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Physical Condition Profile of Male Football Athletes Of The Jatim 100-V Puslatda Football Athletes in 2024

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ABSTRACT

This study aims to determine the physical condition of male football athletes of the East Java 100-IV training centre in preparation for the 2028 PON in NTT-NTB. This study uses non-experimental quantitative descriptive research. The subjects of this study were 25 people. The research instrument uses secondary data from physical tests (test-retest) obtained from the results of physical condition tests of East Java Puslatda football athletes managed by KONI East Java. The data analysis steps used include various physical test items, including: Sit Up, Single Leg Squat, Russian Twist, Chin Up, Superman Back Hold, Medicinal Ball Throw, Dips, 20-meter Sprint, Illinois Agility Test, Vertical Jump, Triple Jump, Ankle Flexibility (right and left), Sit and Reach, and VO_2max through the Multi-Stage Fitness Test (Bleep Test). The results showed that several components of physical condition, such as abdominal muscle strength (Sit Up) and agility (Illinois), were in the good to very good category. However, most of the other components, such as leg muscle strength (Single Leg Squat), upper body strength (Chin Up and Dips), ankle flexibility, and cardiovascular endurance (VO_2max) are still considered adequate to lacking. These findings suggest that training programs need to be focused on improving aspects of physical condition that are still weak.

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INTRODUCTION

Sport is a movement activity carried out by humans, which includes elements of play and enjoyment. Sport is also essentially a physical activity aimed at producing holistic changes in an individual's physical, mental, and emotional well-being. In this context, sport is organized and competitive. Referring to Robert Gensemer's (Bahtra, 2022) statement, sport is defined as the process of creating "a healthy body for the mind or soul." This means that a healthy body contains a healthy soul, a phrase that aligns with the ancient Roman proverb, "mens sana in corpore sano." According to Usman & Argantos (2020), sports are classified into five categories: recreational sports, health sports, educational sports, competitive sports, and livelihood sports.

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Competitive sports are sports that specifically nurture and develop athletes in a programmed, tiered, and sustainable manner through competitions, thereby enhancing their performance through their potential (Amali, 2022). Competitive sports have good prospects, including early childhood development programs, reinforced by development programs within school sports clubs. In its development, this nursery is refined through intramural competitions integrated into interclass competitions. It is also strengthened through peak performance training camps for talented athletes, honing their skills in competitive events.

In essence, competitive sports in the world are not solely limited by the skills of coaches. Nowadays, the primary supporting factor is knowledge in the field of sports, known as sports science. Sports science is a comprehensive, interconnected blend of several disciplines aimed at improving athlete performance and facilitating coaches' training. Therefore, the government plays a role in fostering competitive sports. In East Java, a regional training centre (Puslatda Jatim) is being held under the auspices of the East Java National Sports Committee (KONI Jatim).

Puslatda Jatim 100-V is an institution or organization that provides training for athletes competing in the 2024 National Sports Week (PON) in Aceh, Sumatra. This training program covers all sports, including football. It is hoped that football will contribute to East Java's achievements.

The National Sports Week (PON) is a national sporting event held every four years. Competition between provinces has become increasingly fierce, leading each region to strive to prepare its athletes to the best of their ability. Specifically, in football, East Java qualified for the 2024 PON by defeating Maluku 4-1. Therefore, the government established the East Java Regional Training Centre (Puslatda Jatim) to prepare all aspects of the sport to become more mature.

Football is a game played by two teams, each consisting of eleven players and one reserve, to score goals against the opposing team. Arridho et al. (2021) explain that football is classified as an invasion game using a ball, requiring technical skills from both players and the team to achieve success. Football is one of the most renowned sports in the world. To reach the pinnacle of achievement in football, many factors must be possessed, both internal and external. These factors include physical, technical, tactical, and mental or psychological abilities. Understanding how important physical condition is in influencing the ability to play football cannot be separated from the analysis of physical condition.

Physical fitness is one of the most important components in improving the quality of an athlete's abilities and performance (Wicaksana, 2016). Physical fitness is also crucial in developing training programs and serves as a benchmark for improving an athlete's physical well-being. The biomotor component represents the athlete's overall physical condition. The basic components of an athlete's biomotor include strength, endurance, speed, coordination, and flexibility. In football, physical fitness is crucial; physical characteristics serve as a guideline for coaches in developing training models to maintain desired performance and achieve maximum performance. Factors that must

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be achieved for peak athlete performance in football are physical, technical, tactical, and mental, all of which are interrelated. The better an athlete's fitness, the better their technique and skills. Therefore, physical fitness is the primary internal factor in determining fitness levels in football. The first step is to measure each athlete's physical abilities using valid, reliable, and objective test items (Arridho et al., 2021).

