

Research Article

Survey of physical conditions of prospective athletes "Perisai Diri" Malang District branch

Wahyu Nadia Nur Khasanah¹, Eko Hariyanto^{2*}

^{1,2} Faculty of Sports Science, Universitas Negeri Malang, Malang City, East Java Province, 65145, Indonesia

*Corresponding author, email: eko.hariyanto.fik@um.ac.id

ABSTRACT

Physical conditions greatly affect the ability and skills of an athlete to master movement in a sport, especially Pencak Silat. The purpose of this research is to find out how the physical condition of the athletes at the level of prospective families of the Perisai Diri branch of Malang Regency is. This study used a descriptive quantitative research design and used survey research methods. The results of the survey research on the physical condition of Cakel (Prospective family level) of the Malang Regency branch of Perisai Diri showed that the average physical condition of the red belt level athletes or prospective families of the Malang Regency branch of Perisai Diri was included in the "Medium" category (30%) with an average score of The average is 250.66 and the percentage value of red belt level athletes or prospective families who have "Very Good" physical conditions are 0 athletes (0%), "Good" is 13 athletes (43%), "Medium" are 9 athletes (30%), "Less" by 5 athletes (17%) and "Very Less" by 3 athletes (10%). From this study, it can be concluded that the intensity and frequency of an athlete's exercise greatly affect the athlete's physical condition.

ARTICLE HISTORY

Received 30 November 2022

Accepted 3 February 2023

KEYWORDS

Physical condition; martial arts; perisai diri; prospective family level

Introduction

Sports is one of the platforms that can be utilized to improve human quality aimed at shaping character and personality. Not only for health, but many sports are also carried out by the community as a means of education and obtaining achievements. Along with the rapid development of science and technological advances in the field of sports, there is a need for efforts to foster and develop the lot of sports, to achieve optimal performance in a sports competition both at the regional or national level and even at the international level.

Sports is an activity that is very popular with the public. Along with the development of the times, sports have become routine activities always done by the community. Sport is a series of physical movements or physical processing that is carried out consciously and arranged in a regular or planned manner to improve the body's functional abilities (Prativi, 2013). Sports have many branches, one of which is martial arts, namely Pencak silat. Sports activities are physical processing activities that can improve the functional quality of the human body and are carried out in a planned and regular manner. Pencak silat is the original cultural heritage of the Indonesian people that must be maintained and preserved so that it can be passed on to the next generation and not taken by other countries. Pencak silat consists of two words that have almost the same meaning, namely "Pencak" and "Silat", both of which have the meaning of martial arts movements (Kholis, 2016). According to Lubis (2016), Pencak silat is a self-defense movement that is included in the original heritage of Indonesian culture, where in ancient times, the Indonesian people created this martial arts movement to sustain their lives by hunting and fighting wild animals in the vast nature. According to its development, Kelatnas Indonesia Perisai Diri is one of the most developed Pencak silat schools in East Java. Kelatnas Indonesia Perisai Diri itself

stands for "Keluarga Silat Nasional Indonesia Perisai Diri". This college has a very rapid development in the eastern part of Java because the center or place of establishment is in the east part of Java, precisely in the city of Surabaya. On July 2, 1955, R.M. Soebandiman Dirdjoatmojo officially established this school (Kencana & Tastrawati, 2018).

According to Budiwanto (2012), every athlete must have good physical condition because the physical condition is the most important factor affecting the success of the athlete. Physical fitness is an indicator of the physical condition of an athlete. Physical fitness can be used as a basis for further training or can be the basis for better mastering techniques and tactics to the maximum. This opinion is in line with the opinion of Amiq (2014), the athlete's physical condition will increase by itself if the intensity of training carried out by athletes runs systematically and regularly using an increasing load. If the physical condition of an athlete is good and often follows routine training, the ability and movement skills of an athlete will be good too, and if the physical condition of an athlete is not good and rarely follows training, the ability and movement skills of an athlete will be less good too (Edwarsyah, Hardiansyah, & Syampurma, 2017).

