



Analysis of The Physical Condition of Jambi Province Sepak Takraw Athletes Heading Into the 2024 Aceh-North Sumatra PON

Patima¹, Hendri Munar², Mhd Usni Zamzami Hasibuan³

^{1,2,3} Pendidikan Olahraga dan Kesehatan, Universitas Jambi, Indonesia
Jl. Raya Jambi – Ma. Bulian, KM, Mendalo Indah, Kode Pos 36361

ABSTRACT

This research aims to determine the physical condition of sepak takraw athletes in Jambi Province. From the test results, the physical condition of these components will be linked to the achievements of athletes who have won national level championships. Components of physical condition that will be examined include: strength, agility, endurance, leg muscle explosive power, abdominal muscle strength, back muscle strength. This research is associative quantitative research. The samples or research locations were sepak takraw athletes from Jambi province who took part in the 2024 Aceh-North Sumatra PON championship with a total of 5 athletes. Data collection uses tests and measurements, with the following instruments used, 1. Strength 2. Endurance 3. Speed 4. Flexibility 5. Explosive power 6. Agility 7. Coordination 8. Balance 9. Accuracy 10. Reaction. The following is the average value and category of physical condition for each test item. The average endurance obtained was 38.8, which is in the good category, the leg muscle explosive power test of 40 cm which was measured using the Vertical Jump test was included in the fair category, the agility test was 15.75 seconds, which was measured using the 40 meter Shuttlerun test was included in the very good category, the strength test of 35 times which was measured using the 1 minute push up test was included in the good category, the muscle strength test. stomach 80 times, as measured using the 1 minute Sit Up test, is included in the very good category. From the results of the ranking of physical conditions and achievements that have been obtained, it can be concluded that there is a significant relationship between an athlete's physical condition and the achievements they achieve theoretically. However, in the statistical data analysis of the correlation test, there was no relationship between physical condition and athlete performance because the sample that influenced the data was not significant.

Keywords: *Physical Condition, Sepak Takraw, PON Achievement*

Correspondence author: Patima, Universitas Jambi, Indonesia
Email: patimapatima337@gmail.com



Jurnal Pendidikan Jasmani (JPJ) is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

INTRODUCTION

According to (Jane Ruseski) in (Rosa dkk., 2022), exercising or doing regular physical activity can reduce the risk of long-term illness, reduce stress and depression, improve emotional well-being, energy levels, self-confidence, and increase social

satisfaction. Sport is generally considered a source of fun and entertainment, and helps maintain physical and mental health.

According to (Suleyman Yildiz) in (Wani dkk., 2023) Basically, sports can be divided into several special categories: Educational sports, which are carried out as part of a regular and ongoing educational process. Recreational sports, which are done to maintain health and are done in a fun way, and Achievement Sports, which develops and fosters sports to achieve achievements.

In an effort to improve people's health and welfare, the Indonesian government and society have invested in sports development. This is reinforced by Law Number 3 of 2005 concerning the National Sports System, which states that the purpose of national sports is to maintain health, improve performance, foster moral values, strengthen unity, and increase the honor and dignity of the nation. Athletes in Indonesia need planned intensive training to achieve achievements. Training is an organized action that aims to optimize an athlete's performance through physical, mental, technical and tactical preparation.

Physical condition refers to the fundamental capacity of the body to maintain the level of health or performance in each athlete, including overall strength, speed, endurance and flexibility (Froehner Cs, 1999:35). in Hardiansyah (2018a) The phrase "physical condition" consists of the terms condition and physical. In the Big Indonesian Dictionary (KBBI), the term 'condition' is defined as a state, while 'physical' refers to physical or bodily aspects. In the following interpretation, physical condition will refer to the state of the body.

Sepak takraw is a traditional ball game originating from Malaysia and Thailand, which has been around since the 15th century. The term "football" comes from Malay, while "takraw" comes from Thai. In the end, they agreed to call this sport "sepak takraw". The Asian Sepaktakraw Federation (ASTAF) and the International Sepak Takraw Federation (ISTF) were founded in 1965.

