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A COMPARATIVE STUDY OF SELECTED PHYSICAL FITNESS VARIABLES AMONG STATE LEVEL ATHLETES AND FOOTBALL PLAYERS OF DISTRICT PANIPAT

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ABSTRACT

The purpose of the study was to compare the selected physical fitness variables among state level athletes and football players of District Panipat. A total no. of 40 male subjects in which 20 subjects from athletics discipline and 20 subjects from football discipline between the age group of 17-19 years were randomly selected as subjects in the present study. The selected subjects were tested on speed by 50 yards dash test, explosive power by standing broad jump test, agility by 6x10 meter shuttle run test and muscular strength was tested by sit ups test which was selected as criterion variable. It was hypothesized that there may be significant difference between athletes and football players on selected physical fitness variables. To find out the significant difference in physical fitness variables‘t’ test was applied and the level of significance was set at 0.05 level. The result of the study showed that athletes have found greater speed, explosive power and agility as compared to football players. No significant difference was found between a thletes and football players for the variables of muscular strength.

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KEY WORDS: Physical fitness, variables, athletes, footballers speed, power, agility, muscular strength.

NTRODUCTION

A fit person is one who has well adjusted to his environment, whose mind and body are in harmony, and who can meet the normal demands both mentally and physically without undue fatigue. Physical fitness implies that the body system are capable of carrying on their activities satisfactorily. It is one of the basic elements which are essential for better performance. The athlete must be in top most physical condition. In the word of VC Rossum Rax (1986), "Physical fitness for track and field event consists of a number of interrelated qualities or components". Trank, Robert and Lewis (1993) defined Physical fitness as a "quantitative expression of the physical condition of an individual." The development of the body to a state or condition which permits the performance of a given amount of physical work, when desired, with a minimum of physical efforts. The efficiency of physical efforts depends upon the mutual development of the muscular respiratory and circulatory system integrated and co-ordinate by the activity of the central nervous system.

Every vigorous game or sport require certain qualities to physical fitness to be developed in every athlete on priority basis. In general these qualities are speed, the ability to run, move walk or run faster. Agility, the ability to change direction in the air and on the ground. Flexibility, the range of movement determined by the joints of the body. Strength, the ability of muscles to pull, push the squeeze or

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Press. During the course of one's training in sports these qualities are developed depending upon physical constitution of an individual. All the basic components of physical fitness are extremely necessary in all the sports events, however each sport event is basically dominated by one component of the other.

Barrow & McGee (1894) acknowledged that the physical fitness is a complete phenomenon consisting of various factors such as speed, strength, flexibility ability, cardio-vascular endurance etc.

The performance of sportsman in any game or event also depends on physical fitness. The physical fitness or condition is the sum total of five motor abilities namely muscular strength, agility, power, speed and cardiovascular endurance. Therefore, the sports performance in all sports depends to great extent on these abilities. Improvement and maintenance of physical fitness is the most important aim of sports training (Uppal 1980). Physical fitness is very important concept of physical education and can't be neglected. It is very important determinant, Harre, (1979) for a high level of efficiency in techniques and tactics in most sports; a high level of physical fitness is most important. So for making selection in sports physical fitness is the most important factor and can't be neglected.

Deepla K and Raj T. Rajender made a study on the physical fitness among athletes and football players of schools in Hyderabad. The results indicated that football players are having good in pull ups, sits ups, shuttle run, standing broad jump compare to athletes who were good in 50 yards & 600 yards run.

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Maurya D.C. et al (2010) made a comparative study of physical variable (muscular strength) football players & athletes of school levels. They found that there were no significant difference was found in football players and athletes of school level in regards of muscular strength variable.

Bandhopadhyay Pathikrit and Murma Biswanath (2015) also made a study on selected physical fitness components of state level male tribal footballers. They found significant difference was found on selected physical fitness components. The study relates to the importance of physical fitness components as one of the primary factors for better performance in game / sports. The attempt is made in this study of selected physical fitness variable among athletes and football players. A physical fit player can give good performance in his game / sports for a long time. This study will be very useful to physical educators / coaches in the field of competitive performance.

PURPOSE OF THE STUDY

The main purpose of the study was to compare the selected physical fitness variables among state level athletes and football players of District Panipat.

MATERIAL AND METHODS

Selection of Subjects: - The purpose of the present study was to compare the selected physical fitness variables among state level athletes and football players of District Panipat (Haryana) India. For the purpose of the study total 40 subjects male in which 20 subjects from athletics discipline from coaching centre Shivaji

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Stadium Panipat and 20 subjects from football discipline were taken from Football Training Centre Govt Sr. Sec. School Siwah. They have participated at state level competition in their respective disciplines in the year 2015-16 were selected on random basis as the subjects for the study. The age of the selected subjects were ranged from 17-19 years. Physical fitness test was employed for all the subjects of both the groups in twice and best performance was taken.

