

# A comparative study of the transitional velocity of the muscles of the legs among football players Volleyball and football players

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**Summary:** Due to the paramount importance of sport and due to the great demand of the world for it, many researchers resorted to developing it in many skills, qualities, players and games until sport became a broad science and was included in university study curricula, and it also has importance on the health of the practicing human.

As a result of the importance of these two games (football and volleyball) and the great demand for them, and finding some problems that players face while practicing these two sports, the researcher resorted to finding some problems regarding the (transitional speed) that he got to know through the performance of the players and the team while practicing these two sports and making a comparison between them in regards to (transitional velocity).

The researcher investigated and used tests and experiments to reach a comparison between the transitional speed of football players and volleyball players and falling on and strengthening weaknesses and strengths and enhancing them due to the importance of.

## Chapter one

### 1-Introduction to research:

#### 1-1Introduction and importance of the research:

The development in the fields of life made sports, games, events and activities a prominent and important place in the lives of nations and peoples. This development is the result of the association of physical education with other sciences such as biomechanics, physiology, psychology, kinetic learning and sports training, all of which made sports a great impact on the lives of human societies, and the game of volleyball. Like any other sports activity, it needs measurement and evaluation in different skills, and those interested in this game need a lot of scientific-type tests based on statistical methods that confirm their stability and enhance their powers in measuring performance.

Likewise, football, like any game, has its many basic principles, which depend in its mastery on following proper planning and using modern training methods according to the scientific and correct method in order to obtain the best results, and based on the need for volleyball and football players to enjoy the elements of transitional speed and explosive power from Elements of physical fitness and in order to clarify the importance of the joint effect of these two elements on the level of their performance, especially in the skills of scoring and passing, we find that the element of strength is an essential element that the player should enjoy, and hence its importance for the two physical characteristics under study in football and volleyball because of their urgent need for each players.

#### 1-2 research problem:

By informing the researcher of many local football and volleyball tournaments Within the club championships in Anbar Governorate and in the Ramadi club team in particular, they found that there is a weakness in the quality of speed, which has an impact on the movement of players and their movement within the stadium, so the researcher considered studying this problem in order to find appropriate solutions to it and push the wheel of progress in the sports field

### 1-3 Research Objectives:

1. Identifying the transitional velocity of the research sample members.
2. Comparing the variables under study between volleyball and football players.

### 1-4 Imposing search:

There is a statistically significant relationship between the transitional speed of the muscles of the legs among the ball players Volleyball and football.

### 1-5 Research areas:

- 1-5-1 The human field: Al-Ramadi club team.
- 1-5-2 Spatial domain: Al-Ramadi Club Stadium.
- 1-5-3 Time range: 27/2/2021AD to 24/5/2021AD.

## Chapter two

### 2-Theoretical studies:

#### 2-1 The concept and definition of physical fitness:

Many scientists have tried to define physical fitness, and several definitions have emerged that explain in short words What is meant by the word physical fitness is that it is noticeable in all of these definitions that they are not contradictory as much as they complement each other to give in the end an integrated concept of physical fitness and we will review below some of those definitions:

Physical fitness<sup>(I)</sup>: It is the ability to perform muscular work in a satisfactory manner, and some scholars tend to define physical fitness to focus on the physiological aspect, as Fox (and Foxetal 1987) defined it as the physiological efficiency or function that allows improving the quality of life. The respiratory, mental, and skeletal circulatory systems need to function at an optimal level, and some definitions focus on the link between physical fitness.

#### 2-1-1 Components of fitness:

Physical fitness is a set of physiological decisions that face corresponding to the movement requirements that can be addressed in the form of patterns and characteristics of physical performance. Running quickly is part of physical fitness, resisting a certain weight is another part, and continuing to perform physical performance for as long as possible is a third part, and other decisions that form from Total fitness . Where the scientists divided physical fitness into components of physical fitness are five basic components (strength, speed, agility, flexibility, and elongation).

#### 2-2 Transitional speed in football:

The element of speed in football is one of the important and difficult elements of physical fitness compared to the rest of the other elements of physical fitness. Defense for its ability to continuously cover his teammates, and speed is defined as the human's ability to make movements in the shortest period of time in certain circumstances, as it is known in football (the player's ability to do sports movements with or without the ball in a short period of time), the speed of the qualities Genetic, but modern training plays an important role in improving performance and benefiting from this genetic trait to the highest possible degree. In improving performance and taking advantage of this genetic trait to the highest possible degree and in the absence of this trait it is very difficult to develop the player's speed to above the average level<sup>(II)</sup>.