In 1981, the Indonesian sepak takraw association became an official member of KONI. Furthermore, at the time of the National Conference, the name was changed to PERSETASI (Indonesian Sepak Takraw Association). With the endorsement of PB PSTI (Indonesian Sepak Takraw Association Executive Board) and PengPROV PSTI, sepak takraw became increasingly popular and began to be competed.

At the moment, Sepak Takraw training concentrates on executing a carefully organized regimen set by the trainer, which includes strength, endurance, speed, flexibility

and agility training. Due to the potential adverse impact on athlete performance during games stemming from undirected training regimens, coaches are implementing carefully designed training techniques to prepare participants for PON 2024, ensuring they can compete effectively against their provincial counterparts.

Based on the previous discussion, the author wants to know the level of physical condition of the Jambi Province Sepak Takraw athletes before the match takes place and whether it is in accordance with the data that I have summarized for the physical condition of the athletes. Through the scientific study above, the author wants to raise research entitled "Physical Condition Analysis of Jambi Province Sepak Takraw Athletes Towards the Aceh-North Sumatra PON 2024".

METHOD

This research is quantitative research because the data is numbers and analyzed using statistics. To find out how treatment affects other people in a controlled situation, this research uses an experimental method (Sugiyono, 2012).

This research uses associative quantitative methodology to relate the physical condition of athletes to the achievements of Sepak Takraw athletes in Jambi Province. The data analysis method used is Associative Descriptive. Associative Descriptive is used to collect data, present facts, and ascertain values. Data analysis was carried out to determine whether variations in athletes' physical conditions had an effect on the achievements achieved at the 2024 Aceh-North Sumatra PON. Data analysis required several stages. First, the analysis prerequisite tests are carried out, which include normality tests and correlation tests, then the percentage increase is calculated.

RESULTS AND DISCUSSION

RESULTS

1. Description of research data

Physical condition data in this study consisted of speed, agility, endurance, strength which were measured using the Push Up, Sit Up, Back Lift, Bleep Test, Shuttle Run and Vertical jump tests. The complete data on the physical condition of the Jambi province Sepak Takraw athletes can be seen in the following table. Physical Test Data for the 2024 Jambi Pelatda Athletes.

Table 1. Physical Condition Test Data For Jambi Sepak Takraw Athletes

Name	Gender	Push – Up (1 minute)	Category	Sit-Up (1Minute)	Category
Andri Yanti	Female	35	B	81	BS
Laura Dinda	Female	-	-	83	BS
Sonia Anggi	Female	41	B	83	BS
Tesa Adisma	Female	35	B	76	BS
Vina	Female	35	B	78	BS

Table 2. physical condition test data for Jambi sepak takraw athletes

Name	Gender	Back-Lift	Category	Shuttle-Run	Category
Andri Yanti	Female	104	BS	15.75	BS
Laura Dinda	Female	101	BS	16.62	BS
Sonia Anggi	Female	88	BS	16.85	BS
Tesa Adisma	Female	94	BS	15.99	BS
Vina	Female	84	BS	15.54	BS

Table 3. physical condition test data for Jambi sepak takraw athletes

Name	Gender	VO2max	Category	Vertical Jump	Category
Andri Yanti	Female	40.5	B	48	C
Laura Dinda	Female	38.8	B	40	C
Sonia Anggi	Female	38.1	B	45	C
Tesa Adisma	Female	38.8	B	40	C
Vina	Female	39.5	B	46	C

The data above is an arrangement of athlete rankings. Based on these results, it will later be linked to aspects of the athlete's physical condition so that the influence of physical condition on the performance of sepak takraw athletes in Jambi Province will be known

2. Testing Analysis Requirements

The normality test is carried out to determine whether the distribution of data is significant or normal. The Shapiro-Wilk normality test was used for test data. The results of the Shapiro-Wilk normality test can be seen here.

