E-ISSN: 2706-8927
P-ISSN: 2706-8919
www.allstudyjournal.com
IJAAS 2020; 2(2): 305-309
Received: 02-02-2020
Accepted: 19-03-2020

Dr. Hoshiyar Singh
Associate Professor,
JSPG College, Sikandrabad,
Bulandshahar, Uttar Pradesh,
India

Corresponding Author:
Dr. Hoshiyar Singh
Associate Professor,
JSPG College, Sikandrabad,
Bulandshahar, Uttar Pradesh,
India

Analysis of physical fitness among offensive and defensive male football players of Ghaziabad district

Dr. Hoshiyar Singh

Abstract
In the present study, an attempt has been made to compare physical fitness among offensive and defensive male Football players at Inter District Football Competition of Ghaziabad District in Uttar Pradesh. For this study, experimental method and physical fitness tests (Speed–30 meters run, Agility (shuttle run)–30 meters run, Endurance–800 meters run) are applied to Football players to compare their physical fitness performance., 20 offensive and 20 defensive Football players at Inter District Football Competition of Ghaziabad District were selected randomly for this study. The age group of the subjects was between 15 to 18 years. The data was computed and analysed by using descriptive statistics like mean, standard deviation and t-test in order to compare the significant difference between offensive and defensive Football players. The result reveals that the overall physical fitness performance of offensive Football players is high as compared to defensive Football players. The result indicates that there are significant differences between offensive and defensive Football players at Inter District Football Competition of Ghaziabad District.

Keywords: Physical fitness, football, speed, agility, endurance, offensive, defensive

Introduction
Physical fitness is very necessary for a healthy and tension free life. Physical fitness includes diet, exercise and sleep. These three basic things have their own importance in each individual's life and everyone should be sensible with regard to these for a healthy life. As J.F. Kennedy rightly said, “Physical fitness is not only one of the most important keys to a healthy body, it is the basis of dynamic and creative intellectual activity.” This statement clearly shows us the importance of physical fitness. In its most general meaning, physical fitness is a general state of good physical health. Obtaining and maintaining physical fitness is a result of physical activity, proper diet and nutrition and of course proper rest for physical recovery. In its simplest terms, physical fitness is to the human body what fine-tuning is to an engine. It enables people to perform up to their potential. Regardless of age, fitness can be described as a condition that helps individuals look, feel and do their best. Thus, physical fitness trainers, describe it as the ability to perform daily tasks vigorously and alertly, with left over energy to enjoy leisure-time activities and meet emergency demands. Specifically true for senior citizens, physical fitness is the ability to endure, bear up, withstand stress and carry on in circumstances where an unfit person could not continue. In order for one to be considered physically fit, the heart, lungs and muscles have to perform at a certain level for the individual to continue feeling capable of performing an activity. At the same time, since what humans do with their bodies directly affects the state of mind, fitness influences to some degree qualities such as mental alertness and emotional expression.
Fitness and exercise habits developed in the early years provide the foundation for a lifetime. Since large number of children have no regular involvement in appropriate fitness program in schools or outside the school, there is a distressing deterioration in the fitness levels of our school age children.
Since activity is the basis of life and human body cannot physical Fitness and Wellness remain in normal condition without activity, efforts have to be made to make up this deficiency by providing regular fitness exercise. Physical fitness is the total functional capacity of an individual to perform a given task. It is the capacity for substantiated physical activity. It means that the body is an efficient instrument for mastery in various situations in life.
Bruno Balle defined in his own words “that physical fitness depends on the bio-dynamic potential which is composed of functional and of his metabolic potential.