A person's ability and skill in mastering basic movements and skill movements in a sport are greatly influenced by a person's physical condition, especially in the sport of Pencak silat (Bangun, 2016). The component of physical condition that is very influential in the sport of Pencak silat, according to Lubis (2016), namely the first is strength. Strength is the power used to change the shape or motion of an object (Chan, 2012). Strength is the ability of muscles in the human body to withstand or move loads (Spiering, Mujika, Sharp, & Foulis, 2021). The second component is speed, speed or speed is the slow change in position (displacement) of an object against travel time, and is a vector quantity (has value and direction) (Acar & Eler, 2019). Speed is an effort or movement that is continuous and carried out as quickly as possible to move from one place to another (Arifin, 2018). Speed is the initial capital or potential of the body to perform various movements (Polevoy, 2021). The third component is agility. Agility is the capacity of the human body to change the direction of moving quickly and without losing body balance (Rohman, 2019). Agility is the ability to change the direction of motion without reducing the speed and strength of a movement (Shekhawat & Chauhan, 2021). The last component is endurance, endurance is the capacity of the human body to survive doing certain movements for a long time (Bafirman & Wahyuri, 2018).

According to the results of preliminary observations made by researchers, not a few members of the Malang Regency branch of Perisai Diri only practice when there are competition events and level-up exams. The training is also carried out when approaching the day of the competition event and the level upgrade exam. The athletes only do training with intensity once a week twice, namely on Tuesdays (technical training) and Fridays (physical training). During this time, there has also never been a physical condition measurement test. According to researchers, physical condition measurements need to be carried out so that coaches and athletes can find out how prepared athletes are to face competition events and level advancement exams. Ideally, to achieve good physical condition and maximize participation in competition events and level advancement exams, athletes must train with intensity every other day. In accordance with Rahayu (2017) opinion, the frequency of training that refers to sports achievement is 3-6 times a week, while the frequency of training that refers to physical fitness is carried out 1-3 times a week. The training is carried out routinely and starts long before there is a competition event and level upgrade exam. Based on the results of preliminary observations and problems found by researchers, the researchers were interested in conducting a study entitled "Survey of the Physical Condition of Athletes at the Cakel (Family Candidate) Level of Perisai Diri Malang Regency Branch" to determine the level of physical condition of prospective family level athletes at the Malang Regency branch of the Kelatnas Perisai Diri martial arts college.

Method

Research Design

This study uses a quantitative descriptive research design and uses survey research methods. This research was conducted in 2 stages, the first for male athletes and the second for female athletes. This research was conducted at the Malang Regency branch of the Self-Defense training center, to be precise, the first stage was held at PP ANNUR 2, Bululawang, and the second stage was held at PP AL-HAYAT, Kedungkandang. The first phase of research or tests was conducted on Friday, September 10, 2021, and the second phase on Sunday, September 26, 2021.

Participants

The population used in this study is prospective athletes "Perisai Diri" Malang Regency branch, which totals 50 athletes. The sampling technique used by researchers is the Simple Random Sampling technique so that a sample of 30 athletes is obtained (15 male and 15 female athletes).

Instrument

The test instruments in this study were push-ups (arm muscle strength), sit-ups (abdominal muscle strength), kicking for 10 seconds (kick speed), a zig-zag test (agility), and Multistage fitness test (cardiovascular endurance).

Data Analysis

This research uses descriptive percentage data analysis techniques and data equalization using T-score analysis, according to Sudijono (2015). The analysis process starts by reviewing all the data that has been obtained both through the results of interviews and test results that researchers have conducted. This analysis process was chosen because it is in accordance with the research objectives of the survey of the physical condition of prospective athletes of the Malang Regency branch of "Perisai Diri" using the formula:

$$P = \frac{F}{N} \times 100\%$$

Description:

P = Percentage

F = Frequency

N = Number of samples

After obtaining data from each physical condition test. Then the overall results of the physical condition of each athlete can also be calculated. Because each test has resulted with different units, score equalization is carried out using the T-score formula, which is as follows:

$$T\text{-score} = 50 - \left(\frac{x - \text{mean}}{SD} \right) 10$$

(For data that is a unit of time)

$$T\text{-score} = 50 + \left(\frac{x - \text{mean}}{SD} \right) 10$$

(For data in the form of units of distance, length, height, quantity)

Description:

T-score = Hasil penyetaraan skor

X = data

SD = Standart Deviation

With the Standard Deviation formula as follows:

$$SD = \sqrt{\frac{\sum X'^2}{N}}$$

Description:

SD = Standar Deviasi

$\sum x'^2$ = Jumlah dari x'^2

N = Jumlah data

Sumber: Anas Sudijono. (2015). Pengantar Statistik Pendidikan.

