

THE EFFECT OF SQUAT THRUST TRAINING ON THE FLEXIBILITY OF KARATE ATHLETES

¹Diana Tiara, ²Syamsuramel, ³Destriana

Correspondence: ¹ Universitas Sriwijaya, Palembang, South Sumatera, Indonesia

Email: dianatiara2017@gmail.com, syasuramel@fkip.unsri.ac.id,
destriana@fkip.unsri.ac.id

ABSTRACT

This study aims to determine the effect of squat thrust training on KKI Sumsel Karate Dojo athletes. The method used in this study, namely quasy experimentation, is a research method that does not use random assignments but uses existing groups. The research design used is the One Group Pretest-Posttest Design. This sample was taken using a total population sampling technique with a total sample of 15 athletes. The research instrument, namely the sit and reach test, measures the level of flexibility. From the results of data processing and analysis using the data normality test and hypothesis testing with the T test formula, that only the squat thrust exercise has an effect on increasing the results of flexibility in karate athletes. These results are seen from the results of data analysis through the calculation of the t test formula with the criteria t count greater than t table ($13.510 > 1.60$) with a confidence level of 0.96 ($\alpha = 0.05$) and the number of samples ($N = 15$). The findings from this study are that only squat thrust exercises can improve flexibility results. The implementation of the results of this study exercised squat thrust had an effect on increasing the flexibility of the Dojo KKI Karate athletes in South Sumatra.

Kata Kunci: *Squath Thrust, Flexibility, Karate.*

Introduction

Karate is a branch of martial arts using bare hands and feet to paralyze opponents. Karate is a branch of martial arts in which the forms of movement activities use the feet and hands such as punches, blocks and kicks. As well as being a martial art from Japan which in its activities always requires a movement of punches, kicks, blocks, slams, agility, with power and both in words and kumite (Pratama & Setyawati, 2021). The martial art of karate originates from Okinawa. Okinawa is a small island that is now part of Japan. This martial art was first called "tote" which means like "china hand". When karate entered Japan, Japanese nationalism at that time was at its highest. In 1921, Girchin Funakoshi (1886-1957), a person from Suri, succeeded in introducing tote martial arts in Japan. Karate martial arts is a descendant of teachings originating from the noble Buddhist religion, therefore, people who learn karate should be humble and gentle, have faith, strength and confidence. (Kurniawan, 2021). Murza et al., (2022) explaining karate techniques is divided into three main parts namely; (1) kihon, the basic movement or foundation (2) kata, namely the practice of moves; (3) kumite, namely sparring or fighting training. In karate, there are various martial arts techniques to learn, including dachi stance techniques, tsuki punch techniques, geri kick techniques, and uke parry techniques, stance techniques are the initial techniques learned in karate martial arts. The stance technique can be interpreted as a very basic movement or as an initial foundation in karate movements. If the stance is not solid, then the karate movement is not perfect. There are three types of early stance techniques in karate, namely zenkutsu-dachi, kokutsu-dachi, and kiba-dachi. After mastering the stance technique correctly, then proceed with learning the punching

technique. There are various types of punching techniques, but what a karateka learns first is the oi-tsuki and gyaku-tsuki punches. There are also various types of parry techniques, including gedan-barai, age-uke, ude-uke, shuto-uke, and so on. Karate technique training is divided into 3 categories: 1) Kihon or basic techniques, in principle, is the practice of basic karate techniques such as punching techniques, kicks, blocks and evasions. 2) Words or forms (stances), in principle, are demonstration exercises for the form of kumite movements. 3) Kumite or rules of free combat techniques are in principle a practice match or resistance to test the ability to paralyze the opponent.