Edward Bortz "States that physical fitness implies that the body systems are capable for carrying on their activities satisfactorily."
Dr. K.L. Anderson "has defined physical fitness as the ability for respiration and circulation to recover from a standard work load."
Physical educationists have defined physical fitness as the capacity of an individual to perform a given task.
Regular exercise can help to develop health related fitness as well as performances related fitness. Exercise is essential atleast for forty five minutes a day. One should do exercise atleast for four to six days in a week. Physical fitness plays a vital role in guaranteeing our survival in future generations.
We can see the adverse effects of the present life style around us. Underweight, bad posture, diminished muscle tone, laziness, lack of activeness when doing simple work are some of the common signs that there is something wrong with the way of life.
There are some stresses of our life which also affect our health and help to cultivate our unfitness.
The human mechanism is like a machine. If we will not take proper diet daily then we will not be able to maintain our body properly, the human machine will cease to run efficiently. Our bodies are similar in that the sense improper maintenance fosters deterioration of the numerous physiological systems within the body. Exercise as an essential element in the achievement and maintenance of physical fitness and wellness.
The importance of physical fitness and wellness is that it enables the body's physiological systems to function more efficiently.

1. It reduces the stresses.
2. It helps in the identification and awareness on ones reaction to stress e.g., body tension, sweaty palms etc.
3. Improves the general health of the human beings.
4. It helps in the prevention of diseases.

Physical fitness exercise will add to the quality of life.
Physical fit individual thereby is able to participate in meaningful activities with greater enjoyment and less fatigue.
Physical fitness is not only one of the most important keys to a healthy body. It is the basis of dynamic and creative intellectual activity. The relationship of the body and the activities of the mind is subtle and complex. Much is not yet understood, but we do know what the Greeks knew: that intelligence and skill can only function at the peak of their capacity when the body is healthy and strong; that handy spirit is and tough minds usually inhabit in sound bodies.
Physical fitness is a multifaceted continuum extending from birth to death. Affected by physical activity, it ranges from optimal abilities in all aspects of life through high and low levels of different physical fitness, to severely limiting disease and disfunction.

Benefits of physical fitness
Condition of Heart and Lungs by increasing the oxygen available to the body therefore enabling the heart to use oxygen more efficiently.
Development of physical fitness components such as strength, endurance, agility, flexibility etc., and improvement of muscle tone. Fosters correct posture, figure, body image and physical appearance. Quick recovery after injury, illness and decrease the risk of cardio-vascular disease. Reduces and controls body fat, exercise combined with a proper diet will reduce body fat and also fulfil proper nutritional requirement. Increase energy level of a person and helps to maintain ideal body weight. Through Participation in physical fitness program, leisure (free) time is properly utilized. Improve mood and reduce depression and anxiety. Postpones fatigue and reduces recovery time after vigorous activity.
Helps people to meet challenges of life, make them self-confident and postpones ageing process. The speed, agility, balance, cardio-vascular endurance, flexibility, strength, power, etc., of the body will be to peak if well and good fitness are achieved.

Components of fitness
Physical fitness covers organic fitness on an individual. The main components of physical fitness of an individual. The main components of physical fitness are speed, strength, endurance, flexibility, agility, cardiovascular fitness and co-Ordinative ability.

Flexibility
Stretch ability and elasticity are the special qualities of the muscles and ligaments by which these can be stretched and can regain their normal length without any adverse effect on the concerned tissues.
Flexibility is the capacity of a muscle to extend without any damage. Flexibility is measured by determining the range of movement at a joint.
Flexibility has important inter- relationship with other performance factors. It therefore determines the other factors to a loss to great extent.
Flexibility allows movements with minimum of muscle tension and internal resistance. It therefore has an energy saving effect.
Flexibility allows movements with minimum of muscle tension and internal resistance. It therefore has an energy saving effect.
Flexibility is indispensable for prevention of injuries. It helps in absorbing the shocks and external forces tending to cause an injury.
Flexibility is of two types i.e. general and special flexibility. The general flexibility is used to denote the level of flexibility of all the important joints of the body e.g., hip, shoulder and trunk. The term special flexibility is used to denote the ability to do specific movement or movements of sports with greater amplitude.
Flexibility can be improved by using stretching exercise. These exercise can be done by three methods
i.e., ballistic method, slow stretch and hold method, post isometric method.
Stretching exercises should be done when the sportsman is fresh. Fatigue gives adverse effects on the stretch ability of the muscles.
The best age for the development of flexibility is before puberty. Therefore, extra-stress on flexibility should be laid in this age.

