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CARDIOVASCULAR FITNESS: COMPARISON BETWEEN SWIMMERS AND FOOTBALL PLAYERS

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Abstract: The primary objective of the study was to compare the Cardiovascular fitness between Swimmers and football players. The data was collected through respondents in the form of different descriptive tests. The demographic information about, age, height, weight etc. was obtained before seeking training. In the present study, Total 200 players (100 Swimmers and 100 football players) selected for present study and their age ranged from 18 to 25 years. The physical conditions of the subjects were assessed by the demographic information form . They were requested to co-operate and participate actively for the same. Resting heart rate of each subject was recorded.

Electronic Blood pressure machine was used to measure the blood pleasure of sample. The results of the study shows that insignificant differences was found in Systolic blood pressure between footballers and swimmers. The results of the study show that insignificant differences were found in Diastolic blood pressure between footballers and swimmers. The results of the study shows that significant differences was found in Heart Rate between footballers and swimmers. The finding of the study indicates that footballers ware to found have lower heart rate as compared to swimmers. result reveals a statistically significant difference of cardiovascular fitness was found between Football players and Swimmers. Football players were better Cardiovascular Fitness.

Keywords: Cardiovascular, Blood Pressure, Resting Heart Rate, Football, Swimming

I. INTRODUCTION

Swimming and Football are good sports, it depends on what interests you more. Football started a long time ago when people kicked balls to score points. Football, commonly known as football, is one of the most popular sports in the world (Singh 2009;Pagare ,2009). It is a team game and is played between two teams of eleven players each. Swimming is an individual racing sport that requires using a person's entire body to move through water (Sharma ,2000 ; Singh ,2004) . This game takes place in pool or open water. swimming is one of the most popular Olympic sports. Cardiovascular fitness, delivers oxygen to your muscles and organs during exercise (Singh, 2016) .

Cardiovascular fitness or Cardiorespiratory fitness is essential element for Football Players and Swimmers because it helps them maintain high-intensity efforts during the match playing period (Singh, 2012) . A good cardiovascular fitness helps athletes maintain top performance. It also helps players stay psychologically strong, which can help them make important game and tactical adjustments during a match (Clausen,1977).

cardiovascular fitness help athletes prevent injuries, maintain attention in game and excel under pressure. Improved cardiovascular fitness ensures adequate oxygen supply to the muscles, reducing the chances of muscle strains, cramps and injuries related to fatigue or lack of oxygen (Angilley , Haggas 2009, Singh 2016). The importance of cardiovascular fitness to the health of sportsmen has been well documented.

Cardiovascular is an essential element for all activities in our life (Oner 2004; Milesiset.al. 1976). The cardiovascular fitness of a person mainly depends on lifestyle-related factors such as daily physical activity level (Jain, 2016). It was believed that a person's low cardiovascular fitness level was associated with poor performance as an athlete (Oner 2004; Bharti,2010)). The primary objective of the study is to find out the cardiovascular fitness level between football players and Swimmers.

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II. METHODS

The method of sample was purposive –A non-random method of sampling design for swimmers and footballers with a specific purpose. Total 100 football players and 100 Swimmers from different states and national level affiliated unites of federation was selected as sample size of the study.

The study depends mainly on primary source of data. The data was collected through respondents in the form of test of Blood Pressure, Resting Heart Rate and Twelve Minutes Run and Walk Test. from different Academies, Clubs, States and Universities at the venue of Inter-varsity, State tournaments.

Assessment of Cardiovascular Fitness Tests

Cardiovascular fitness was assessed using 12 minute run test. Place markers at set intervals around the track to aid in measuring the completed distance. Participants were ruined for 12minutes, and the total distance covered is recorded. Walking was allowed. Where Blood pressure and heart rate was Measure through Digital BP Monitor (Omron) .

Ethical Consideration:

In this research study the researcher Follow to ethical guidelines, principles, and standards for studies conducted with human beings .The study was include safeguards for protecting humans,

The inclusion criteria are:

1. The participant was agreeing to participate in the study.
2. The participants must be competitive swimmers and footballers in their aged range was 18 to 30 years.
3. The participants were not rotating through other health facility at the time of study.

The exclusion criteria are:

1. The participants advised not to participate if under any physiological or psychological disorders.
2. Inability to obtain the questionnaire of the respondent.
3. Presence of chronic medical conditions such as asthma, heart disease or any other condition and
4. Participants not less than aged of 18 and more than 30 years.

