International Journal of Yoga, Physiotherapy and Physical Education
ISSN: 2456-5067
Impact Factor: RJIF 5.24
www.sportsjournal.in
Volume 3; Issue 2; March 2018; Page No. 177-179

A comparative study of fat and speed among male and female basketball players

Amit
Department of Physical Education, Kurukshetra University, Kurukshetra, Haryana, India

Abstract
The purpose of the present study was determined the difference of fat and speed among male and female basketball players. For accomplish the purpose total 40 players was selected through simple random sampling. Out of the total sample 20 players was male and 20 was female. The age of sample was ranged from 18 to 25. The data was analyzed by applying 't' test in order to determine the fat and speed between male and female basketball players. The level of significance was set at 0.05.

Keywords: speed, fat

Introduction

Sports are the highest products of civilization and the most accessible, lived experimental sources of the civilizing spirit; Sport is as old as human society itself. It has been a part of civilized societies throughout history. It is an institution, which has its own traditions and values. Being an institutionalized and competitive activity, it involves Vigorous physical exertion or the use of relatively complex physical skills by individuals. Their participation is motivated by a combination of intrinsic satisfaction associated with the activity itself and external rewards earned through participation. With the increasing competitiveness and rising standard in sports, the talent search has become important, as young talent needs to be spotted out at an early age and nurtured with the right kind of scientific training in order to get excellent performance if he has not been chosen for the sport at the right time.

The field of physical education and sports is affected by the development in science and technology because it is becoming more competitive and innovative day by day. The physical educationists and sports scientists are working hard to develop suitable methods to enhance existing level of performance. There are many reasons for the continuous improvement in performance. The large numbers of young people are coming in contact with systematic coaching for greater and better selection. Modern coaching methods are improved by the application of the results of research in all the related sciences. As a matter of fact, this breaking and re-establishing of records is not only the product of one field, but of many fields such as Anthropometry, Biomechanics, Physiology, Sports medicine, Sports training and Psychology. These sciences are more and more involved in the selection and better performance of the players. Therefore, high-level performance can be achieved with the combined efforts of sports persons, coaches, scientists, doctors and psychologists etc. Desired results can only be achieved through integrated efforts of leading people of various fields who can give valuable inputs for desired performance.

In recent past years, the selection and development of talent in sports have been gaining emphasis. Of course it involves integral approach of different sports science specialists. However, the role of anthropometry as a sports science is perhaps one of the most crucial in this regard. This is essential because the physique, body composition, physical growth and one's motor development are of fundamental importance in developing the criteria of talent selection and development in sports. (Sodhi, 1991).

The origin of scientific approach in physical education and sports could be traced back to Hitchcock, E. (1971), who first applied a science of anthropometry to physical education. He thus, laid the foundation for scientific approach of investigation by physical educators of that early era and by doing so, he contributed substantially to the establishment of physical education as a science. The use of scientific method has become wide spread in sports. It is a well established fact that practice alone cannot ensure improvement in performance. Specificity is because the sports movements are highly specific. The staggering number of conditional components such as reaction that might be involved in various combinations in a single sports movement makes specificity quite logical.

It may be referred that every male and female begins life with morphological and functional potential which sets limits for the health and physical fitness, the body shape and composition, the bone structure, the size and conditioning of the heart and lungs and other organs. Evidently, all the persons cannot conform to these attributes. It seems that some persons possess with high potential for physical fitness and work performance, while others are not. Thus it is not possible to control all these constitutional variables (Bawa, 1981) as such; there would inevitably be difference in the performance of each individual. It can be inferred that the body size and the type of physique are important factors to ascribe the ultimate limit of attainment of a sportsman. It follows that certain body specifications may be conducive to efficiency in some apparatuses, while the same may be impediment in smooth and easy performance on others.

Body composition is a key component of an individual's

health and physical fitness profile. Obesity is a serious health problem that reduces life expectancy by increasing one's risk of developing coronary artery disease, hypertension, type 2 diabetes, obstructive pulmonary disease, osteoarthritis, and certain types of cancer. Too little body fat also poses a health risk because the body needs a certain amount of fat for normal physiological functions. Essential lipids, such as phospholipids; are needed for cell membrane formation; nonessential lipids, like triglycerides found in adipose tissue, provide thermal insulation and store metabolic fuel (free fatty acid). In addition, lipids are involved in the transport and storage of fat-soluble vitamins (A, D, E, and K) and in the functioning of the nervous system, as well as in growth and maturation during pubescence. Thus, too little body fatness, as found in individuals with eating disorders (anorexia nervosa), exercise addiction, and certain disease such as cystic fibrosis, can lead to serious physiological dysfunction.

Individual with body fat levels falling as or near the extremes of the body fat continuum are likely to have serious health problems that reduce the life expectancy and threaten their quality of life. Obese individuals have a higher risk of cardiovascular disease.

Physical fitness is to the human body what fine-tuning is to an engine. It enables us to perform up to our potential. Physical Fitness which may be describe as a condition that helps us look, feel and do our best. More specifically, it is: "The ability to perform daily tasks vigorously and alertly, with energy left over for enjoying leisure-time activities and meeting emergency demands. It is an ability to endure, to bear up, to withstand stress, to carryon in circumstances where, an unfit person could not continue, and is a major basis for good health and well-being".

Definition of the Terms Used

Speed- Total distance divided by the tie; capacity of the individual to repeat the same kind of movement at a fast rate.