In the sport of karate, improving physical condition and achievement is the main goal of training. In an effort to improve the physical condition of athletes, physical conditions need to be developed, one of which is flexibility. To improve this flexibility ability requires an exercise. Training is a systematic process that is useful for preparing the athlete's condition at the highest level of performance which is carried out repeatedly with increasing loads (Halsan et al., 2021). Training in a physiological sense is an improvement of organ systems and functions in their duties to realize an athlete's achievement and training is a work process that must be carried out systematically and repeatedly. (Arisman, 2019). Bumpa in Maksun (2021) The frequency of practice is called the frequency of performance (density). The frequency of the load can be interpreted as the repetition or repetition of the load, both the repetition of each exercise and the repetition of the exercise per unit of exercise, per day, per week and so on. According to Bumpa in Iyakrus (2017) the increase in training occurs within 2-6 weeks but usually 4 weeks (1 month). The thing to note is that there is an increase in exercise if the exercise is done at least 3 a week, and a maximum of 12-14 times a week (2 sessions a day). Flexibility is the body's ability to perform exercises with a large or wide amplitude of movement (Chandra & Mariati, 2020), Rusli in Purba (2017) states that flexibility is the ability to perform joint movements through a wide range of motion. Meanwhile, Syafruddin's opinion was quoted Manullang (2017) Basically, flexibility can be seen from several points of view, when viewed from the point of view of the needs of a sport, flexibility can be divided into general flexibility and special flexibility. When viewed from the form of implementation, flexibility can be grouped into active flexibility, passive flexibility, static flexibility, and dynamic flexibility. Karate-ka who has a high level of flexibility, that is, has a wide range of joint motion and is accompanied by muscle strength, will enable him to move faster. The following are the factors that affect the flexibility of a person's body according to Suharti (2016) namely genetic, muscle, age, temperature, time, muscle strength, and fatigue. Quoted from educational material on the meaning of flexibility and how to train it to work Ahmad Muchlisin Natas Pasaribu (2022) The following types of flexibility exercises, namely the exercise of kissing the knee in a sitting position on the floor exercise, the exercise of kissing the knee in a standing position on the floor exercise, the exercise of kissing the floor in a sitting position with legs stretched out on the floor exercise, the lying straddle exercise, the kayak exercise, the exercise cobra stance, and the splits exercise.

There are many exercises that aim to improve flexibility, one of which is the squat thrust. Squat thrust is a form of exercise that is easy to do and requires no equipment. Squat Thrust is a sport to train muscle strength and leg muscle endurance, especially the muscles in the legs. Based on previous research conducted by R. Kurniawan et al., (2020) The result shows that only squat thrust exercises can affect flexibility. People who do squat thrust will get an ideal body shape and even athletic. According to W. Kurniawan et al., (2019) *Squat is a form of exercise in which two hands are linked behind the head, then jumps to a standing squat. On research* (Trisnowiyanto (2016) Squat thrust exercises can increase flexibility in pencak silat

athletes. Squat thrust is an exercise that aims to train body agility, because this movement when doing it must be able to change body position as quickly as possible. At first stand to squat then push the legs back and bend the body forward and return to the squat position and end by standing.

Thus using squat thrust exercises can increase flexibility in karate athletes, especially in the kumite category. Dojo KKI Sumsel has routine training for athletes from an early age to seniors. In training at the South Sumatran KKI Dojo, the athletes were divided into 2 groups of young athletes, a group of pre/beginner athletes, a group of junior athletes and a group of senior athletes in the South Sumatra KKI Dojo at Graha Trisila, Jalan Sultan Mahmud Badaruddin II Km. 11 No. 2281, Sukodadi, Kec. Sukarami. Palembang City, South Sumatra 30961. For groups of athletes at an early age, pre/beginner, junior and senior, what is being done is an emphasis on advanced basic techniques, and physical preparation for inter-dojos matches. In the junior group physical training is an important component to improve kumite skills in karate. Based on the author's observations at the time of initial observation at the KKI Dojo in South Sumatra, the problem faced by athletes is a lack of flexibility due to various factors, one of which is the athlete's interest in making flexible movements both during warm-up or when making flexible movements such as kissing the knee in a standing or sitting position. For this reason, it is necessary to hold exercises to increase flexibility in order to be able to get maximum results. To get maximum flexibility, an athlete and coach must be more intensive in training and need to add variations in flexibility exercises.