TABLE-1
MORPHOLOGICAL CHARACTERISTICS OF FOOTBALL PLAYERS

Sr. No.	Components	Means Scores	Standard Deviations
1.	**Age (Year)**	**21.23**	**4.56**
2.	**Weight (Kg)**	**70.20**	**8.22**
3.	**Height (cm)**	**169.88**	**14.56**

Table -1 depicted the morphological characteristics of Football Players , the Mean Scores (S.Ds.) age of Football Players was **21.23** (**4.56**) years, mean scores (S.Ds.) weight was **70.20** (**8.22**) Kg, mean scores (S.Ds.) and height was **169.88** (13.12) cm.1

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FIGURE- 1
SHOWS THE MEAN AND STANDARD DEVIATION OF MORPHOLOGICAL CHARACTERISTICS OF FOOTBALL PLAYERS

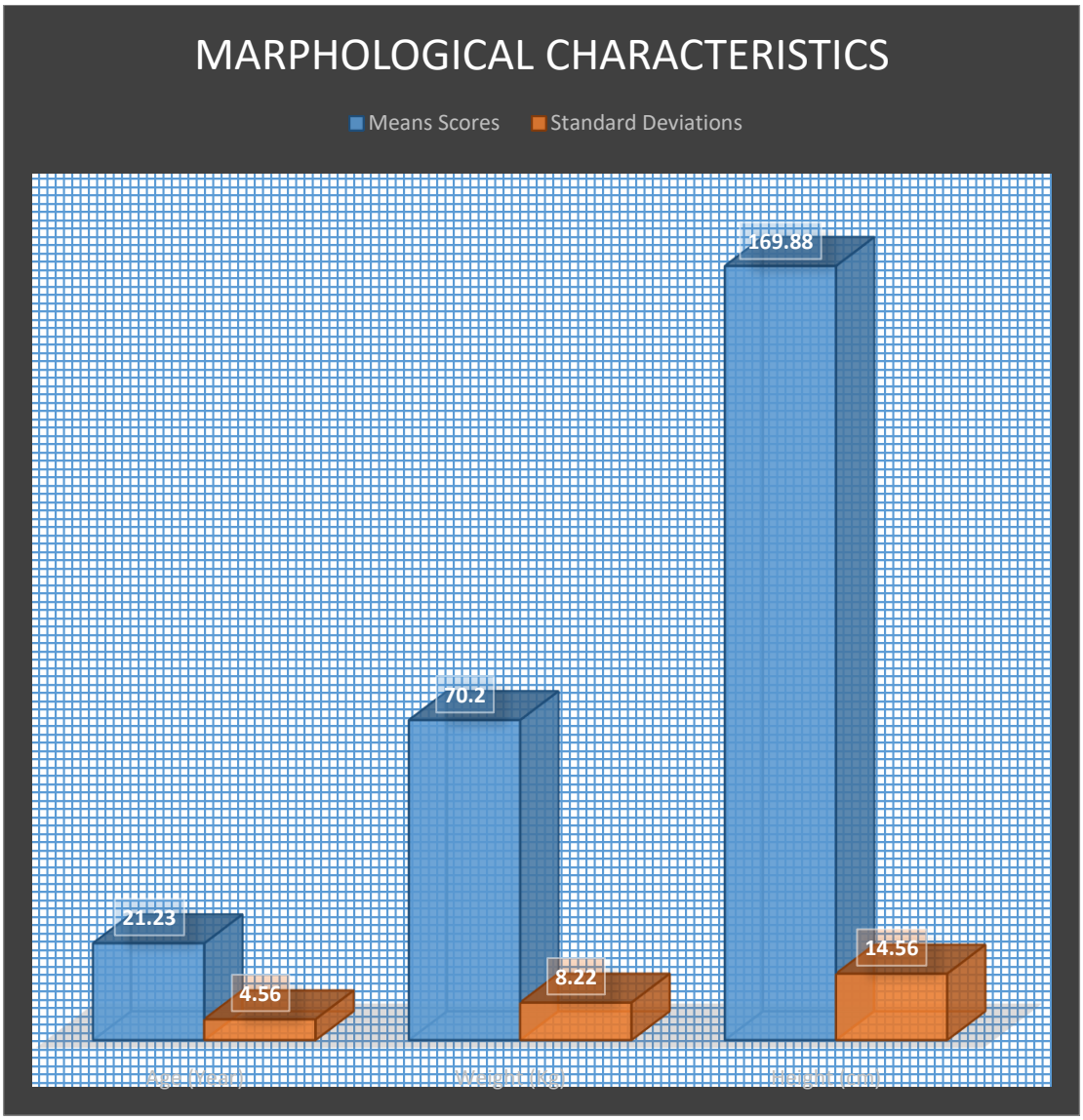

TABLE-2
SHOWS MEAN SCORES AND STANDARD DEVIATIONS OF MORPHOLOGICAL CHARACTERISTICS OF THE SWIMMERS.