Physical fitness is a crucial factor in supporting sporting achievement, particularly in football, which demands high biomotor skills such as speed, agility, strength, endurance, and flexibility. Athletes in good physical condition will be more effective in implementing game tactics and reducing the risk of injury. The East Java 100-V Training Centre (Puslatda Jatim 100-V) is an athlete development program run by the East Java National Sports Committee (KONI) in preparation for the 22nd National Games (PON). Regular physical fitness evaluations are an essential part of monitoring athlete readiness. Therefore, this study was conducted to determine the physical condition of the men's football athletes of the East Java 100-V Training Centre as a basis for designing a more targeted training program.

METHODS

This study used a quantitative descriptive study in the form of a non-experimental design using secondary data collection (existing data) with the test-retest method used. In quantitative research methods, it can be interpreted as a research method with the characteristics of hypothesis testing and using good and standard test instruments (Maksum, 2018). This study discusses physical condition tests that cover various aspects such as muscle strength, endurance, speed, agility, flexibility, and aerobic capacity (VO2max). Data were analyzed using descriptive statistics to obtain the average value and standard deviation of each test item. As for sampling, a total sampling of 25 samples was used.

RESULTS AND DISCUSSION

Result

This study examines the physical fitness levels of 25 respondents who are male football athletes from the East Java 100-V Training Center in 2024. The results show variations in physical fitness levels based on measurements of several components of physical fitness, namely strength, endurance, explosive power, speed, agility, and flexibility. Each component was tested using different instruments: abdominal muscle strength with Sit Ups and Russian Twists, leg muscle strength with Single Leg Squats, arm muscle strength with Chin Ups and Dips, and back strength with Superman Back Hold. Muscle explosive power was measured with Vertical Jump, Triple Jump, and Medicine Ball Throw. Cardiovascular endurance was measured through the Multi-Stage Fitness Test (Bleep Test). The 20-meter Sprint and Illinois Agility Test were used to measure speed and agility, while the Sit and Reach and Ankle Flexibility tests measured lower body flexibility. The results of the physical fitness tests of the East Java Training Center athletes can be seen in the following table:

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Table 1.
Sit-Up Test Results for Men's Football Athletes at the East Java 100-V Training Centre in 2024

Category	Norm	Frequency	Percentage %
Very Good	>24	23	92%
Good	18-23	2	8%
Average	12-17	0	0%
Poor	6-11	0	0%
Very Poor	1-5	0	0%
Total		**25**	**100%**

Based on Table 1, it can be seen that the sit-up achievement of male football athletes from Lamongan Regency has gone through the analysis stage, using the average calculation formula obtained a result of 37.72 times, which means that the abdominal muscle strength of the male football athletes from the East Java training centre is included in the "very good" category. This physical component still needs to be maintained and improved by the coach because this component must be achieved according to the ongoing training periodization (special preparation stage), as it is a dominant aspect in football, by showing the energy system and training intensity intervention.

Table 2.
Single Leg Squat Test Results for Men's Football Athletes at the East Java 100-V Training Centre in 2024

Category	Norm	Frequency	Percentage %
Very Good	>54	0	0,00%
Good	33-53	0	0,00%
Average	13-32	0	0,00%
Poor	1-13	24	96,00%
Very Poor	<1	1	4,00%
Total		**25**	**100%**

Based on table 2, it can be seen that the single leg achievement of the male football athletes of the East Java training center and has gone through the analysis stage using the average calculation formula obtained a result of 6.88 times which means that the leg muscle strength of the male football athletes of the East Java training center is included in the "poor" category. This physical component still needs a lot of improvement by the coach because this component must be achieved according to the ongoing periodization (special preparation stage), as it is a dominant aspect in the sport of football, by showing the energy system and training intensity intervention.

Table 3.
Results of the Russian Twist Test for Men's Football Athletes at the East Java 100-V Training Centre in 2024

Category	Norm	Frequency	Percentage %
Very Good	>15	0	0,00%
Good	11-14	19	76,00%
Average	7-13	6	24,00%
Poor	4-6	0	0,00%
Very Poor	<3	0	0,00%
Total		**25**	**100%**

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Based on table 3, it can be seen that the acquisition of Russian twist in the male football athletes of the East Java training center and has gone through the analysis stage using the average calculation formula obtained a result of 12.04 times which means that the abdominal muscle strength of the male football athletes of the East Java training center is included in the " Good " category. This physical component still needs a lot of improvement by the coach because this component must be achieved according to the ongoing training periodization (special preparation stage), as it is a dominant aspect in the sport of football, by showing the energy system and training intensity intervention.