Strength
Strength is an ability to overcome resistance or to act. Strength facilitates the ability to resist disease owing to its effects on organic efficiency.
(Strength is a product of voluntary muscle contraction caused by the neuro-muscular speed.

Exercise with medicine, ball, and sand bags, exercise with partner, isometric exercise, exercise with environmental resistance, weight-lifting, push ups the like are helpful in developing strength.

Speed

It is the performance pre-requisite to do motor action under given conditions in minimum of time.

1. Speed performances are commonly improved not directly by improving the functioning of central nervous system but indirectly by improving the various factors on which the speed performance depends.
2. Speed performance appears ink different form in various sports.

Practising with a faster rhythm, speed endurance, repetition method, intensive interval method, are examples of speed development.

Ability

Ability of an individual to change position in speed is called agility. Balance on balancing beam and change in direction is ability of an individual to control one's body with confidence and grace is good example of agility. Archery and shooting are best examples where accuracy is to be developed.

The components of physical fitness are summarized in the hand book of physical fitness activities by D.R. Cosady, D.M. Maps and L.E. Alley are:

(i) Agility; (ii) Speed.; (iii) Good health.; (iv) Strength.; (v) Muscular endurance.; (vi) Neuro-muscular skills; (vii) General motor development; (viii) Balance flexibility; (ix) Flexibility; (x) Co-ordination; (xi) Cardio-respiratory endurance.

Coordinative abilities

Coordinative abilities are understood as relatively stabilized and generalized pattern of motor control and regulation process. These abilities enable the sportsman to do a group of movements with better quality and effect.

It covers both motor fitness and motor ability. Motor ability is ones proficiency in different sports. Motor fitness helps to increase one's ability to perfect skills.

Coordinative abilities have both general and specific aspects. In technical sports beautiful and graceful movements are a product of well-developed technical skills and coordinative abilities. The rhythm, accuracy, constancy, flow etc.; of a movement are expressions of motor co-ordination and hence highly dependent on coordinative ability.

The coordinative abilities can be improved by practising physical exercise, by using general and special exercises, movements should be done correctly and consciously, by improving motor sense organs; obstacle run, by using systematic increase in the difficulty of co-ordination etc.

Endurance

Harre defines endurance as the ability to resist fatigue. Thisess and Schanabel also define endurance as the resistance ability to fatigue.

"Endurance is the ability to do sports movements, with the desired quality and speed, under conditions of fatigue."

The various methods for improving endurance are continuous method, repetition method and competition method, interval method, repetition method and competition method.

Cardiovascular fitness

Cardio-vascular fitness is necessary in developing a good heart muscle, strengthening of muscles and proper functioning of lungs. It is the ability of an individual to strengthen during continuous muscular activities in which a number of muscles groups are used.

Individuals with cardio-vascular fitness have slower pulse rate and have greater buffering capacity to blood and muscles which result in reducing fatigue.

Long distance running, swimming and trekking are helpful in developing cardiovascular fitness.

Health related components

Body composition

Fat, muscle, bone, mineral, water, other components. We often express this as % Body fat with no exact way to measure it. It may be estimated using Skinfolds, girths, densitometry (underwater weighing), DEXA, or Bioelectrical Impedance Analysation (BIA) with varying degrees of accuracy. Increased activity & aerobic exercise levels, resistance training (compound lifts) for larger muscle groups and dietary modifications can result in improvements in body composition.

Aerobic capacity

Or CV (cardiovascular) endurance or CR (cardiorespiratory/heart - lung) endurance. The total volume oxygen an individual can inspire, deliver and utilise per kilo of body weight per minute of exercise. Measured as VO2 Max expressed in ml/O2/kg/min. It can be tested by using a treadmill, bicycle ergometer or any other aerobic exercise equipment with a measurable work output and gas analyser - OR - estimated using a submaximal test and multiple regression equations to extrapolate data. eg. Astrand-Rhyming.