After the data is converted into a T-score form, the data is categorized into five groups, namely very good, good, sufficient, less, and very less. With the data categorization formula as follows:

| Category | Formula |
|---------------|----------------------------------|
| (A) Very Good | $> \text{Mean} + 1.5 \text{ SD}$ |
| (B) Good | $\text{Mean} + 1.5 \text{ SD}$ |
| (C) Enough | $\text{Mean} + 0.5 \text{ SD}$ |
| (D) Less | $\text{Mean} - 0.5 \text{ SD}$ |
| (E) Very Less | $< \text{Mean} - 1.5 \text{ SD}$ |

Results and Discussion

a. Arm Muscle Strength Test Results

Figure 1 reports that all athletes had enough arm muscle strength (male = 53%, female = 47%).



Figure 1. Push-up Test Result for Male and Female

b. Abdominal Muscle Strength Test Results

Figure 2 reports that male athletes had enough arm muscle strength (87%) but, female athletes had less arm muscle strength (80%).

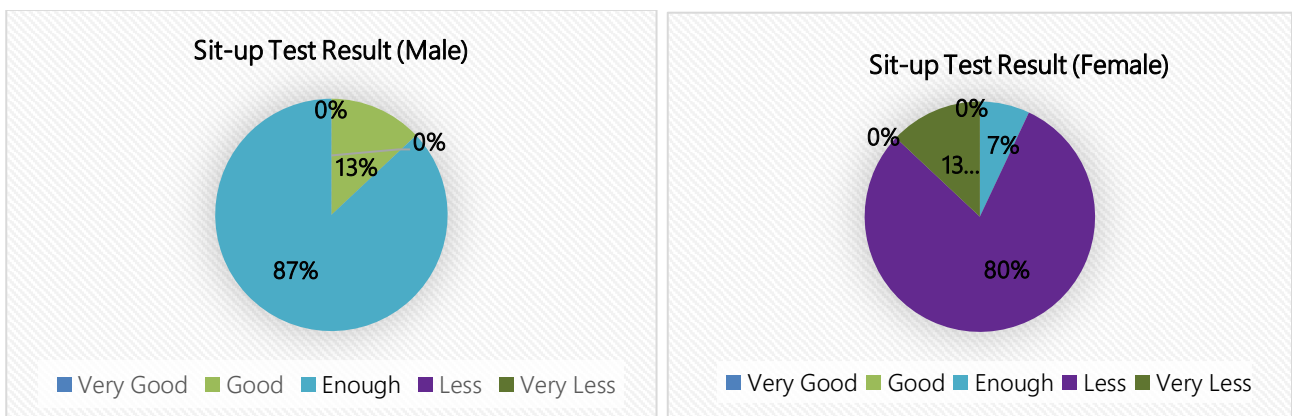


Figure 2. Sit-up Test Result for Male and Female

c. Kick Speed Test Results

Figure 3 reports that male athletes had enough kick speed test result (53%) but, female athletes had kick speed test result (53%).



Figure 3. Kick Speed Test Result for Male and Female

d. Agility Test Results

Figure 4 reports that male athletes had enough zig-zag test result (60%) but, female athletes had zig-zag test result (40%).

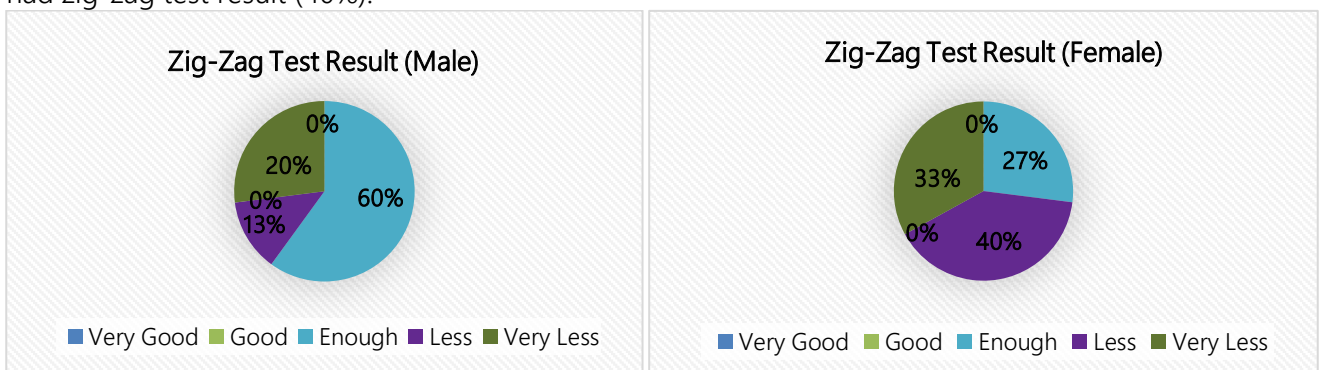
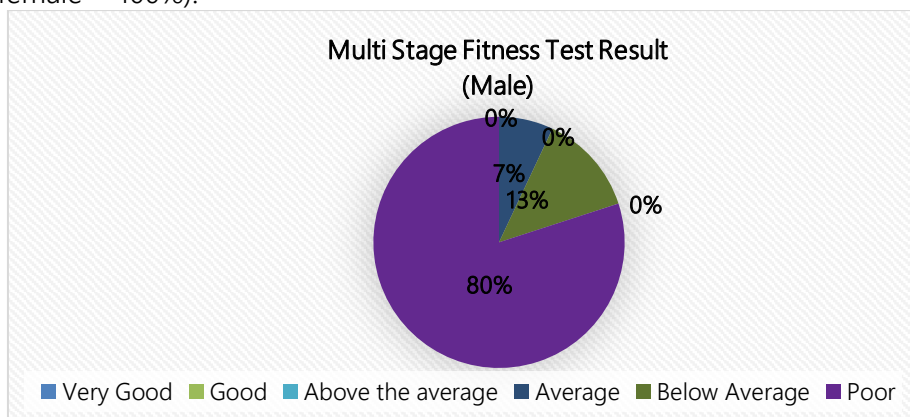