The problems that often occur during training are difficulties in choosing the right training method, lack of variety of exercises and difficulty determining exercise intensity to improve athlete performance, as well as in preparing exercises that are efficient and have relevance in line with training objectives, therefore, it is necessary to hold a varied program of exercises designed to increase flexibility and to avoid burnout, aversion and health Rahman & Syamsuramel (2022). Based on previous research conducted by Rizki Kurniawan (2020) there is an effect of squat thrust training on smash flexibility in badminton games at STKIP BBG Banda Aceh badminton club. Therefore the author tries to examine how the squat thrust exercise influences flexibility and from the opinion above it can be concluded that the squat thrust is an exercise that has many benefits, because when we do the squat thrust all parts of the body work in its implementation. From the background above, the writer as a trainer is interested in researching "The Influence of Squat Thrust Exercise on the Flexibility of Karate Dojo Athletes KKI South Sumatra".

Method

This study uses a type of research that is experimental and uses a pretest and posttest one group research design. The purpose of this study is to determine whether there is an influence of the independent variables on the related variables (Sugiyono, 2019) The variables in this study consisted of the independent variable, namely the squat thrust exercise, and the dependent variable, which was the result of flexibility in karate athletes. The population in this study was 15 athletes and the sample used for this study was 15 athletes or using the total population sampling technique. The instrument for collecting this data is to measure the results of flexibility in karate athletes both from the initial test (pretest) and the final test (posttest). The analysis technique used in this study is the T test using the data normality test, homogeneity test and hypothesis testing using the SPSS 21 composting program.

Discussion

Based on data from the pretest and posttest flexibility test results, it is known that for the flexibility pretest results, the largest flexibility result is 44, the smallest is 20, the range is 24, the average test is 29, and the standard deviation is 6.08. Posttest data results for the greatest flexibility is 48, the smallest is 30, the range is 18, the average test is 35, and the standard deviation is 5.1. Based on the results of the pretest and posttest, it is known that there is a difference in the mean of 6. The normality test uses One Sample Kolmogorov Smirnov on the pretest data of 0.070 and the posttest of 0.180, so the results obtained for the data are normally distributed. The results of the pretest and posttest hypothesis testing using the "t test" yielded 13.510, while the T table was 1.60 which was obtained from the T dispersion table with dk = 35 and a certainty level of 96% (= 0.05) recorded in the table. The standard speculation test admits H_1 if $T_{count} > T_{table}$ (-1), and rejects H_0 if $T_{count} < T_{table}$ (1-), because T_{count} (13.510) $>$ T_{table} (1.60), then there is a big difference between posttest and pretest. In this way H_0 's theory is rejected and H_1 's speculation is accepted. This means that there is an influence of squat thrust training on the flexibility of the Dojo KKI Karate athletes in South Sumatra.

Tabel 1. Uji *Paired T-Test*

Variabel	t-hitung	Sig.	Level of Significant
<i>Pre-test & Post-Test</i>	13,510	0,000	0,05
N: 30			

Sumber: SPSS 21

Based on the results of the research on the effect of squat thrust training on the flexibility of the Dojo KKI Karate athletes in South Sumatra, it can be concluded that squat thrust training can be used to increase flexibility in the Dojo KKI Karate athletes in South Sumatra. 6, this is shown from the pretest totaling for a median value of 22.0 (20 - 24) totaling 5 athletes, a median value of 27.0 (25 - 29) totaling 3 athletes, a median value of 32.0 (30 - 34) 5 athletes, the median value of 37.0 (35 - 39) is 1 athlete, and the median value is 42.0 (40 - 44) is 1 athlete. Then it increased when the posttest totaled a median value of 31.5 (30 - 34) there were 9 athletes, a median value of 35.5 (34 - 37) there were 3 athletes, a median value of 39.5 (38 - 41) there was 1 athlete, median value of 43.5 (42 - 45) there is 1 athlete, and median value of 47.5 (46 - 49) there is 1 athlete. Based on previous research conducted by Kurniawan et al., (2020) The results show that only squat thrust exercises can affect the results of smash flexibility in badminton games at STKIP BBG Banda Aceh badminton club. Agree with the research conducted by Trisnowiyanto (2016) squat thrust exercises can increase flexibility in martial arts athletes. This is because, it can be seen that there is an increase from the pretest and posttest after being given treatment in the form of squat thrust exercises. Given that this exercise is allowed for one and a half months with repetitions carried out 3 times in one week. Based on this according to what was said by Aminah et al., (2018) that only preparation is the right interaction to prepare competitors at the best level of execution and is completed more than once with increasing loads. The purpose of this study is to improve the results of flexibility in Karate Dojo KKI athletes in South Sumatra. The squat thrust exercise is a physical exercise that exercises the lower body by squatting and standing. Victorian & Sari (2019) squat thrust exercise is the ability to change the direction of body position quickly and precisely while

