

The Level of Elements of Physical Fitness According to Variable of The Playing Position of The Young Female Soccer Players in The Palestinian Clubs

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ABSTRACT

The study aimed to identify the level of some elements of physical fitness according to the variable of the playing position among the young female soccer players in the Palestinian clubs, in addition to identifying the differences in the level of fitness according to the variable of the playing position: (attacker, defender, midfielder, goalkeeper), and to achieve this, the researchers used the descriptive survey method, using and conducting physical tests (speed, flexibility, endurance, agility, and muscular strength) on a stratified random sample of (89) young female soccer players. The results of the study showed that the level of physical fitness of the young female soccer players in the Palestinian clubs was good, in terms of the arithmetic average of the elements of physical fitness, respectively: speed (8.9) m/s, flexibility (6.05) cm, endurance (2.39) m/min, agility (14.7) m/s, muscular ability (1.45) meters. The results of the study also showed that there were no differences in the level of some elements of physical fitness among young soccer players, according to the variable of the playing position, except for the element of agility, and in favor of the goalkeeper. The researchers recommended the need for continuity of training to improve and develop the level of physical fitness among female soccer players in Palestinian clubs in various playing centers.

Keywords: Physical fitness, young female soccer players, playing positions.

INTRODUCTION

Soccer is one of the most popular and widespread games in the world and is ranked first in terms of its popular base. It has also received ample attention and studies to improve it for the better, which is due to several factors, the most important of which is the large number of its practitioners and its lack of need for special requirements and equipment for its performance [1].

Researchers believe that soccer is one of the sports that is followed and practiced by most of the world, as it has received attention from researchers and scientists to reach a high level of its performance, and the requirements of this sport are constantly increasing with the increase in sports competitions. One of the most important aspects that draws the attention of those interested in this game is the physical level, as specialists in the field of physical preparation see that physical preparation has a positive effect on the performance of the players as it contributes to the performance of the tasks required of the players in their various playing positions to the fullest.

Physical fitness plays an important role in preparing the player in terms of skill, and Nicholas has proven that high fitness training leads to an increase in the technical ability and motor ability of the players, because it has been confirmed practically and scientifically the importance of providing the player with physical fitness in addition to his technical fitness. There is no longer room for a soccer player who has a high level of skill without being at a similar level physically and developing ways of playing as well. It has become necessary to raise the physical and technical capabilities of playing to the highest levels, and physical fitness with its various elements and the integration between them is one of the important factors in protecting players from various injuries. Finally, the presence of a level of physical abilities is considered a contributing factor to achieving the psychological stability of the soccer player [2]. Moreover, the importance of the study lies in determining the level of some elements of physical fitness of young female soccer players in Palestinian clubs according to the playing position variable (offensive line, midfield line, defensive line, goalkeeper). Also, to draw the attention of trainers and fitness mentors to the need for harmony and integration between the elements of physical fitness and playing centers for young soccer players in Palestinian clubs.

The Problem of the Study

Soccer is distinguished by the fast-changing pace of the players' movements on one hand, and on the other hand, the different tasks of the players, which is due to the different playing positions of the players, and the physical characteristics and basic skills that each player possesses which qualify them to play in one position without the other. Also, the more the player enjoys physical, skillful, tactical, and psychological capabilities and can show them in the actual competitive atmosphere, the higher their chance of winning matches and turning the course of the game in their favor. From here, the researchers came up with the idea of conducting this study with the aim of examining the level of physical fitness of young female soccer players in Palestinian clubs, in light of the variable playing position (offensive line, midfield line, defensive line, goalkeeper) and analyzing it and then searching for practical measures to improve and develop it, where the problem of the study revolves around

identifying the level of some elements of physical fitness according to the variable of the playing position of young female soccer players in Palestinian clubs.

Objectives of the Study

The study aimed to identify:

- The level of some elements of physical fitness among female soccer players in Palestinian clubs?
- Differences in the level of some elements of physical fitness among female soccer players in Palestinian clubs, according to the variable of playing position: (offensive line, midfield line, defensive line, goalkeeper).

Study Questions

The study sought to answer the following questions:

1. What is the level of some elements of physical fitness among female soccer players in Palestinian clubs?
2. Are there differences in the level of some elements of physical fitness among female soccer players in Palestinian clubs, according to the variable of playing position: (offensive line, midfield line, defensive line, goalkeeper)?