Table 4.
Results of the Chin-Up Test for Men's Football Athletes at the East Java 100-V Training Centre in 2024

Category	Norm	Frequency	Percentage %
Very Good	>37	0	0,00%
Good	27-36	0	0,00%
Average	17-36	0	0,00%
Poor	6-16	10	40,00%
Very Poor	<6	15	60,00%
Total		**25**	**100%**

Based on table 4, it can be seen that the chin up achievement of the male football athletes of the East Java training center and has gone through the analysis stage using the average calculation formula obtained a result of 6.48 times which means that the arm muscle strength of the male football athletes of the East Java training center is included in the "Very poor" category. This physical component still needs a lot of improvement by the coach because this component must be achieved according to the ongoing training periodization (special preparation stage), as it is a dominant aspect in the sport of football, by showing the energy system and training intensity intervention.

Table 5.
Superman Back Hold Test Results for Men's Football Athletes at the East Java 100-V Training Centre in 2024

Category	Norm	Frequency	Percentage %
Very Good	>60	0	0,00%
Good	45-59	11	44,00%
Average	30-44	10	40,00%
Poor	15-29	3	12,00%
Very Poor	<15	1	4,00%
Total		**25**	**100%**

Based on table 5, it can be seen that the superman back hold achievement of the male football athletes of the East Java training center and has gone through the analysis stage using the average calculation formula obtained a result of 43.32 times which means that the strength of the back muscles of the male football athletes of the East Java training center is included in the " Good " category. This physical component still needs a lot of improvement by the coach because this component must be achieved according to the ongoing training periodization (special preparation stage), as it is a dominant aspect in the sport of football, by showing the energy system and training intensity intervention.

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Table 6.
Results of the Medicine Ball Test for Men's Football Athletes at the East Java 100-V Training Centre in 2024

Category	Norm	Frequency	Percentage %
Very Good	>6,22	17	68,00%
Good	5,38-6,22	0	0,00%
Average	4,53-5,37	8	32,00%
Poor	2,68-4,52	0	0,00%
Very Poor	<2,68	0	0,00%
Total		**25**	**100%**

Based on table 6, it can be seen that the acquisition of the medicine ball in the male football athletes of the East Java training center and has gone through the analysis stage using the average calculation formula obtained a result of 6,608 times which means that the arm muscle strength of the male football athletes of the East Java training center is included in the "very good" category. This physical component still needs a lot of improvement by the coach because this component must be achieved according to the ongoing training periodization (special preparation stage), as it is a dominant aspect in the sport of football, by showing the energy system and training intensity intervention.

Table 7.
Results of the 2024 East Java Puslatda 100-V Men's Football Athlete Dips Test

Category	Norm	Frequency	Percentage %
Very Good	>59	0	0,00%
Good	38-58	0	0,00%
Average	19-37	0	0,00%
Poor	4-18	24	96,00%
Very Poor	<1	1	4,00%
Total		**25**	**100%**

Based on table 7, it can be seen that the dips obtained by the male football athletes of the East Java training center and have gone through the analysis stage using the average calculation formula obtained a result of 10.2 times, which means that the arm muscle strength of the male football athletes of the East Java training center is included in the "poor" category. This physical component still needs a lot of improvement by the coach because this component must be achieved according to the ongoing training periodization (special preparation stage), as it is a dominant aspect in the sport of football, by showing the energy system and training intensity intervention.

Table 8.
Results of the 20m Sprint Test for Men's Football Athletes at the East Java 100-V Training Centre in 2024

Category	Norm	Frequency	Percentage %
Very Good		0	0,00%
Good	<2.31"	25	100,00%
Average	2.32" - 2.76"	0	0,00%
Poor	2.77" - 3.1	0	0,00%
Very Poor	3.1-3.3	0	0,00%
Total		**25**	**100%**

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Based on table 8, it can be seen that the 20m sprints achievement of the male football athletes of the East Java training center and has gone through the analysis stage using the average calculation formula obtained a result of 3.02 times which means that the leg muscle strength of the male football athletes of the East Java training center is included in the "Good" category. This physical component still needs a lot of improvement by the coach because this component must be achieved according to the ongoing training periodization (special preparation stage), as it is a dominant aspect in the sport of football, by showing the energy system and training intensity intervention.