Variables and tests:

Table – 1

Details of selected physical fitness variables and tests to measure them.

Variables	Test
Speed	50 yard dash test
Power	Standing broad jump test
Agility	Shuttle run test
Muscular Strength	Sit-ups test

METHODS

As shown in Table – 1 the 50 yard dash test was used to assess the speed of Individual. The time taken by the subjects to complete the test in sec. was the score of the subjects. The standing broad jump was used to assess explosive power of the legs. Shuttle run test was used to estimate the agility of the subjects. The time taken by the subjects between the start and the finishing of the run was recorded to be the score. The time was recorded in seconds. The sit-ups test was

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used to assess the muscular strength. The score of the test is the number of correctly executed sit ups performed by the subjects in 60 seconds.

DATE COLLECTION

Before the data collection all necessary track and field marking was done. All athletes were asked to go for proper warmup & exercise. The test for physical fitness were demonstrated and complete instructions regarding all test were given to all the athletes and football players. When all the athletes and football players were ready for the test, the data was recorded by the administering the test.

STATISTICAL ANALYSIS

To compare the selected Physical Fitness variables among athletes and football players‘t’ test was used. The level of significance was set at 0.05 level.

RESULTS

To achieve the purpose of study data collected was analyzed with statistical technique and results are presented in the following tables.

Table – 1

Variables	Players	N	Mean	S.D.	t-value
Speed	Athletes	20	6.70	0.411	6.835 *
	Football	20	7.69	0.504	

Tab t 0.05 (38) = 2.021

Level of Significance 0.05 level

The table -1 clearly shows that mean value of speed for athletes was calculated 6.70 with S.D. 0.411 and football players was calculated 7.69 with S.D.0.504 respectively. The obtained t-value on speed is 6.835 which is greater than the required table value (2.021) with 38 df and at 0.05 level of confidence. This shows

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that there is a significance difference exit when speed is considered among athletes & football players. This is showing that athletes showed greater sprinting ability when compared with Football players.

Table – 2

Variables	Players	N	Mean	S.D.	t-value
Explosive Power	Athletes	20	2.57	0.206	8.075*
	Football	20	2.12	0.135	

Tab t 0.05 (38) = 2.021

Level of Significance 0.05 level

The table 2 indicated that mean value of explosive power for athletes was calculated 2.57 with S.D. 0.206 and football players was recorded 2.12 with S.D. 0.135 respectively. The obtained t-value on explosive power is 8.075 which is greater than the required table value (2.021) with 38 df and at 0.05 level of confidence. This shows that there is a significance difference exit when explosive power is considered among athletes and football players. This is showing that athletes have more explosive power when compared with footballers.

Table – 3

Variables	Players	N	Mean	S.D.	t-value
Agility	Athletes	20	14.94	0.454	29.157*
	Football	20	19.91	0.613	

Tab t 0.05 (38) = 2.021

Level of Significance 0.05 level

The table 3 clearly shows the mean value of agility for athletes was calculated 14.94 with S.D. 0.454 and Footballers was calculated 19.91 with S.D. 0.613

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Respectively. The received t-value on agility is 29.157 which is greater than the required table value (2.021) with 38 df and significant at 0.05 level of confidence. It means that athletes have found better agility when compared with footballers.

Table -4

Variables	Players	N	Mean	S.D.	t-value
Abdominal Strength	Athletes	20	51.30	6.768	0.209
	Football	20	50.80	8.269	

Tab t 0.05 (38) = 2.021

Level of Significance 0.05 level

The table 4 indicates that mean value of muscular strength for athletes was calculated 51.30 with S.D. 6.768 and Footballers was recorded 50.80 with S.D. 8.269 respectively. The t-value on muscular strength is 0.209 which is less than the required table value (2.021) with 38 df. So there is no significant difference was found on the variable muscular strength between athletes and football players.

DISCUSSION

Physical fitness variables are very important in both athletes and form a condition for higher performance. Mal (1982) stated that the components of physical fitness like strength, speed, endurance flexibility and the various co-ordinative abilities are essential for a high technique and tecttical efficiency. Depending upon the demand of the game each factor of physical fitness should be optimally developed. In the present study Table 1, 2, 3 clearly shows the significant difference in the variables of speed, explosive power & agility between athletes and footballers. No significant difference was observed among athletes and football players in the variable of muscular strength (sit ups) test. An insufficient difference in muscular

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Strength between athletes & footballers was also obtained. The result of the study are in agreement with the findings of Maurya D.C.et. all (2015) to compare the physical variables (muscular strength) footballs players and athletes of school levels.

CONCLUSION

Within the limitations of the present study, the following conclusions are enumerated.

Athletes were found better compared to football players in 50 yards dash, standing broad jump and shuttle run.

No superiority was observed among athletes & football group in sit up test.

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