Terminology of Study

Physical Fitness: It is defined as the physical state through which the individual can perform his daily work with high efficiency. It is also an individual matter that means the ability of the individual himself to accomplish his daily work within the limits of his physical capabilities and the ability to do daily work that depends on the physical, psychological, mental, emotional, and spiritual components of the individual [3].

Physical fitness in soccer: It is the player's willingness to continue performing basic skills, plans, duties of playing centers and manifestations of various movements throughout the match. Humpholdweiler and others believe that physical fitness in soccer is the player's level of competence in terms of the physical capabilities necessary to carry out his sporting tasks and the player's ability to perform the physical components (endurance, speed, strength, agility, flexibility), which forms the basis for improving the skillful, tactical, and volitional requirements of the soccer game [4].

Playing positions: Playing positions consist, as indicated by [5], in which the players have three lines to carry out the duties required of them in the mandatory manner within the different playing methods according to the following:

- **Defensive Line:** Their first and primary duty is to defend the playing area and their second duty is to attack.
- **Midfielders:** Their offensive duty is almost equal to their defensive duty.
- **Offensive line players:** their first duty is to attack in the playing area and their second duty is to defend it.

Young female soccer players: Female soccer players are defined as players within the age group of (13-15) years, according to the records of the Palestinian Soccer Association.

Study Variables

- Intermediate variable: the playing center and it has four levels: (offensive line, midfield line, defensive line, goalkeeper)
- Dependent variable: the level of the elements of physical fitness under study among female soccer players.

Study Procedures

Study Approach:

The researchers used the descriptive method in its survey form due to its suitability and the nature of the study.

Study Population:

The study population consisted of young female soccer players in Palestinian clubs for the 2021/2022 sports season, whose number is (350) players distributed over (25) sports clubs, according to the records of the Palestinian Soccer Association.

Study Sample:

The sample of the study was randomly selected using a stratified method of (89) players, i.e., approximately (37%) of the original study population. It was found that the sample members were equal in the two variables of weight (54.35) kg, and height (158.4) cm. The study was conducted in the season sports for the year 2021/2022, where physical fitness tests were conducted on the study sample in June and July 2022.

Study Tool:

In order to find out the level of some elements of physical fitness among female soccer players in Palestinian clubs and through some studies such as the study [6], the researchers adopted some physical tests after confirming their validity, stability, objectivity, and its stability in the Palestinian environment through a study by [6]. Table 1 and Figure 1 illustrate these tests:

Table 1: The physical tests under study.

Elements of physical fitness	Test Name	Measurement unit	Aim of the test
Speed	Sprint (30) meters from a low start	Seconds	Measure maximum speed
Flexibility	Bend the torso forward from a long sitting position	Centimetres	Measure the extent of flexibility of the back and thigh in the forward bending movement.
Endurance	Shuttle Run (5*55)	Minutes	Measurement of the endurance of the respiratory system.
Agility	Barrow zigzag running (3 * 4.5) meters	Seconds	Measuring the overall agility of the body while moving in a transitional manner.
Muscular Strength	Broad jump from stability	Meters	Measuring the muscular capacity of the two men.

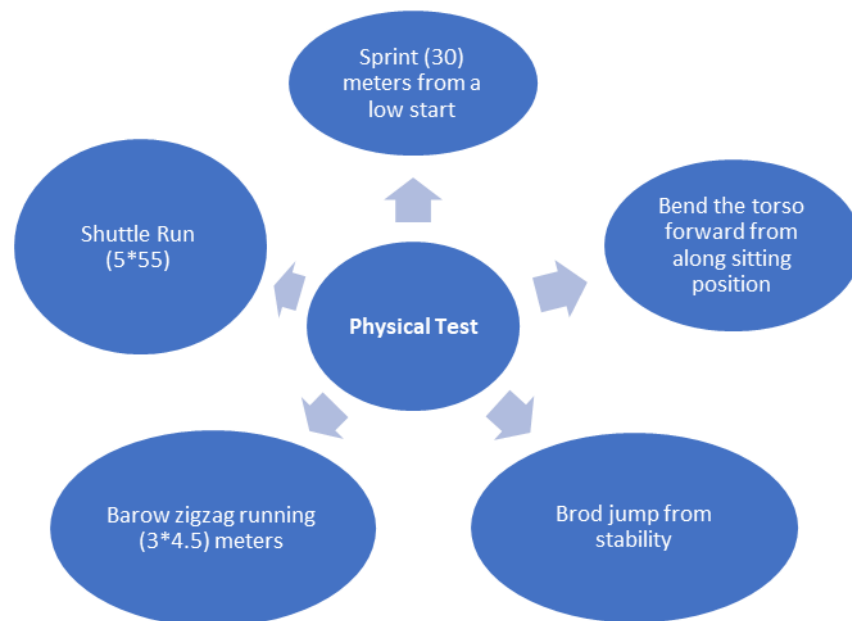


Figure 1: Physical tests under study.