moving, without losing balance and awareness of body position. This squat thrust exercise is a way of exercising that can be done anywhere and can be done at any time and cannot require assistance (Furkan et al., 2021). Meanwhile, according to J. Nossek in Destriana (2018) that in an exercise it must be done repeatedly by increasing the resistance (load) in order to increase the required strength and muscle endurance. Based on the description above that has been explained, it can be concluded that the squat thrust exercise is a physical exercise that prioritizes to train one of them to practice flexibility which is very effective to be done anywhere and can be done at any time, and without the need for assistance.

The results obtained show that only the squat thrust exercise can be given to KKI South Sumatra KKI karate dojo athletes, because it has a positive impact on increasing the results of flexibility in karate athletes. This ability in flexibility basically requires ability procedures in joints and muscles and specifically to increase flexibility, in this case adapted to the quality and support needed by each athlete. Flexibility is very necessary in sports activities or other body activities, body flexibility is also very helpful for mastering basic movements and self-confidence in a person. Flexibility is a person's effectiveness in adjusting himself in carrying out all bodily activities by stretching as wide as possible (Suharjana, 2013). This flexibility is needed especially in the sport of karate, in terms of kicking, punching or other movements. According to Purba, (2017) flexibility is one of the elements of physical condition in terms of supporting the ability to kick. Flexibility supports the ability of the joints that support the movement of the limbs, the wider the joint, the lighter it is to make kicks so that it is easy to direct and increase the speed of the kick itself. Flexibility is a stretching or ranged movement that is carried out with maximum elasticity in the joints and muscle tissue. So from the explanation above, the conclusion is that squat thrust exercises can improve flexibility results in Karate dojo KKI athletes in South Sumatra.

Conclusion

Based on the results of the research and analysis of the data that has been obtained, it can be concluded that the squat thrust exercise alone can affect the increase in the results of flexibility in the Dojo KKI Karate athletes in South Sumatra. The results of this study showed that the squat thrust exercise can be used as a training method to improve flexibility results.

References

- Ahmad Muchlisin Natas Pasaribu, A. M. N. (2022). *Buku Ajar Senam Dasar*.
- Aminah, S., Syamsuramel, S., Sukirno, S., & Destriani, D. (2018). Pengaruh Latihan Shuttle Run terhadap Hasil Tendangan Mawasi Karate pada Kegiatan Ekstrakurikuler SMA. *Altius: Jurnal Ilmu Olahraga Dan Kesehatan*, 7(2).
- Arisman, A. (2019). Pengaruh Latihan Square terhadap Daya Tahan Aerobic Atlet Sriwijaya Archery Club. *Gelombang Olahraga: Jurnal Pendidikan Jasmani Dan Olahraga*, 2(2), 45–53.
- Chandra, B., & Mariati, S. (2020). Daya Ledak Otot Tungkai dan Kelentukan Otot Pinggang Memberikan Kontribusi Terhadap Kemampuan Smash Bolavoli. *Jurnal Patriot*, 2(1), 96–110.
- Destriana, D. (2018). Latihan Pasing Atas Double Contact Terhadap Keterampilan Bola Voli. *Altius: Jurnal Ilmu Olahraga Dan Kesehatan*, 7(1).
- Furkan, F., Rusdin, R., & Shandi, S. A. (2021). Menjaga Daya Tahan Tubuh Dengan Olahraga