Sr. No.	Components	Means Scores	Standard Deviation
1.	Age (Year)	21.67	3.66
2.	Weight (Kg)	68.71	8.35
3.	Height (cm)	171.10	13.54

Table -2 depicted the morphological characteristics of Swimmers , the Mean Scores (S.Ds.) age of control group was **21.67** (3.66) years, mean scores (S.Ds.) weight was 68.71(8.35) Kg, mean scores (S.Ds.) and height was 171.10 (13.54) cm.

The Mean Scores and Standard Deviations of Morphological characteristics of the Swimmers has been presented graphically through in figure-2

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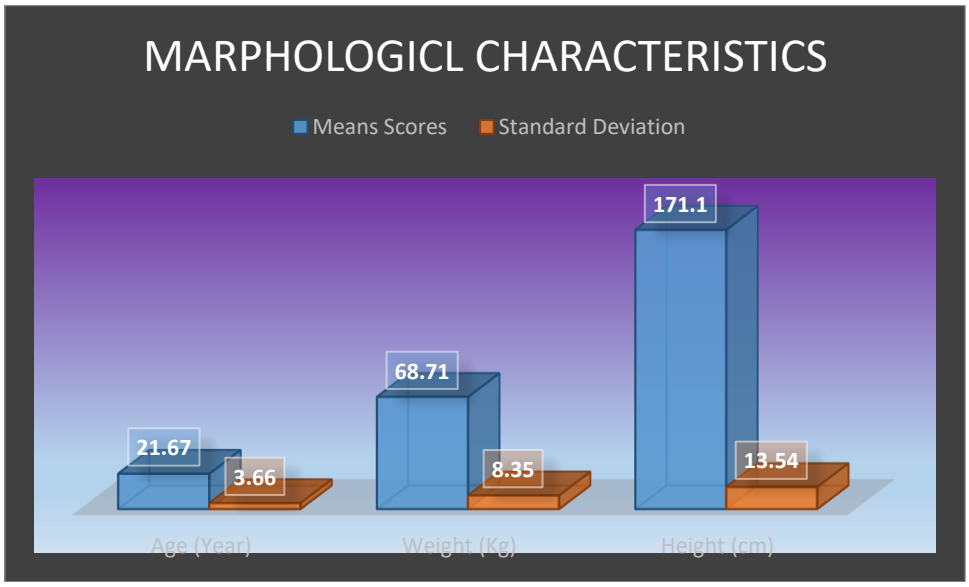

TABLE-3
SHOWS THE MEAN SCORES, STANDARD DEVIATION (SDS) OF SYSTOLIC BLOOD PRESSURE BETWEEN FOOTBALLERS AND SWIMMERS

Sr.No	Components	Players	No.	Mean Scores	SDs	T-Value
1.	Systolic blood pressure	Football	100	121.67	12.46	1.89 NS
		Swimming	100	120.57	12.21	

Table -3 illustrates that mean scores, standard deviation and t-ratio of Systolic blood pressure between Football players and Swimmers.

FIGURE 3
FIGURE-5 SHOWS THE MEAN SCORES, STANDARD DEVIATION (SDS) OF SYSTOLIC BLOOD PRESSURE BETWEEN FOOTBALLERS AND SWIMMERS