Fat- normal healthy values usually quoted for total body fat are 15% (12-19%) of body mass for young men and 27% (25-30%) for women, both increasing by about 5% from late teens to sixties. essential fat in the tissues and organs (including bone marrow, nervous system and muscle) averages 3% body mass for men and 12% for women (extra related to reproductive function); it is not a labile energy reserve, but a vital component for normal structure and function storage fat represents the energy reserve that accumulates as adipose tissue beneath the skin and in visceral depots, averaging 12% body mass for men and 15% body mass for women. Methods most commonly used for estimating percentage fat are: measurement of skinfold thickness at prescribed sites, body density measurement, and bio electrical impedance analysis. See also body composition, body mass index, obesity.

Research Process and Methodology

For accomplish the purpose of the study 40 basketball male and female players were randomly selected as subject the age levels of subjects were ranged from 18 to 25. Out of all independent variables (sample) 20 were male and 20 players were female. Subjects were selected through probability type of sampling and simple random sampling was used.

Hypothesis

1. There would be no significant difference between male and female Basketball Players in their fat.
2. There would be no significant difference between male and female Basketball players in their speed.

Tools and Techniques

For measure the body fat body (at clipper was used. Four point skin fold and lean body mass calculator was used to get fat%. The speed was measured by 50 meter dash sprint test.

Statistical Method

The obtained data were analyzed by applying t-test in order to determine the difference among male and female basketball players. The level of significance was set at 0.05. For avoiding mathematical mistakes the SPSS software was used to find out the correct results.

Table 1: Mean difference of fat among male and female basketball players

Sr. No.	Variables	Groups	N	Mean	df	t-value
1.	FAT%	Male	20	10.77	38	11.70*
2.		Female	20	22.93		

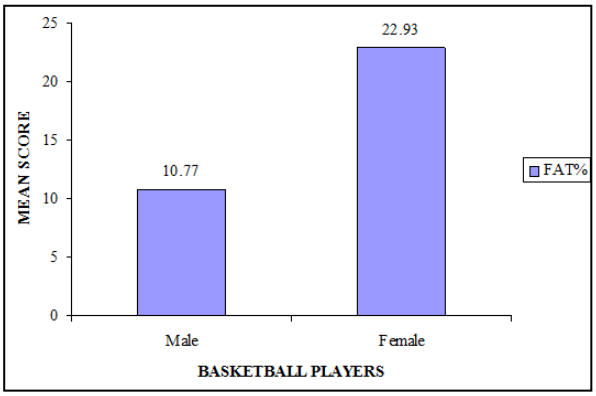

Fig 1: Mean score of fat among male and female basketball players

Table 2: Mean difference of speed among male and female basketball players

Sr. No.	Variables	Groups	N	Mean	df	t-value
1.	Speed	Male	20	7.56	38	2.093*
2.		Female	20	9.02		

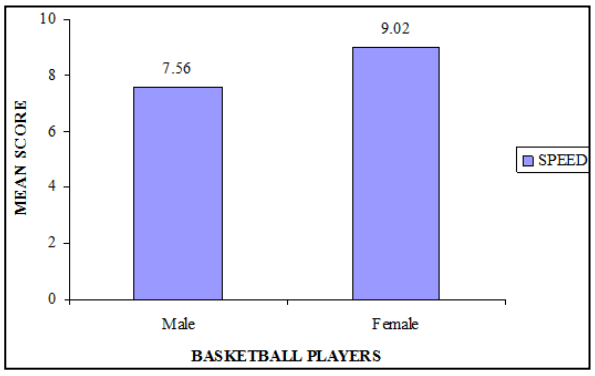

Fig 2: Mean score of speed among male and female basketball players

Results

Table 1 indicates that t-value (11.70) is higher than the table value (1.684). It means that there is a significant difference found between male and female basketball players in their fat. Its clearly shows that female players have much percentage of body fat in comparison to the male basketball players. The mean score of female (22.93) fat percentage is also higher than the male score which is 10.77.

The table 2 highlights the analysis of male and female basketball players, it is found that mean score of speed of male and female basketball players is 7.56 and 9.02 respectively. The t-test calculated value is 2.093, but when these values are compared with the table value, it is found that the. difference of means of speed in male and female basketball is significant at the level of 0.05 levels. The significant tabulated value is 1.684. In simple words we can say that female Basketball players have less speed than male basketball players.

References

1. Sukhbir Singh, Supervisor Dr. Chauhan MS, A Thesis (Study of Selected Anthropometric Variables and Strength Measures to Skill Efficiency of Volleyball Players). Kurukshetra University, Kurukshetra, 2012, pp. 4-5.
2. Narinder Paul. Specific Physical Test for Soccer Players, Unpublished Ph.D. Thesis, Department of Physical Education, Punjab University, Chandigarh, 1997, p. 2.
3. Kansal DK. Test and Measurements in Sports and Physical Education, D.V.S. Publication, New Delhi, 1996, p. 368.
4. Dictionary of Sport and Exercise Science and Medicine by Churchill Livingstone © 2008 Elsevier Limited. All rights reserved.
5. Eknoyan Garabed. Adolphe Quetelet (1796-1874) – the average man and indices of obesity. Nephrology Dialysis Transplantation, 2007; 23(1):47-51. doi:10.1093/ndt/gfm517.PMID17890752.
6. http://medical-dictionary.thefreedictionary.com/skinfold+calipers.
7. Practical assessment of body composition. Jackson, AS, Pollock ML. The Physician and Sports Medicine. 1985; 13:76-90.
8. Jared W. Coburn Moh H. Malak NSCA's Essential of Personal Training (Second edition), Publishers- Rumen Kinetics -ISBN-10: 07-7360-8415-0.
9. Vivian R. Hayward, Advanced Fitness Assessment and Exercise Prescription (Fourth edition). Publishers- Rumen Kinetics-ISBN: 0-7360-4016-1.