METHODS PRESENTATION AND DISCUSSION OF RESULTS

Results Related to the First Study Question

Which stipulates: What is the level of some elements of physical fitness among female soccer players in Palestinian clubs? To answer this question, the arithmetic means and standard deviations of the results of the physical tests of the young soccer players were extracted, and the results of Table 2 show that.

Table 2: Results of physical tests related to the level of physical fitness of female soccer players Female players in Palestinian clubs.

Variants		Measurement Unit	Statistical processors	
			Arithmetic mean	Standard Deviation
Physical exams	Endurance	Minutes	1.7	2.39
	Muscular Strength	Meters	0.54	1.45
	Speed 30m	Seconds	0.21	8.9
	Flexibility	Centimetres	3.51	6.05
	Agility	Seconds	0.52	14.7

The results of Table 2 show that the level of physical fitness elements among female soccer players in Palestinian clubs was good, as indicated by the average speed (8.9) m/s, the average flexibility (6.05) cm, and the average endurance reached (2.39) m/min. While the average agility was (14.7) m/s, but the average muscular strength was (1.45) m. Figure 2 illustrate this result:

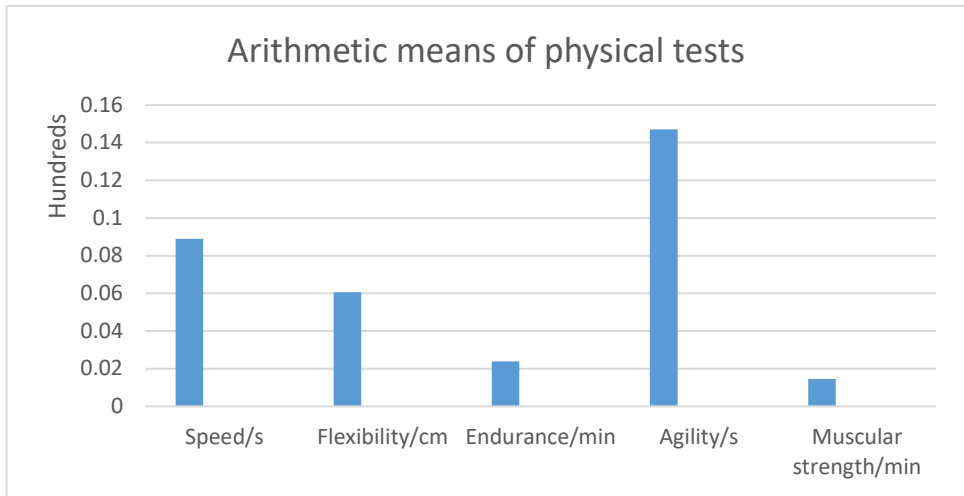


Figure 2: The arithmetic averages of the physical tests.

The researchers attribute this result to the recent interest of the Palestinian Soccer Association in women's sports, as it is at the beginning of its establishment by paying attention to the age groups and opening the door for selection to choose the players in the clubs that train the youth category, and the lack of specialized male and female trainers to train this group, accredited by the Asian and International Soccer Associations, in order to take into account the stages of physical and psychological growth during the training of this group. In addition to the irregularity of the women's league, especially for the young women, which affects the regularity of training doses. This result agreed with the result of the study by [6] in that the level of some elements of physical fitness among young female soccer players was good.

Results Related to The Second Study Question

Which states: Are there any differences in the level of some elements of physical fitness among female soccer players in Palestinian clubs according to the playing position variable: (offensive line, midfield line, defensive line, goalkeeper)?

To answer this question, the researchers used the arithmetic averages and one-way analysis of variance (One-Way ANOVA), and the results of Table (3) show the averages, while Table (4) shows the differences in the level of physical fitness according to the variable of the playing position.