Muscular endurance

The capacity of a muscle or group of muscles to sustain or repeat contractions. It can be measured by counting the number of repetitions an individual can repeat for a specific exercise or how long they can hold an isometric contraction. It is generally improved through training with low to medium resistance and high repetitions.

Muscular strength

The ability of a muscle or group of muscles to exert maximal force during contraction; where Force = Mass x Acceleration. Muscular Strength is often measured by the weight an individual can lift or a strain gauge. e.g. Actual or Estimated Repetition Maximum tests, for a given exercise. Muscular Strength is improved by lifting heavy weights or moving high resistance. Weights used for specific lifts can be expressed as % 's of 1RM (Repetition Maximum).

Muscular power

Muscular Power is a combination of strength and speed. It is measures how quickly we apply our muscular strength. E.g., vertical leap, push-ups in 30 sec. Power = Work/Time where Work = Force x Distance. Closely associated with muscular strength.

Flexibility
ROM- Range of Motion at or around a joint. This is directly affected by how elastic the muscle and connective tissue is at the particular joint. A warm up will increase the ROM achieved. Tests can use goniometers and flexometers to measure the joint angles in degrees. This is often a forgotten aspect of physical fitness and should not be ignored. Increases in flexibility are best achieved by post activity stretching.

Skill related components
Speed
The maximum velocity at which one can locomote. Speed = Distance/Time. Often expressed as m/sec. for sprinters. Measured with a stopwatch for a specific exercise and distance. Closely associated with muscular power and coordination.

Reaction time
The time it takes for a motor response in reacting to a particular stimulus, important in open skills. e.g., Cricket - Batting is an open skill because each stroke depends the type of delivery.

Balance/coordination
Balance/Co-ordination is the ability to perform complex motor skills specific to a particular exercise or sport with a degree of ease and grace. This is somewhat subjective, however comes to the fore in sports like Gymnastics & Diving, where skills are matched against a pre-determined set of criteria.

Agility
The ability to maintain speed whilst changing direction. Various shuttle runs can be used to test agility. Sports specific ones may also be created.

Objective of the study
The main objective of the study is to study the physical fitness among offensive and defensive male Football players at Inter District Football Competition of Ghaziabad District.

Hypothesis
Based above objective of the study, the following hypothesis has been tested.
There are significant differences in physical fitness among offensive and defensive male Football players at Inter District Football Competition of Ghaziabad District.

Significance of the study
The study on physical fitness among Football players has more significance. This study will help to compare the order of dominance components of physical fitness of offensive and defensive Football players.
This study also will help to physical education teachers for picking up talent persons for training then according to requirements.
The study may be helping in determining the student's weakness in a particular component.

Methodology
The main aim of the present study is a comparative study on physical fitness among male offensive and defensive male Football players at Inter District Football Competition of Ghaziabad District in Uttar Pradesh. This study is based on primary and secondary sources of data. To collect the primary data through questionnaire on physical fitness among Football players, 20 offensive and 20 defensive Football players at Inter District Football Competition of Ghaziabad District have been selected randomly for this study. The age group of the subjects was between 15 to 18 years. For this study, the experimental method has been used to compare the physical fitness among the offensive and defensive male Football players. The physical fitness tests (Speed-30 meters run, Agility (shuttle run)-30 meters run, Endurance-800 meters run) have been applied to Football players to compare their physical fitness performance. The data was computed and analysed by using descriptive statistics like mean, standard deviation and t-test in order to compare the significant difference between offensive and defensive male Football players.

Results and Discussion
Physical fitness performance between offensive and defensive male Football players was showed in the Table 1. Mean and Standard deviation and t-test values of the selected dimensions of offensive and defensive male Football players were computed and presented in the Table 1.