Table 9.
Illinois Test Results for Men's Football Athletes at the East Java 100-V Training Centre in 2024

Category	Norm	Frequency	Percentage %
Very Good	<15,2	0	0,00%
Good	15,2-16,1	25	100,00%
Average	16,2-18,1	0	0,00%
Poor	18,2-19,3	0	0,00%
Very Poor	>19,3	0	0,00%
Total		**25**	**100%**

Based on table 9, it can be seen that the illionis obtained by the male football athletes of the East Java training center and have gone through the analysis stage using the average calculation formula obtained a result of 16.20 times, which means that the leg muscle strength of the male football athletes of the East Java training centre is included in the "Good" category. This physical component still needs a lot of improvement by the coach because this component must be achieved according to the ongoing training periodization (special preparation stage), as it is a dominant aspect in the sport of football, by showing the energy system and training intensity intervention.

Table 10.
Vertical Jump Test Results for Men's Football Athletes at the East Java 100-V Training Centre in 2024

Category	Norm	Frequency	Percentage %
Very Good	>70	4	16
Good	62-69	11	44
Average	53-61	7	28
Poor	46-52	3	12
Very Poor	38-45	0	0
Total		**25**	**100%**

Based on table 10, it can be seen that the vertical jump achievement of the male football athletes of the East Java training center and has gone through the analysis stage using the average calculation formula obtained a result of 63.12 times which means that the leg muscle strength of the male football athletes of the East Java training center is included in the "good" category. This physical component still needs a lot of improvement by the coach because this component must be achieved according to the ongoing training periodization (special preparation stage), as it is a dominant aspect in the sport of football, by showing the energy system and training intensity intervention.

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Table 11.
Results of the 2024 East Java 100-V Men's Football Athletes' Triple Jump Test

Category	Norm	Frequency	Percentage %
Very Good	>13	0	0,00%
Good	11,50-12,99	0	0,00%
Average	10-11,49	0	0,00%
Poor	8,50-9,99	0	0,00%
Very Poor	<8,50	25	100,00%
Total		**25**	**100%**

Based on table 11, it can be seen that the triple jump achievement of the male football athletes of the East Java training center and has gone through the analysis stage using the average calculation formula obtained a result of 6,964 times which means that the leg muscle strength of the male football athletes of the East Java training center is included in the "poor" category. This physical component still needs a lot of improvement by the coach because this component must be achieved according to the ongoing training periodization (special preparation stage), as it is a dominant aspect in the sport of football, by showing the energy system and training intensity intervention.

Table 12.
Ankle Flexibility Test Results for Men's Football Athletes at the East Java 100-V Training Centre in 2024

Category	Norm	Frequency	Percentage %
Very Good	>35	0	0,00%
Good	32,51-35	0	0,00%
Average	29,51-32,50	0	0,00%
Poor	26,50-29,50	0	0,00%
Very Poor	<26,50	25	100,00%
Total		**25**	**100%**

Based on table 12, it can be seen that the ankle flexibility obtained by the male football athletes of the East Java training center and has gone through the analysis stage using the average calculation formula obtained results of 12.4 for the right leg and 13.04 for the left leg which means that the flexibility strength of the knee joint muscles of the male football athletes of the East Java training center is included in the "very poor" category. This physical component still needs a lot of improvement by the coach because this component must be achieved according to the ongoing training periodization (special preparation stage), as it is a dominant aspect in the sport of football, by showing the energy system and training intensity intervention.

Table 13.
Sit and Reach Test Results for Men's Football Athletes at the East Java 100-V Training Centre in 2024

Category	Norm	Frequency	Percentage %
Very Good	>24	7	28
Good	18-23	9	36
Average	12-17	6	24
Poor	6-11	3	12
Very Poor	1-5	0	0
Total		**25**	**100%**

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Based on table 13, it can be seen that the sit and reach scores of the male football athletes of the East Java training center and have gone through the analysis stage using the average calculation formula obtained results of 21.12 times, which means that the flexibility strength of the male football athletes of the East Java training center is included in the "good" category. This physical component still needs a lot of improvement by the coach because this component must be achieved according to the ongoing training periodization (special preparation stage), as it is a dominant aspect in the sport of football, by showing the energy system and training intensity intervention.