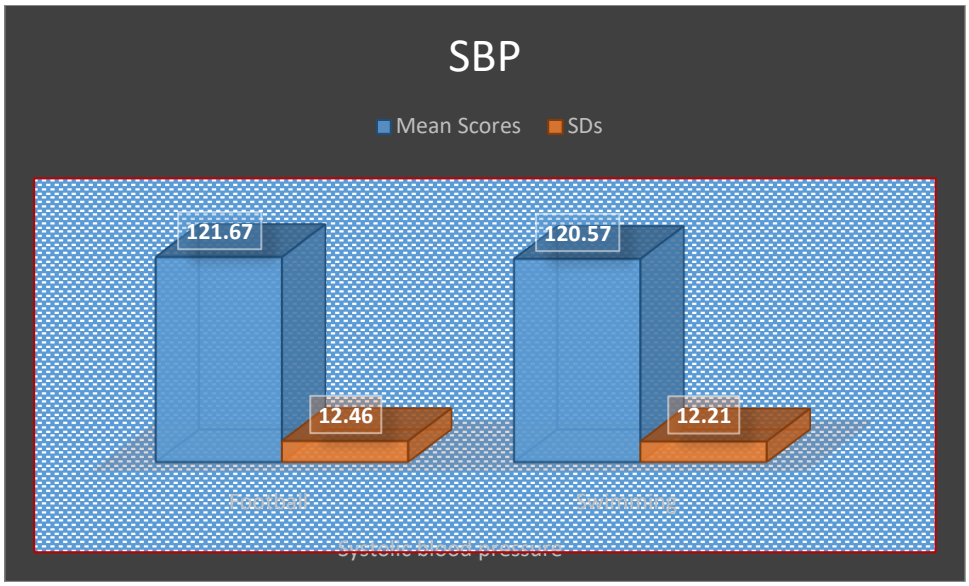

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TABLE-4
SHOWS THE MEAN SCORES, STANDARD DEVIATION (SDS) OF DIASTOLIC BLOOD PRESSURE BETWEEN FOOTBALLERS AND SWIMMERS

Sr.No	Components	Players	No.	Mean Scores	SDs	T-Value
1.	Diastolic blood pressure	Football	100	82.85	7.89	1.81 NS
		Swimming	100	81.05	7.12	

Table -4 illustrates that mean scores, standard deviation and t-ratio of Diastolic blood pressure between Football players and Swimmers.

FIGURE-4
FIGURE-5 SHOWS THE MEAN SCORES, STANDARD DEVIATION (SDS) OF DIASTOLIC BLOOD PRESSURE BETWEEN FOOTBALLERS AND SWIMMERS