Table 4. Shapiro-Wilk Normality Test Data

Test Of Nomality			
Shapiro - Wilk			
	Statistic	Df	Sig
Push-Up	0.687	5	0.007
Sit-Up	0.885	5	0.332
Back-Lift	0.959	5	0.803
Shuttle-Run	0.921	5	0.534
Vo2Max	0.945	5	0.704
Vertical Jump	0.867	5	0.254

Based on the data in the table above, the Jambi province sepak takraw athletes in the physical condition data table in the push up test in the Shapiro-Wilk test are written as

significant 0.007, in the sit up test 0.332, in the back lift test 0.803, in the shuttle run test 0.534, in the Vo2Max test 0.704, in the Vertical Jump test 0.254. The basis for decision making in the Shapiro-Wilk Normality Test is, if the Sig value is > 0.05 , the data is normally distributed, then if the Sig value < 0.05 , the data is not normally distributed. The data obtained on the results of physical condition on athlete performance was significant at more than 0.05. This shows that the data on the results of physical condition on athlete performance is normally distributed or meets the requirements of the normality test.

Table 5. Pearson Correlations Normality Test Data

Corelations			
		Physical condition	Performance
Physical condition	Pearson Corelation	1	- 0.295
	Sig. (2-Tailed)		0.630
	N		5
Performance	Pearson Corelation	- 0.295	1
	Sig. (2-Tailed)	0.630	
	N	5	

Interpretation results by looking at Sig. (2-tailed) = -295 is < 0.05 , so there is no significant correlation (H_a is rejected). This means that there is no relationship between physical condition and athlete performance.

Although there is a weak negative relationship between "Physical Condition" and "Athlete Performance", the relationship is not statistically significant due to the small sample size (5) which can affect the results of the analysis, making it difficult to find a significant relationship even if it exists.

Hypothesis Test One Sample T-Test

Table 6. One Sample T-Test Hypothesis Test Data

One- Sample Test						
Test Value=0						
					95% Confidence Interval Of The Difference	
	t	d	Sig	Mean	Lower	Upper
		f	(2- Tailed)	Differencee		
Physical condition	25.579	4	< 0.001	24.800	22.11	27.49
Performance	4.491	4	0.011	2.200	1012.51	35.6

The table above is the result of a one-sample t-test showing that the data shows that with the same number of samples in the physical condition and performance data, a 2-tailed sig value of $0.001 < 0.05$ was found, which shows that there is a relationship between

physical condition and athlete performance. The magnitude of the difference between physical condition and athlete achievement in the mean difference is (22,600).

The data obtained was concluded from the hypothesis or conjecture that H_a was accepted by H_o and rejected, because it showed that the physical conditions and achievements of the athletes were different. From the research results, it can be concluded that there is a relationship between physical conditions and the performance results of sepak takraw athletes in Jambi province.