Figure 4. Zig-Zag Test Result for Male and Female

e. Cardiovascular Endurance Test Results

Figure 5 reports that male and female athletes had poor cardiovascular endurance test results (male = 80%, female = 100%).



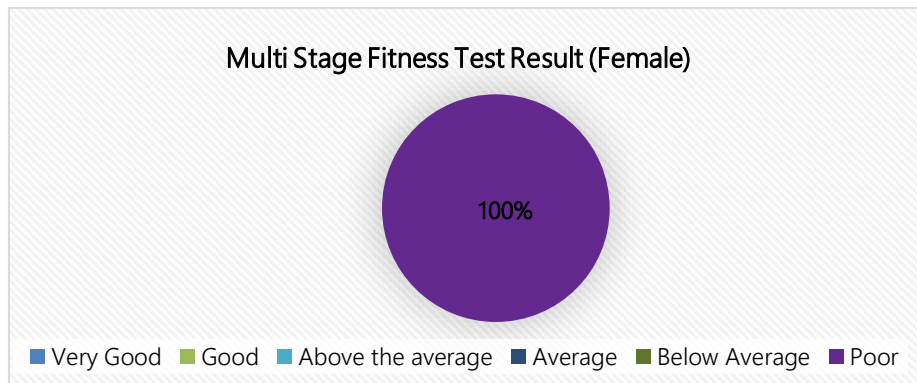


Figure 5. Cardiovascular Endurance Test Results for Male and Female

f. Overall Physical Condition Results

Figure 6 reports that all athletes had good overall physical condition (43%).

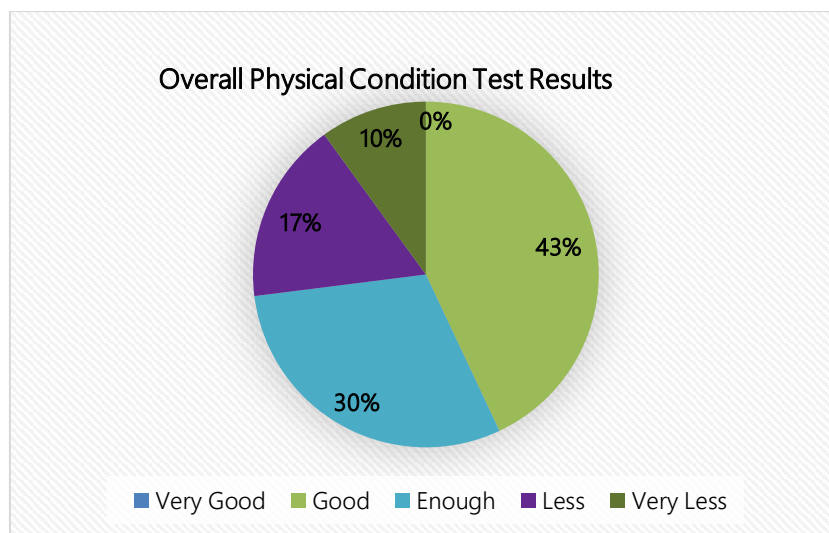


Figure 6. Overall Physical Condition Test Results

Discussion

Based on the results of this study, it can be concluded that the physical condition of male and female perspective athletes "Perisai Diri" Malang Regency as a whole is mostly included in the good category, this is in line with the results of previous research by Nurhidayah & Graha (2017) entitled "Profile of the Physical Condition of Athletes of the Yogyakarta State University Pencak Silat Student Activity Unit in the Sparring Category" and Ridwan (2020) entitled "Physical Condition of Football School Players (SSB) Padang City" which states that the conclusion of most athletes' physical condition is in a good category.