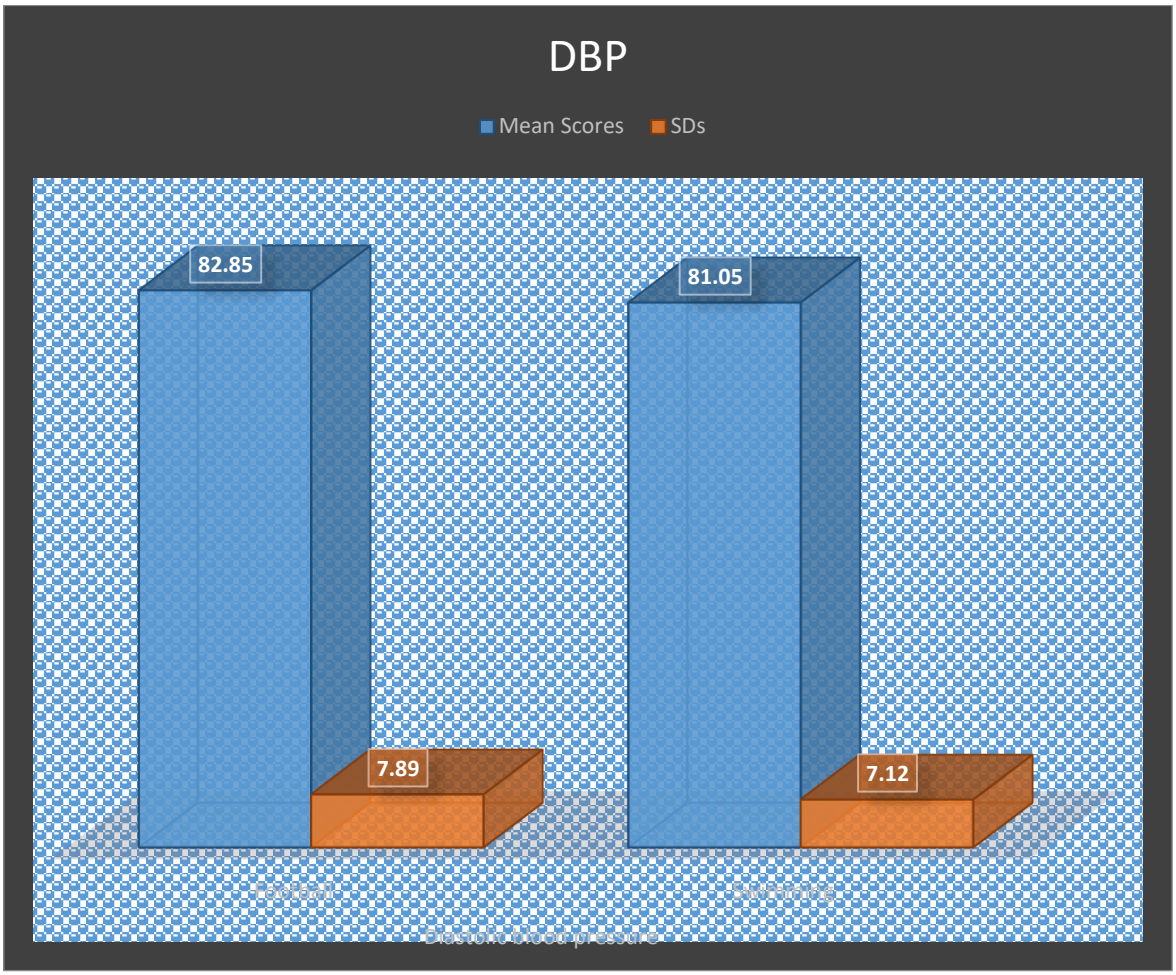

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TABLE-5 SHOWS THE MEAN SCORES, STANDARD DEVIATION (SDS) OF HEARTRATE BETWEEN FOOTBALLERS AND SWIMMERS

Sr.No	Components	Players	No.	Mean Scores	SDs	T-Value
1.	Resting Heart Rate	Football	100	63.77	6.89	P<.05
		Swimming	100	66.06	6.12	

Table -5 illustrates that mean scores, standard deviation and t-ratio of Resting Heart Rate between Football players and Swimmers.

FIGURE -5 SHOWS THE MEAN SCORES, STANDARD DEVIATION (SDS) OF HEARTRATE BETWEEN FOOTBALLERS AND SWIMMERS

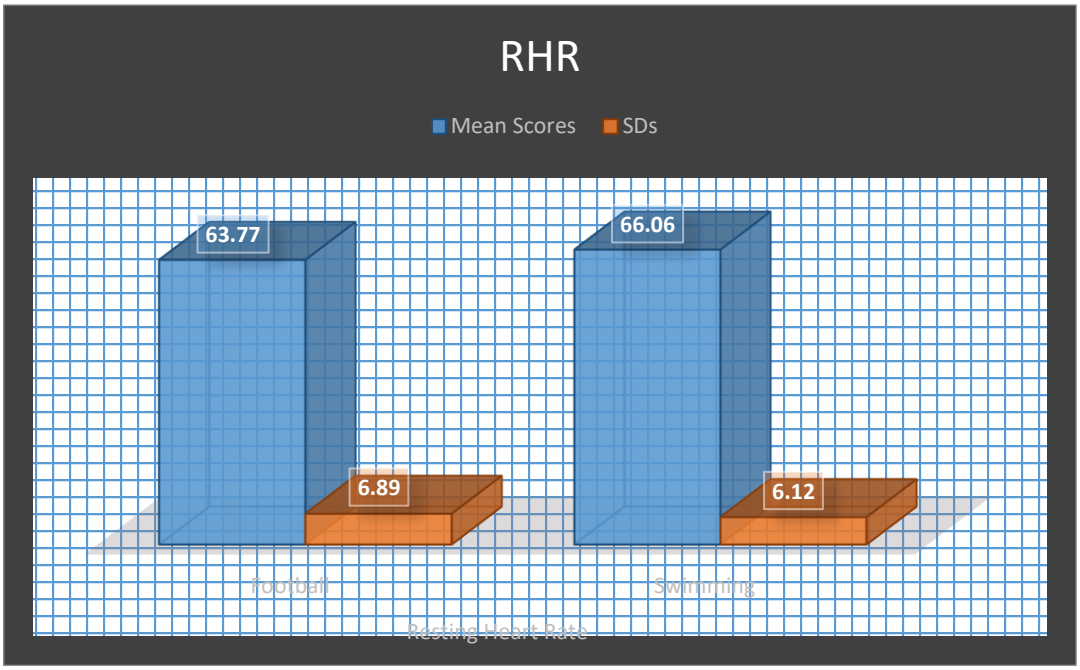

Table-6
Statistical Evaluation of Cardiovascular Fitness through 12 meter run& walk test between Football players and Swimmers

Variable	Test	Players	Mean (Mts.)	S.D.	T-ratio
12 Meter Run	Football	100	2945.89	30.70	44.68*
	Swimming	100	2740.25	28.69	

Table -6 illustrates that mean scores, standard deviation and t-ratio of 12minutes run and walk between Football players and Swimmers.