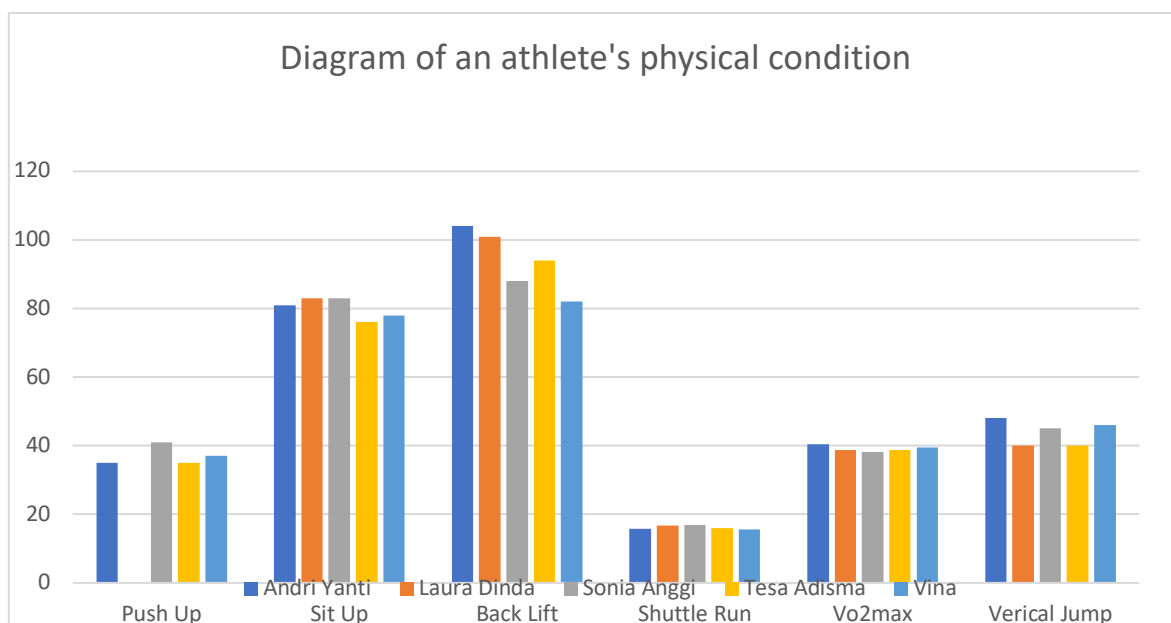


Figure 1. Diagram of an Athlete's Physical Condition

Table 7. Ranking of 2024 PON female athletes

Name	Age	Weight	Height	Gold	Silver	Bronze	Total Point
Andri Yanti	28	55	163	0	1	1	3
Laura Dinda	24	54	160	0	1	1	3
Sonia Anggi	27	53	155	0	1	1	3
Tesa Adisma	21	57	160	0	0	1	1
Vina	17	45	158	0	0	1	1

Description

Champion 1	3
Champion 2	2
Champion 3	1

Source (Ambara, 2017)

