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Comparative Study of Selected Physical Fitness Parameters between Intercollegiate Men Football and Volleyball Players

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ABSTRACT- The Purpose of the study was to compare the physical fitness parameters such as cardiovascular endurance and explosive power between intercollegiate level men football and volleyball players. In order to achieve this research purpose forty (N=40) football players and volleyball players from YMCA college of physical education, Chennai district were selected randomly. Their age was ranged between 18 to 25 years. They were divided into two equal groups, consists twenty (n=20) members each group. Group-I football players and group-II volleyball players. Standardized tests were conducted to collect the data of cardiovascular endurance and explosive power from the subjects. To find out the results, the collected data were statistically analyzed by computing 't' test . Level of significant was fixed at 0.05. Based on the statistical result it was concluded that the football players have more cardiovascular endurance than the volleyball players and volleyball players have more explosive power than the football players.

Key words: physical fitness, cardiovascular endurance, explosive power.

I. INTRODUCTION

Fitness refers to the ability of an athlete to perform successfully at their sport or event. Physical fitness is the capacity of a person to function steadily and smoothly when a situation arises in sports. Physical fitness makes you feel mentally sharper, physically comfortable and move with your body better and able to cope with the demands in sports setting. Physical fitness components such as speed, strength, endurance, explosive power are the foremost important aspects which are required for every sports individual. Sports person have to concentrate more on this in order to enhance their performance.

FOOTBALL

Physical fitness is the foremost important attributes of football performances. A skillful player will perform a long way in the sport, but without the fitness aspect of their game they will not become a complete player. The major components of fitness for football players are endurance, strength, speed, flexibility and power. In football, the players need to be able to maintain a high level of intensity throughout the 90-minute game. Another very important fitness component is anaerobic fitness, which means running speed and particularly repeated sprints. Players also need to be agile, strengthened, powerful and flexible.

VOLLEYBALL

Volleyball is a complex game of simple skills. Volleyball Game requires comprehensive ability including physical, technical, mental and tactical abilities. Among them physical abilities of players exert marked effects on the skills of the players themselves and the tactics of the team. The skills like higher attack, powerful jumping-serve, attack from the back row and aggressive blocking are widely used by volleyball players. All these bring forward greater demand for specific physical fitness of volleyball players. Successful game of volleyball needs ability of the players to produce higher speed, agility, flexibility and unbelievable power throughout the game. Skills like serving, passing, attacking and blocking are of utmost importance for a player at any level of play.

Statement of the Problem

The purpose of the study was to "compare physical fitness parameters between intercollegiate men football and volleyball players".

Objectives of the Study

To compare the physical fitness parameters such cardiovascular endurance and explosive power between football players and volleyball players.

II. METHODOLOGY

The purpose of this research was to compare physical fitness parameters such as cardiovascular endurance and explosive power between football and volleyball players. To achieve this purpose, forty (N=40) football players and volleyball players were selected as subjects from YMCA college of physical education, Chennai district. Their age was ranged between 18 to 25 years. They were divided into two equal groups, consists of twenty (n=20) players each group. To find out the cardiovascular endurance, Cooper's 12 minutes run/ walk test was conducted to collect the data and to find out the explosive power, standing broad jump test was conducted. Collected data from each test were statistically analyzed by computing 't' test.

Table 1.Selection of Variables, Test Items and Its Measuring Units

S. No	Variables	Test Items	Unit Of Measurements
1	Cardiovascular endurance	Cooper's 12 minutes run/walk test.	Distance in meters
2	Explosive power	Standing broad jump	Distance in centimeters

2.1 Statistical Techniques

In order to compare the physical fitness parameters such as cardiovascular endurance and explosive power, data both football players and volleyball players were collected through the above mentioned standardized tests. The collected data of cardiovascular endurance and explosive power were statistically analyzed by computing '**t**' test for each variable separately. In all cases 0.05 level of confidence was utilized to test the significance.

III. RESULTS AND DISCUSSION

Table 1
Obtained 't' value on Cardio vascular endurance

No	Game	N	Mean	SD	Variance	't' Value	Sig
1	Football	20	2135.00	134.53	18100.00	7.20*	0.00
2	Volleyball	20	1855.00	109.95	12089.47		

Tables 1 indicates the means and standard Deviations (SD) observed for cardiovascular endurance of the football players were 2135.00 and 134.53 respectively. The mean and standard deviations for the volleyball players were 1855.00 and 109.95 respectively. The statistical results showed that there would be significant differences on cardiovascular endurance between football and volleyball players ($t=7.20^*$ $p=.0.00$), $p<0.05$). The statistical result also proved that football players have more cardiovascular endurance than the volleyball players.

The graphical representation of the mean values on cardiovascular endurance of football and volleyball players shown in figure 1.