Table 1: Physical fitness performance between offensive and defensive football players

Physical fitness components	Type of the player	N	Mean	S.D.	t - value	df	Sig. result
Speed	Offensive Player	20	0.049	0.0041	2.968	38.0	0.0050 Significant
	Defensive Player	20	0.046	0.0023			
Agility	Offensive Player	20	0.229	0.0099	0.656	38.0	0.5156 Insignificant
	Defensive Player	20	0.227	0.0138			
Endurance	Offensive Player	20	2.507	0.1264	-3.114	38.0	0.0030 Significant
	Defensive Player	20	2.723	0.2841			

The result reveals that the mean and standard deviation values on the speed variable for offensive players and defensive male Football players were recorded as 0.049, 0.0041 and 0.046, 0.0023 respectively. It shows that the offensive Football players have performed significantly better than their defensive Football players. The 't' value is 2.968 and it is statistically significant. It indicates that there is a significant deference between offensive and defensive Football players. The mean and standard deviation values on agility variable for offensive and defensive male Football players were recorded as 0.229, 0.0099 and 0.227, 0.0138 respectively. It shows that the offensive Football players have performed slightly better than their defensive Football players. The 't' value is 0.656 and it is statistically insignificant. It indicates that there is no significant deference between offensive and defensive Football players. The mean and standard deviation values on the endurance variable for offensive players and defensive male Football

players were recorded as 2.507, 0.1264 and 2.723, 0.2841 respectively. It shows that the offensive Football players have performed significantly better than their defensive Football players. The 't' value is - 3.114 and it is statistically significant. It indicates that there is a significant deference between offensive and defensive Football players.

Conclusion

In conclusion, the results of the present study confirm that offensive male Football players are comparatively better than defensive male Football players of Ghaziabad District in Uttar Pradesh. Offensive male Football players are superior to defensive male Football players in Speed and Agility where as defensive male Football players are superior to offensive male Football players in Endurance. This shows that regular energetic activity produces physical fitness improvements among Football players.

References

1. Football, Anindita Das, Sports Publication, Ansari Road, Daryaganj, New Delhi.
2. Tyagi Arun Kumar. Skills and Rules Football, Khel Sahitya Kendra, Ansari Road, Daryaganj, New Delhi.
3. Bouchard C, Shephard RJ. Physical activity, fitness and health: The model and key concepts In: C Bouchard, RJ Shephard, T Stephens (Eds.): Physical Activity Fitness and Health: International Proceedings and Consensus Statement, Human Kinetics, Champaign (III) 1994, P77-88.
4. Choudhary Anchal. Physical Fitness of Female Students Studying in High Schools in Rural and Urban Areas, M. Phil Thesis, Unpublished to Kuruskhetra University 1998.
5. Ichinohe M, Mita R, Saito K. Physical activity, fitness and health: Obesity and lifestyle in Jamaica, International Collaboration in Community Health 2004;1267:39-50.
6. Kutty Raghwan S. Weight Training for Football Players, Unpublished M.Phil. Thesis, Tamil Nadu Sports University, Chennai, Tamil Nadu 2007.
7. Kyle UG, Gremion G, Genton L, Slosman DO, Golay A, Pichard C. Physical activity and fat free and fat mass as measured by bioelectrical impedance in 3853 adults, Med Sci Sports Exerc 2001;33:576-584.
8. Mookerjee S. A study of physical fitness of boys 13 to 17 years of age, Snipes Journal 1978, P1, 35.
9. Robbon M *et al*. A comparative study of physical fitness of elementary school children of defence and non-defence personals 1979, P1.32.
10. Serenson JP. A comparative study of physical fitness improvement of students assigned in two classes of varying module time block, completed research in physical education and recreation 1970, P21, 394.
11. Sheela Kumari *et al*. Fitness, Aerobics and Gym Operations, Khel Sahitya Kendra, Ansari Road, Daryaganj, New Delhi 1970.