#### 2-3 Transitional speed in volleyball:

Speed is one of the important basic components of physical fitness, and it has been defined as "the individual's ability to perform sequential movements of one kind in the shortest period of time<sup>(III)</sup>.

It is also defined as the individual's ability to perform a motor action under a certain time disbursement in the shortest period, and the speed can be divided into (transitional speed, kinetic speed, response speed) and the importance of speed in volleyball is clearly shown in the rapid and lightning movements made by the volleyball player, and that the player The one who lacks speed cannot reach the ball in time, as well as

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Abu Al-Ala Ahmed Abdel-Fattah and Ahmed Nasr Al-Din: The Physiology of Physical Fitness, Cairo, Dar Al-<sup>1</sup>.Fikr Al-Arabi, 2003, p. 55

(II)Zuhair Qasim al-Khashab and the previous source, 1999, p. 67.

(III)Saad Muhammad and Loay Ghanem: Volleyball between theory and practice, (Mosul, Bassam Press, 1988), p. 45.

touching the ball for a period of time according to the requirements of the game requires a high-speed kinetic reaction.

### Chapter Three

#### 3-Research methodology and field procedures:

##### 3-1 Research Methodology:

The researcher used the descriptive approach as it is the most appropriate method for the nature of the research.

##### 3-2 sample research:

The research sample consisted of the 6 players of the Ramadi volleyball team and the 11 footballers of the football team, who were chosen in a deliberate way.

##### 3-3 Research tools and information gathering methods :

- Flying balls.
- Footballs.
- tape measure.
- Adhesive tape.
- Stopwatch type.
- Volleyball court.
- A football field.
- Arabic sources.
- Information network (Internet).

##### 3-4 How to carry out the search:

The purpose of implementing the research and achieving the objectives, the researcher used the following tests:

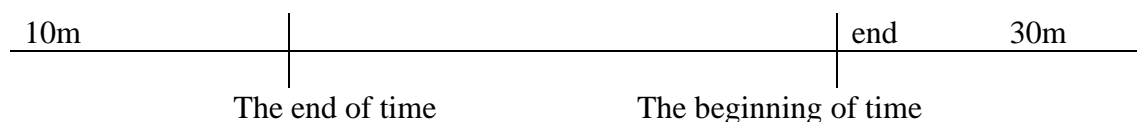
##### 3-4-2 Transitional velocity test<sup>(1)</sup> :

Speed tests (30) m.

Test objective: To measure the transitional velocity.

Tools used: a square (4 m wide and 40 m long) and a stopwatch.

How to perform: The player stands behind the ten-meter line for the purpose of accelerating and when he hears the start signal, he runs as fast as possible at the end of (30) m.



Scoring Calculation: Calculates the time that the player records in traveling a distance of (30) m.

##### 3-5 main experience:

The researcher conducted the main experiment on the research sample of the Ramadi club team in volleyball and football by conducting tests for the research sample, for the period from 19/3/2021 to 21/3/2021, after which the variables that were obtained were treated statistically through the use of statistical means Occasion.

##### 3-6 Statistical means:

The researcher used the ready-made statistical program (SPSS) .

### Chapter four

#### 4-1 Presentation, analysis and discussion of the results of the transitional speed test for volleyball and football players:

##### Table (2)

It shows the arithmetic mean, standard deviation, and the calculated and tabulated t-value in the jump test The wide range of stability for volleyball and football players.

(1) Muhammad Sobhi Hassanein: The previous source, 2004, p. 86.1

Tabular value (t)	Calculated value (t)	+z	s	Team stats
2.13	30.28	22.00	4.45	volleyball players
		1.83	4.48	football players

Through Table (2), which shows the arithmetic mean, standard deviation, and the calculated (T) value And the tabularity in the speed test (30) m for volleyball and football players, as we find that the arithmetic mean The speed test was (30) m for volleyball players, it amounted to (45,4) with a standard deviation of (22.0). T) calculated (28,30), which is greater than the tabular (T) value of (13.2), which indicates differences in the speed test (30) m in favor of football players The researcher attributes the reason for this to the fact that football players have high speed due to Continuous training on the muscles of the legs so that they have a very high speed<sup>(1)</sup>.

### Chapter five

#### 5-Conclusions and recommendations:

##### 5-1 Conclusions:

There are differences in the transitional speed tests between volleyball and football players And for the interest of football players among the research sample members.

##### 5-2 Recommendations:

- 1-Emphasis on developing the transitional speed of volleyball players.
- 2-Doing a study similar to other games.
- 3-Doing a similar study for other physical characteristics.

#### Sources

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(1)Qasim Hassan Hussein and Abd Ali Nassif: The Science of Sports Training, 2nd floor (Mosul, Mosul University Press, 1987, p. (44).