- Saat Pandemi Corona Covid-19. *JISIP (Jurnal Ilmu Sosial Dan Pendidikan)*, 5(1).
- Halsan, M. A., Syamsuramel, S., & Destriana, D. (2021). Interval training terhadap daya tahan pemain akademi futsal petropali. *Prosiding Seminar Nasional Pendidikan Jasmani Dan Kesehatan*, 1(1), 387–396.
- Iyakrus, I. (2017). Artikel: Pengaruh Latihan Menggunakan Raket Tenis Lapangan Terhadap Hasil Pukulan Overhead Lob Bulutangkis. *Altius: Jurnal Ilmu Olahraga Dan Kesehatan*, 6(2), 141–147.
- Kurniawan, F. (2021.). *Analisis Perkembangan Makna “Karate-GOI” (空手語彙)*.
- Kurniawan, R., Sarwita, T., & Munzir, M. (2020). Pengaruh Latihan Squat Trusht Terhadap Kelenturan Smash Dalam Permainan Bulutangkis Pada Ukm Bulutangkis STKIP BBG Banda Aceh. *Jurnal Ilmiah Mahasiswa Pendidikan*, 1(1).
- Kurniawan, W., Triansyah, A., & Haetami, M. (2019). Pengaruh Latihan Squat Jump Dan Box Jump Terhadap Keterampilan Long Pass Pada Permainan Sepak Bola. *Jurnal Pendidikan Dan Pembelajaran Khatulistiwa (JPPK)*, 8(3).
- Maksum, A. (2021). *Pengaruh Latihan Power Otot Tungkai Terhadap Kemampuan Tendangan Sabit Pada Atlet Pencak Silat*. Universitas Islam Riau.
- Manullang, J. G. (2017). Hubungan Kelentukan Sendi Panggul Dengan Kemampuan Tendangan Mawashi Geri Dalam Olahraga Beladiri Karate Di SMA Fitra Abdi Palembang. *Jurnal Prestasi*, 1(2), 41–46.
- Murza, M., Pranata, D. Y., & Sarwita, T. (2022). Pengaruh Latihan Karet Terhadap Kecepatan Tendangan Pada Cabang Olahraga Karate Di Dojo Balitan. *Jurnal Ilmiah Mahasiswa Pendidikan*, 3(2).
- Pratama, L. P., & Setyawati, H. (2021). Pembinaan Prestasi Atlet Wushu Sanda Jawa Tengah Menuju Juara. *Indonesian Journal for Physical Education and Sport*, 2, 8–12.
- Purba, P. H. (2017). Hubungan kelentukan dan kelincahan terhadap kecepatan tendangan mawashi gery chudan pada karateka perguruan wadokai dojo UNIMED. *Jurnal Prestasi*, 1(1).
- RAHMAN, T., & Syamsuramel, S. (2022). *Pengaruh Latihan Interval Intensif Terhadap Kecepatan Lari Sprint Pada Kegiatan Ekstrakurikuler SMP Negeri 4 Satu Atap Indralaya*. Sriwijaya University.
- Sugiyono, S. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.
- Suharjana, F. (2013). Kebugaran kardiorespirasi dan indek masa tubuh mahasiswa KKN-PPL PGSD Penjas FIK UNY Kampus Wates tahun 2012. *Jurnal Pendidikan Jasmani Indonesia*, 9(2), 117–124.
- Suharti, S. (2016). Perkembangan Gerak: Kelentukan (Flexybility). *Gelora: Jurnal Pendidikan Olahraga Dan Kesehatan IKIP Mataram*, 3(2), 502–505.
- Trisnowiyanto, B. (2016). Latihan Peningkatan Kemampuan Biomotor (Kelincahan, Kecepatan, Keseimbangan Dan Fleksibilitas) Dengan Teknik Lari (Shuttle Run, Zig-Zag, Formasi 8) Pada Pesilat. *Jurnal Keterampilan Fisik*, 1(2).
- Victorian, A. R., & Sari, N. (2019). Pengaruh Latihan Squat Thrust Terhadap Kemampuan Lemparan Over Head Pass Dalam Permainan Bola Basket. *Altius : Jurnal Ilmu Olahraga Dan Kesehatan. Volume 8 No 1, Hal 38-43.*, 8(1), 38–43.