Table 3: Arithmetic averages for the level of fitness elements according to the playing position variable (n = 89)

Elements of Physical fitness	Playing positions	Arithmetic mean	Measurement unit
Endurance	Defense	2.40	Minutes
	Midfield	2.37	
	Attack	2.53	
	Goalkeeper	2.26	
Muscular strength	Defense	1.43	Meters
	Midfield	1.33	
	Attack	1.46	
	Goalkeeper	1.60	
Speed 30m	Defense	8.8	Seconds

	Midfield	9.3	
	Attack	8.7	
	Goalkeeper	9.1	
Flexibility	Defense	6	Centimetres
	Midfield	5.9	
	Attack	6.2	
	Goalkeeper	6.1	
Agility	Defense	14.12	Seconds
	Midfield	14.35	
	Attack	15.20	
	Goalkeeper	15.33	

Table 4: Results of one-way analysis of variance (One Way ANOVA) to indicate the differences in the average level of physical fitness among female young soccer players in Palestinian clubs, according to the playing position variable.

Domain	Elements of Physical fitness	Source of contrast	Sum of squares	Degrees of freedom	Mean of squares	F value	Significance level
Physical exams	Endurance	Between groups	540.033	15	36.002	2.610	0.183
		During groups	55.167	4	13.792		
		Total	595.200	19			
	Muscular strength	Between groups	660.133	15	44.009	0.643	0.763
		During groups	273.667	4	68.417		
		Total	933.800	19			
	Speed 30m	Between groups	84.333	15	5.622	1.273	0.448
		During groups	17.667	4	4.417		
		Total	102.000	19			
	Flexibility	Between groups	1.068	15	0.071	5.465	0.056
		During groups	.052	4	0.013		
		Total	1.120	19			
	Agility	Between groups	912.300	15	60.820	9.180*	0.022
		During groups	26.500	4	6.625		
		Total	938.800	19			

* Statistically significant at the significance level ($\alpha < 0.05$).

It is clear from Table 4 that there are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the level of some elements of physical fitness among young female

soccer players in Palestinian clubs, according to the playing position variable. The level of statistical significance for the endurance component was (0.183), for the muscular strength component (0.763), for the speed component (0.448), and flexibility (0.56), which is greater than (0.05), as it is not statistically significant, which means that there are no significant differences in the level of some elements of physical fitness under study among female soccer players in Palestinian clubs due to the variable of playing position, except for the agility component, where the level of statistical significance was (0.022), which is less than (0.05), as it is statistically significant, and it was in favor of the goalkeeper. The researchers attribute this result to the fact that all soccer players in different positions must enjoy the collection of physical fitness elements to be able to perform defensive and offensive tasks and duties according to the playing position. The fact that female players enjoy all components of physical fitness, regardless of the positions in which they play, is something that they must have. This result agreed with the results of the study [6] in terms of the absence of differences in the level of physical fitness among the female soccer players in Palestine due to the variable of playing position, and agreed with the study [7]. It differed with the result of the study, Kammoun, Trabelsi [8] in terms of the different components (elements) of physical fitness according to the different playing positions (centers) of Tunisian soccer players. And with the result of the study [9], which indicated that there is no direct correlation between physical fitness and technical skills for children's soccer and with the result of the study by Bujnovky, Maly [10], where the results of the study showed a significant impact of playing positions (centers) on the physical performance of young male soccer players.

CONCLUSION

Considering the results of the study and their discussion, the researchers conclude the following:

- Young female soccer players in Palestinian clubs have a level of physical fitness that helps them perform and play soccer.

There is no difference between the players in the offensive line, midfield, defense line, and goalkeeper in terms of physical fitness, except in the element of agility and in favor of goalkeeper.

Recommendations

- Considering the objectives and results of the study, the researchers recommend the following:
- The need for continuity of training to improve and develop the level of physical fitness of young female soccer players in Palestinian clubs in various playing positions.
- The coaches' approval of the physical tests in the process of selection and evaluation of female soccer players.
- The competitions department in the Palestinian Federation must regularly establish and implement a special tournament for female soccer players in Palestinian clubs, in order to encourage the clubs that train this category to continue training and develop the physical levels reached by the results of the study.
- The need for the Palestinian Soccer Association to conduct training courses under the supervision of the Asian and International Federations dedicated to training the youth soccer category in Palestinian clubs.

- Conducting another similar study on the female soccer players in Palestine.

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