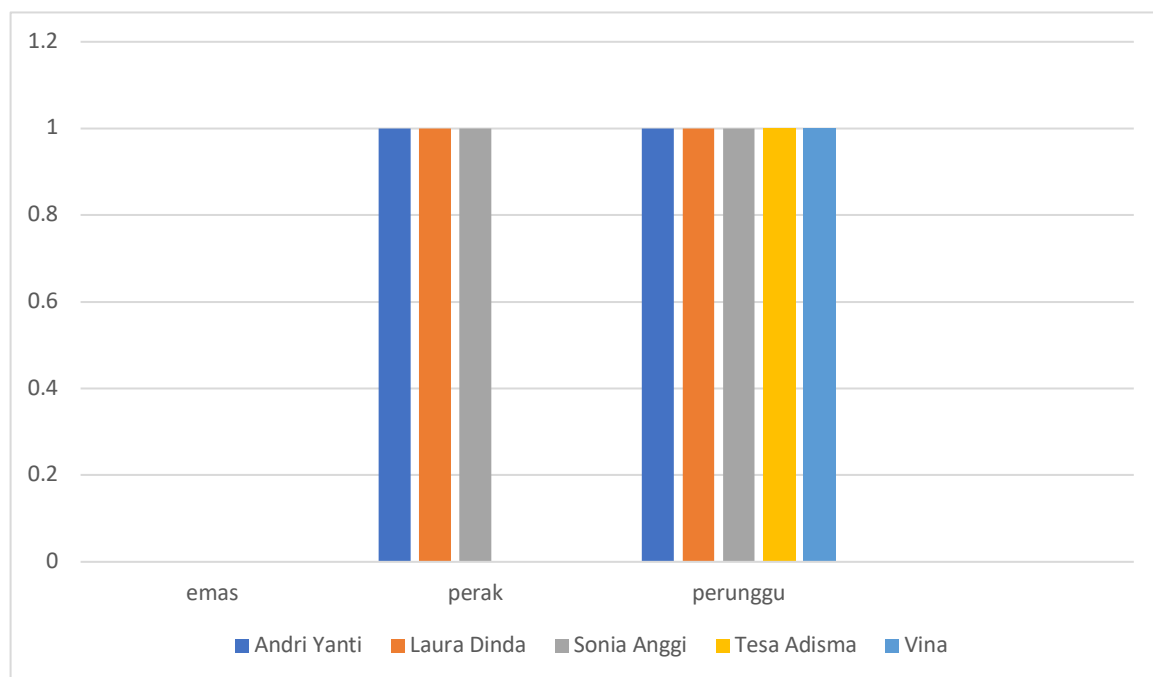


Figure 2. Achievement Diagram of Aceh-North Sumatra PON sepak takraw athletes

DISCUSSION

This research aims to find out whether there is a relationship between the athlete's physical condition and the athlete's achievements at the 2024 Aceh-North Sumatra PON event. The physical condition of Sepak Takraw athletes is one of the important conditions or that is used to achieve achievements. After knowing clearly the physical condition of the sepaktakraw athletes, the test results will be linked to the achievements achieved at the 2024 Aceh-North Sumatra PON, from the results of the physical tests and the achievements obtained. So, statistical data tests for normality, correlation tests and hypothesis tests have been carried out.

Normality test based on the table data above sepak takraw athletes of Jambi Province in the physical condition data table on athlete achievement is significant more than 0.05. This shows that the data on the results of physical condition on athlete achievement is normally distributed or meets the requirements of the normality test.

Hypothesis testing shows that the data shows that with the same number of samples in the physical condition and performance data, a 2-tailed sig value of $0.001 < 0.05$ is found, which shows that there is a relationship between physical condition and athlete performance. The magnitude of the difference between physical condition and athlete achievement in the mean difference is (22,600).

Meanwhile, in the persons correlation test, the results are interpreted by looking at Sig. (2-tailed) = .295 is > 0.05 , so there is no significant correlation (H_a is rejected). This means that there is no relationship between physical condition and athlete performance.

Although there is a weak negative relationship between "Physical Condition" and "Athlete Performance", the relationship is not statistically significant due to the small sample size (5) which can affect the results of the analysis, making it difficult to find a significant relationship even if it exists.

After analyzing the person correlation statistical data test, it can be concluded that there is no significant relationship between physical condition and athlete performance because the sample size is too small so the data processing produces negative results.

From each of these tests, different results were obtained. There is a significant relationship between the physical condition of athletes and the performance of sepak takraw athletes. This means that the relationship between the athlete's high performance and the level of physical condition achieved theoretically has a significant or influential relationship. However, in the analysis of statistical data tests on the correlation of persons, we did not get significant results because the sample used was too small, so the statistical data test results were not significant.

in research that differs from previous research, In a study that differs from previous studies, the subjects of this study were wushu sanda athletes at sasana kim tiauw Surabaya with a physical condition test. The purpose of this study is also in line with the relationship between physical conditions and athlete performance, but what distinguishes this study is the insignificant correlation test because the sample in this study was too small so that it got negative results. While in the normality and hypothesis tests there is an influential relationship.

CONCLUSION

Based on the results of research on physical conditions that have been carried out on Sepak Takraw athletes in Jambi Province which will be linked to athlete performance, conclusions can be drawn, namely: The endurance of the Jambi Province Sepak Takraw athletes is in the good category. The agility of the Jambi Province Sepak Takraw athletes is in the very good category. The abdominal muscle strength of Sepak Takraw athletes from Jambi Province is in the good category. The explosive power of the leg muscles of Sepak

Takraw athletes from Jambi Province is in the quite good category. Arm muscle strength of SepakTakraw athletes from Jambi Province is in the Good category. There is a significant relationship between the physical condition of athletes and the performance of Sepak Takraw athletes in Jambi Province. This means that the relationship between an athlete's high performance and the level of physical condition he achieves is theoretically a significant relationship. Meanwhile, in the person correlation statistical data test, for physical condition, the correlation coefficient is 1, which indicates a perfect relationship with itself, but for athlete performance, the correlation coefficient is -0.295, indicating that there is a weak negative relationship between physical condition and athlete performance. There is no significant relationship between athletes' physical condition and PON performance.