Conclusions

The results of the findings can be concluded that the physical condition of male and female perspective athletes "Perisai Diri" Malang Regency as a whole is mostly included in the good category.

References

Acar, H., & Eler, N. (2019). The Effect of Balance Exercises on Speed and Agility in Physical Education Lessons. *Universal Journal of Educational Research*, 7(1), 74-79.

Amiq, F. (2014). Futsal (Sejarah, Teknik Dasar, Persiapan Fisik, Strategi, Dan Peraturan Permainan).

Malang: Universitas Negeri Malang.

- Arifin, Z. (2018). Pengaruh Latihan Senam Kebugaran Jasmani (SKJ) Terhadap Tingkat Kebugaran Siswa Kelas V di MIN Donomulyo Kabupaten Malang. *Al-Mudarris: Journal Of Education*, 1(1), 22-29.
- Bafirman, H. B. & Wahyuri, A. S. (2018). Pembentukan Kondisi Fisik. *Rajawali Pers*.
- Bangun, S. Y. (2016). Peran Pendidikan Jasmani Dan Olahraga Pada Lembaga Pendidikandi Indonesia. *Jurnal Publikasi Pendidikan*, 6(3), 157.
- Budiwanto, S. (2012). Metodologi Latihan Olahraga. UM Press.
- Chan, F. (2012). Strength Training (Latihan Kekuatan). *Cerdas Sifa Pendidikan*, 1(1).
- Edwarsyah, E., Hardiansyah, S., & Syampurma, H. (2017). Pengaruh Metode Pelatihan Circuit Training Terhadap Kondisi Fisik Atlet Pencak Silat Unit Kegiatan Olahraga Universitas Negeri Padang. *Jurnal Penjakora*, 4(1), 1-10.
- Kencana, E. N., & Tastrawati, T. (2018). Motivasi Berlatih Pemain Silat Keluarga Silat Nasional Perisai Diri- Provinsi Bali. *Jurnal Matematika*, 8(1), 13-25.
- Kholis, N. (2016). Aplikasi Nilai-Nilai Luhur Pencak Silat Sarana Membentuk Moralitas Bangsa. *Jurnal SPORTIF : Jurnal Penelitian Pembelajaran*, 2(2), 76-84. https://doi.org/10.29407/js_unpgri.v2i2.508
- Lubis, J. (2016). *Pencak Silat*. Jakarta: PT Raja Grafindo Persada
- Nurhidayah, D., & Graha, A. S. (2017). Profil Kondisi Fisik Atlet Unit Kegiatan Mahasiswa Pencak Silat Universitas Negeri Yogyakarta Kategori Tanding. *MEDIKORA*, 16(1).
- Polevoy, G. (2021). Influence of Speed-Power Abilities on Memory in Children with Different Strength of the Nervous System. *International Journal of Pediatrics*, 9(5), 13533-13538.
- Prativi, G. O. (2013). Pengaruh aktivitas olahraga terhadap kebugaran jasmani. *Journal of Sport Science and Fitness*, 2(3).
- Rahayu. (2017). Penataran Pelatih Olahraga Tingkat Muda. Jakarta: Koni Pusat.
- Ridwan, M. (2020). Kondisi Fisik Pemain Sekolah Sepakbola (SSB) Kota Padang. *Jurnal Performa Olahraga*, 5(1), 65-72.
- Rohman, U., & Effendi, M. Y. (2019). Profil kondisi fisik atlet PPLP pencak silat Jawa Timur. *Journal Physical Education, Health and Recreation*, 3(2), 112-121.
- Shekhawat, B. P., & Chauhan, G. S. (2021). Effect of circuit training on speed and agility of adolescent male basketball players. *Int. J. Physiol. Nutr. Phys. Educ*, 6, 1-5.
- Spiering, B. A., Mujika, I., Sharp, M. A., & Foulis, S. A. (2021). Maintaining physical performance: the minimal dose of exercise needed to preserve endurance and strength over time. *The Journal of Strength & Conditioning Research*, 35(5), 1449-1458.
- Sudijono, A. (2015). Pengantar Statistik Pendidikan. Jakarta : Pt. Raja Grafindo Persada