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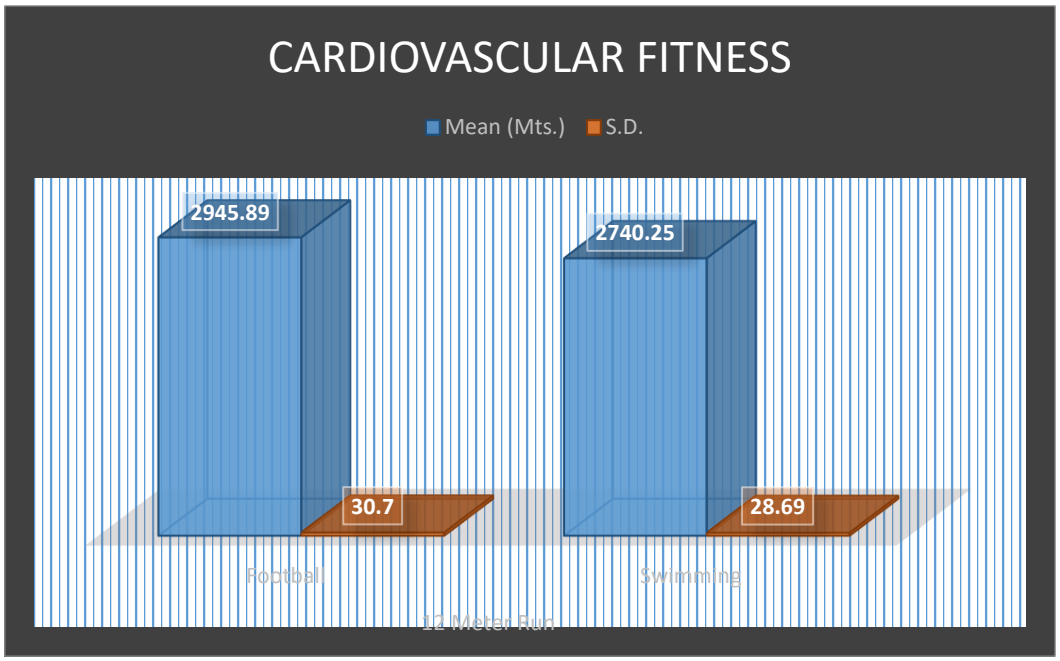
Figure-6 Cardiovascular Fitness between Football players and Swimmers



III. DISCUSSION

Swimming and Football are the most popular sports in the world . Both requires a variety of physiological efficiency but both game differ from their skills and technique . cardiovascular need of football in highest level must have good physical condition in order to give maximal effort in a match (Hasmi, 2012, Waheed 2010) For cardiovascular fitness, the activity components involved are not just muscle development and endurance training (Singh, 2006, Singh 2009, Pagare, 2009). The lungs, heart and circulatory system are also central to health and fitness. The reason for this is to improve stamina, immune system and maintain good physical structure. Cardiovascular fitness reduces the risk of high blood pressure, diabetes, obesity and asthma(Amusa, & Goon ,2011).

The mean scores obtained from Table 5, the mean score of footballers was**121.67** and the swimmers was **120.57** recorded respectively for Systolic blood pressure. Whereas, the standard deviation of footballers was **12.46** and footballers was **12.21** respectively for Systolic blood pressure. The results of the study shows that insignificant differences was found in Systolic blood pressure between footballers and swimmers.

the mean scores obtained from Table 4, the mean score of footballers was **82.85** and the swimmers was **81.05** recorded respectively for Diastolic blood pressure. Whereas, the standard deviation of footballers was **7.89** and footballers was **7.12** respectively of for Diastolic blood pressure. The results of the study show that insignificant differences were found in Diastolic blood pressure between footballers and swimmers

The mean scores obtained from Table 5, the mean score of footballers was**63.77** and the swimmers was **66.06** recorded respectively for Heart Rate. Whereas, the standard deviation of footballers was **6.89** and footballers was **6.12** respectively for Heart Rate. The results of the study shows that significant differences was found in Heart Rate between footballers and swimmers.

The finding of the study indicates that footballers ware to found have lower heart rate as compared to swimmers. With regards to 12 minutes run and walk in Football players and Swimmers, they have obtained mean value was 2945.89 and 2740.25 respectively whereas, they have obtained Standard Deviation was 30.70 and 28.69 respectively the result reveals a statistically significant difference of cardiovascular fitness ($t=44.68; p<.05$) was found between Football players and Swimmers. Football players were better **Cardiovascular Fitness.**

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