REFERENCES

- Ambara, A. P. (2017). Universitas Negeri Surabaya Fakultas Ilmu Keolahragaan Jurusan Pendidikan Kepelatihan Olahraga Prodi S1 Pendidikan Kepelatihan Olahraga 2017. *UNESA*, 6.
- Arya prasetya ambara. (t.t.-b).*
- Bernard, M., Nurmala, N., Mariam, S., & Rustyani, N. (2018). Analisis Kemampuan Pemecahan Masalah Matematis Siswa SMP Kelas IX Pada Materi Bangun Datar. *SJME (Supremum Journal of Mathematics Education)*, 2(2), 77–83. <https://doi.org/10.35706/sjme.v2i2.1317>
- Hamilunni'Am, M. (2017). Jurusan Ilmu Ekonomi Prodi Keuangan Dan Perbankan Fakultas Ekonomi Dan Bisnis Universitas Brawijaya Malang 2017. *Universitas Brawijaya*, 5.2, 11.
- Hardiansyah, S. (2018). Analisis Kemampuan Kondisi Fisik Mahasiswa Fakultas Ilmu Keolahragaan Universitas Negeri Padang. *Jurnal MensSana*, 3(1), 117. <https://doi.org/10.24036/jm.v3i1.72>
- Hidayah, T. (2017). Pengaruh Latihan Plyometric dan Panjang Tungkai terhadap Peningkatan Power Lompatan dan Smash Kedeng Sepak Takraw. *Journal of Physical Education and Sports*, 6.3, 286–290.
- Jurnal hubungan kondisi fisik dan prestasi atlet. (t.t.-a).*
- Mahyuddin, R. (t.t.). Profil Kondisi Fisik Atlet Hockey Sulawesi-Selatan Menuju Pon Xix Jawa Barat. *STKIP Mega Rezky Makassar*, 110.
- Mihendra, N., Andriyani, F., Mardiah, D. I., Priska, A. M., & Mujib, A. (2015). Paradigma Penelitian Pendidikan: Studi Kasus Mahasiswa Pendidikan Matematika di Universitas Muslim Nusantara (UMN) Al-Washliyah Tahun 2015-2016. *Jurnal Pendidikan dan Pembelajaran Terpadu (JPPT)*, 02, 48–49.
- Prabowo, S. B. (2014). Tingkat Kebugaran Jasmani Anggota Klub Jantung Sehat. *Journal of Physical Education*, 3.6, 1127.
- Pujianto, A. (2015). Profil Kondisi Fisik Dan Keterampilan Teknik Dasar Atlet Tenis Meja Usia Dini Di Kota Semarang. *Journal of Physical Education*, 2.1, 38–42.
- Putra, M. T. P. (2024). Analisis Tingkat Kondisi Fisik Peserta Ekstrakurikuler Pencak Silat Sma Negeri 1 Kota Jambi. *unja*, 9–10.

- Risdiyanti, W., & Hartono, M. (2021). Profil Atlet Pelatda Hoki Jawa Tengah Dalam Persiapan PON Papua XX Tahun 2021. *Indonesian Journal for Physical Education and Sport*, 2(2), 510–513. <https://doi.org/10.15294/inapes.v2i2.46087>
- Rosa, Y. N., Jubaedi, A., Siswoyo, J., & Sulistianta, H. (2022). The Relationship Of Eye Coordination And Confidence Towards The Results Of Three Point Shot In Basketball Games In Extracurricular Boss Students Of Basketball Sman 1 Tumijajar Regency Of Tulang Bawang Barat. *Physical Education UNILA*, 11, 2.
- Setiawan, D. (2013). Kondisi Fisik Pemain Sepakbola Klub Asyabaab Di Kabupaten Sidoarjo. *Jurnal Kesehatan Olahraga*, 1.1, 1–5.
- Shah Reza & Nono Hardinoto. (2021). Pengaruh Motivasi Terhadap Prestasi Pada Atlet Klub Bulutangkis Indocafe Medan Tahun 2020. *Jurnal Pendidikan Jasmani (JPJ)*, 2(1), 7–14. <https://doi.org/10.55081/jpj.v2i1.227>
- Yildiz, S. M. (2012). Instruments for Measuring Service Quality in Sport and Physical Activity Services. *Coll. Antropol.*, 36, 689–696.