80>1.86). This means that

H_0 is rejected, H_is accepted. Thus, it can be concluded that the Circuit Training exercise has a significant effect on increasing the kick speed of Mawashi Geri kumite at the KKNSI Dojo Don Bosco Disci college in 2020.

Discussion

From the analysis of the data results that have been carried out, it can be concluded that through the application of Circuit Training exercises can increase the speed of Mawashi Geri kicks in KKNSI Dojo don Bosco Disci college kumite athletes in 2020. From the results of data analysis it can also be seen that the results of the pre-test are still low, so it is carried out the application of Circuit Training exercises in the athlete's training process.

In this study, the Circuit Training exercise was intended to see its effect on increasing the speed of Mawashi Geri's kicks on the KKNSI Dojo Don Bosco Disci 2020 kumite athletes. By being given training for 5 weeks, it provides new knowledge in terms of physical training and also provides its own experience for athletes.

Circuit training in this research is post 1: sprint which aims to maximize speed. Pos 2: high knee running which aims to accelerate foot movement. Pos 3: torso twist ladder drill which aims to train the waist movement. Pos 4: sprint against the walls which also aims to speed up foot movement. Post 5: straight leg running which aims to increase the speed of the legs. Post 6: put rubber tires on the feet which aims to relieve the feet.

A good and correct training process must take into account and adjust volume, frequency, and internal recovery or rest periods during exercise, especially in the overload principle (Ihsan, 2020). In this study it was clearly proven that the circuit training method can increase the speed of the mawashi geri kick in the KKNSI dojo don bosco disci college kumite athletes in 2020.

This is related to the research of (Rahman Situmeang, 2016) which shows that there is a significant relationship of leg muscle power (x) to the kick speed of mawashi geri chudan (y) at the 2015 Dojo Capital Karate Club. -sama discusses the mawashi geri kick technique. While the difference with this study is the training method given to the sample.

The Circuit Training method can improve the kicking ability of Deol Ochagi in male pre-junior taekwondo athletes aged 10-13 years TNT Club. The similarity of this research with the research that I researched is that they both apply the Circuit Training training method. While the difference with my research is the discussion of the kick technique that is meticulously examined where this study discusses Deol Ohcagi's kick in the taekwondo martial sport. While my research discusses Mawashi Geri kicks in the karate branch of martial arts.

CONCLUSION

Based on the results of the discussion of this study, conclusions were obtained, namely: there was a significant effect by providing Circuit Training exercises on increasing Mawashi Geri kick speed in KKNSI Dojo Don Bosko Disci college kumite athletes in 2020.

ACKNOWLEDGMENT

Thank you to the Dojo Don Bosko Disci college kumite athletes in 2020, which has permitted us to collect data so that this research could run well.

REFERENCES

Brown, C. J., Webb, T. L., Robinson, M. A., & Cotgreave, R. (2018). Athletes' experiences of social support during their transition out of elite sport: An interpretive phenomenological analysis. *Psychology of Sport and Exercise*, *36*(June 2017), 71–80. https://doi.org/10.1016/j.psychsport.2018.01.003

Dede Pebriandi Sihotang, & Novita. (2021). Pengaruh Latihan Circuit Training Untuk Meningkatkan Kesegaran Jasmani Atlit Pencak Silat Usia Dini (9-12 Tahun) Di Perguruan Tapak Suci Gelanggang Sd Muhammadiyah 18 Medan. *Journal Physical Health Recreation*, *2*(1), 34–44. https://doi.org/10.55081/jphr.v2i1.517

Fadilah, M., & Wibowo, R. (2018). Kontribusi Keterampilan Gerak Fundamental Terhadap Keterampilan Bermain Small-Sided Handball Games. *Jurnal Pendidikan Jasmani Dan Olahraga*, *3*(1), 60. https://doi.org/10.17509/jpjo.v3i1.7667

Ihsan, N. (2020). *The Effect of Limb Length on Speed of Mawashi Geri Kick in Karate Kumite for Adult*. *464*(Psshers 2019), 938–941. https://doi.org/10.2991/assehr.k.200824.208

Rahman Situmeang. (2016). HUBUNGAN POWER OTOT TUNGKAI TERHADAP KECEPATAN MAWASHI GERY CHUDAN PADA KARATEKA DOJO CAPITAL KARATE CLUB TAHUN 2015. *Generasi Kampus*, *9*(1), 17–24.

Rustiawan, H. (2020). Pengaruh Latihan Interval Training Dengan Running Circuit Terhadap

Peningkatan Vo2Max. *Jurnal Wahana Pendidikan*, *7*(1), 15. https://doi.org/10.25157/wa.v7i1.3108

Sari, L. P., Sundari, D., Hendrawan, D., Karo, A. A. P. K., & Usman, K. (2021). The Effect of Circuit Training and Beetroot Training on the Increased Endurance of Karate Athletes. *ACPES Journal of Physical Education, Sport, and Health (AJPESH)*, *1*(1), 41–49. https://doi.org/10.15294/ajpesh.v1i1.46299

Simbolon, R. F., & Siahaan, D. (2020). Pengembangan Instrumen Tes Kecepatan Tendangan Mawashi Geri Pada Cabang Olahraga Karate. *Jurnal Prestasi*, *4*(2), 49. https://doi.org/10.24114/jp.v4i2.21585