Table 14.
Results of the VO2max Test for Men's Football Athletes at the East Java 100-V Training Centre in 2024

Category	Norm	Frequency	Percentage %
Very Good	>65,8	0	0,00%
Good	55,6-65,8	2	8,00%
Average	50,4-55,5	10	40,00%
Poor	40-50,3	13	52,00%
Very Poor	<40	0	0,00%
Total		**25**	**100%**

Based on table 14, it can be seen that the VO2max obtained by the male football athletes of the East Java training center and has gone through the analysis stage, using the average calculation formula obtained a result of 50.82, which means that the arm muscle strength of the male football athletes of the East Java training centre is included in the "poor" category. This physical component still needs a lot of improvement by the coach because this component must be achieved according to the ongoing training periodization (special preparation stage), as it is a dominant aspect in the sport of football, by showing the energy system and training intensity intervention.

Discussion

This study aimed to determine the physical condition of the men's football athletes from the 2024 East Java 100-V Training Center (Puslatda Jatim) using a series of physical tests. The tests covered various biomotor components such as muscle strength, endurance, speed, explosive power, agility, flexibility, and balance. Based on the data analysis, it can be seen that the athletes' physical fitness levels varied significantly, both in terms of individual ability and the overall group.

The abdominal muscle strength component, measured using the Sit-Up test, showed very satisfactory results. 92% of athletes were in the "Very Good" category. This indicates that the training program implemented so far has been quite effective in increasing and maintaining abdominal muscle strength. However, coaches are still advised to maintain and sustain these results by providing appropriate maintenance exercises.

In contrast to the sit-up results, the single-leg squat test, which measures leg muscle strength and stability, showed concerning results. The majority of athletes (96%) fell into the "Poor" category, with 4% even falling into the "Very Poor" category. This

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indicates a weakness in leg muscle strength, which should be a key aspect of football. This is a particular concern for coaches, as leg muscles play a crucial role in running, kicking, and rapid changes of direction.

The Russian twist test, an indicator of core muscle strength and stability, showed that the majority of athletes fell into the "Good" category, but 24% fell into the "Fair" category. This indicates an imbalance in core muscle strength among players that needs to be addressed in individual training.

The Chin Up, Dips, and Superman Back Hold tests, used to measure arm and back muscle strength, showed that most athletes fell within the "Poor" to "Sufficient" categories. This is an important finding because arm and back muscle strength is crucial for maintaining posture during aerial duels, maintaining balance, and supporting overall body movement.

The Vertical Jump and Medicinal Ball Throw tests, used to assess leg and upper body muscle explosiveness, showed quite good results. Most athletes fell within the "Good" or "Very Good" categories, particularly in the Medicinal Ball Throw. However, in the Triple Jump, all athletes fell within the "Very Poor" category. These results indicate that leg muscle explosiveness in some tests is still suboptimal, likely due to a lack of explosive training variations in the daily program.

For agility, the Illinois test showed all athletes in the "Good" category. For speed, the 20-meter sprint test also showed quite good results, although starting and acceleration techniques need to be reviewed, which could be improved.

However, the results of the VO_2max and Sit and Reach tests showed that cardiorespiratory endurance and flexibility were still suboptimal for some athletes. The VO_2max test, in particular, showed most athletes in the "Fair" to "Poor" category, indicating the need for more intensive and programmed cardiovascular training. Similarly, the ankle flexibility test results were all in the "Very Poor" category. This indicates a potential risk of injury and limited mobility during competition.

In general, the results of this study indicate that athletes' physical condition is not uniform across all aspects. While some components are quite good, several important components still require more attention from coaches and the physical training team, particularly leg muscle strength, flexibility, and VO_2max.

CONCLUSION

Based on the data analysis in this study, it can be concluded that the physical condition of the men's football athletes from the 2024 East Java 100-V Training Center (Puslatda Jatim) demonstrated a diversity of physical abilities. Several components of physical condition, such as abdominal muscle strength and agility, demonstrated excellent results, but most other components still require improvement.

Results from the Sit-Up, Illinois, and Medicine Ball Throw tests indicated that the athletes possessed good physical abilities in certain aspects. However, results from the Single Leg Squat, Triple Jump, Chin-Up, Ankle Flexibility, and VO_2max tests indicated

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that the leg muscle strength, endurance, flexibility, and cardio-respiratory fitness of most athletes remained at low to moderate levels.

In terms of instruments, the test items used in this study have undergone validity and reliability testing, with most demonstrating valid and reliable results. Although some items require adjustment or replacement for subsequent physical evaluations.

Overall, the results of this study provide a comprehensive overview of the physical condition profile of male football athletes at the East Java Training Centre (Puslatda Jatim). These results can be used as evaluation material and as a basis for planning more structured, systematic, and specific training based on the needs of each athlete. This provides recommendations for the use of this test in athlete development programs at the East Java Training Centre.

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