Figure 1
Mean Comparison on Cardiovascular Endurance

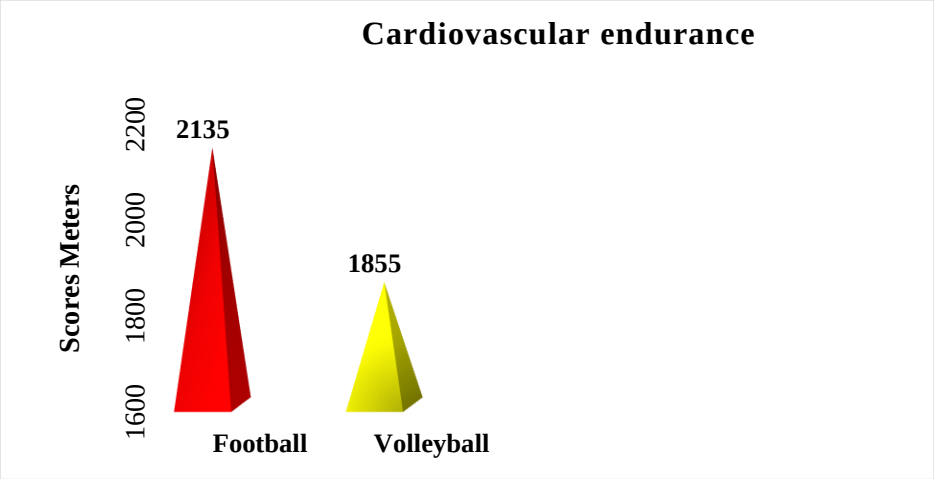
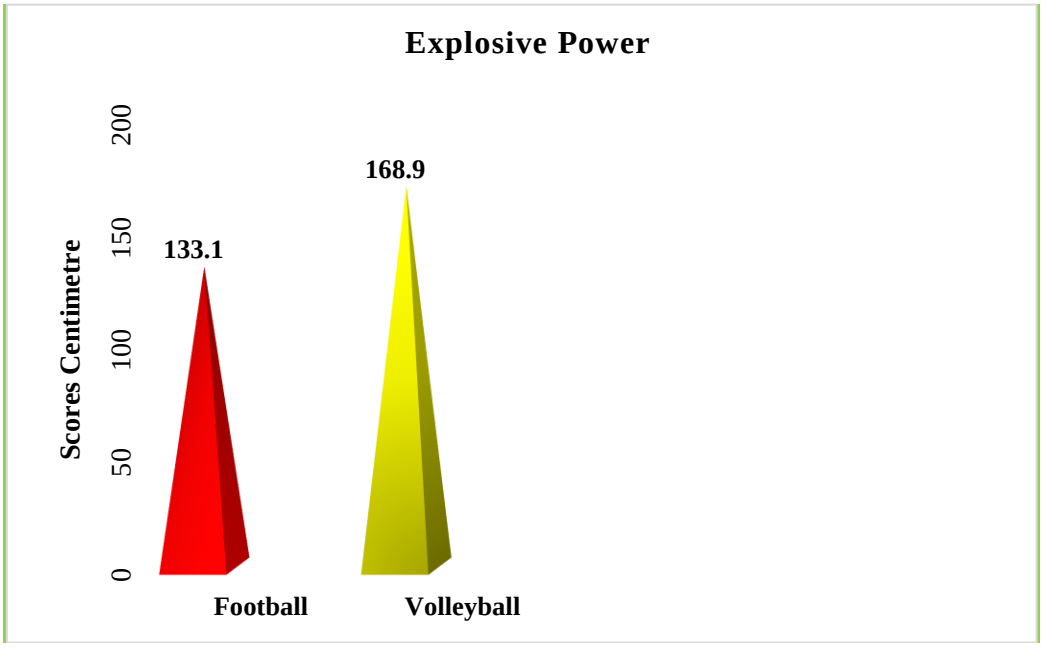


Table 2
Obtained 't' value on Explosive power

No	Game	N	Mean	SD	Variance	't' Value	Sig
1	Football	20	133.10	12.02	144.51	7.79*	0.00
2	Volleyball	20	168.90	16.67	277.989		

Tables 2 indicates the means and standard Deviations (SD) observed for explosive power of the football players were 133.10 and 12.02 respectively. The mean and standard deviations for the volleyball players were 168.90 and 16.67 respectively. The statistical results showed that there would be significant differences on explosive power between football and volleyball players ($t=7.79^*$ $p=.0.00$), $p<0.05$). The statistical result also proved that volleyball players have more explosive power than football players.
The graphical representation of the mean values on explosive power of football and volleyball players shown in figure 2

Figure 2
Mean Comparison on Explosive Power



IV. CONCLUSIONS

- ❖ Football player have more cardiovascular endurance compare to volleyball players.
- ❖ Volleyball players have more explosive power compare to football players.

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