



A COMPARATIVE STUDY ON SELECTED PHYSICAL AND PHYSIOLOGICAL FITNESS COMPONENTS OF VOLLEYBALL AND BASKETBALL PLAYERS

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ABSTRACT The main purpose and objective of the present study was to compare the Volleyball and Basketball players on the selected physical and mental abilities. The purpose of the study fifteen players from the game of volleyball and fifteen from the Basketball has been selected from participated in chitrakoot mandal schools, Inter-zonal and School National Games represented respective team of Chitrakoot mandal Schools. All the subjects were regularly practicing and competing in their respective sports competition. The study was confined to physical component Height, Body weight, BMI and Physiological fitness components Speed, Explosive Strength, Cardiovascular endurance. The necessary data was collected with standardized procedure by administering selected tests as suggested by Hardyal Singh and W. Cooper. The data were collected and analyzed using the descriptive statistics and „t” test. The level of significance was set at .05 level. When a two tailed equal group statistical significance mean comparison, „t” test was employed on both the set of data Volleyball and Basketball players on selected variables, the result found evident significantly in majority of the variables.

KEYWORDS : Physical & Physiological Fitness Components, Volleyball, Basketball

INTRODUCTION:

Sports form an important aspect of life. They play a vital role in bringing about physical, mental and social growth of the nation. The past few decades have witnessed man on an innovation in this area. Sports are becoming increasingly sophisticated, technical gaining popularity as a separate profession with expansion of infrastructure and latest facilities in the country more and more young people are taking part in sports as a daily feature of their life. The participation in sports and physical fitness increases an individual productivity. It also promotes social harmony and discipline.

Elite performance in sports does not merely depend upon systematic training of physical, physiological variables and technical aspects of sport but, it also demand training of psychological characteristics of the sportsman for success. (Bryant J. Cratty, 1968)

The athlete are being trained on scientific guidelines with highly sophisticated means for better achievement in their concerned sport to enable the coaches to get optimum performance with minimum expenditure of energy and time. They are being exposed to the exercise and training methods, which have got beneficial effect for achieving higher standard. The main aspect to be emphasized in order to achieve high level of performance is the efficient function of the body. They must function well enough to support the particular activity that the individual is performing since different activities make different demands upon the organism with respect to blood circulation, respiration, metabolic neurological and temperature regulating functions, Physiological fitness is specific to activity. Human body is highly adaptable to exercise. The response of each system is discrete, hard work in the heat is necessary to improve the fitness of the temperature regulatory mechanism. Each task has its major physiological components and fitness for the task required are effective functioning of the appropriate system. In competitive sports, for the selection of particular sports, one has to consider measures of human body and the physical fitness which play a dominant role at higher level of sports competitions. Scientists and physiologists have been of the view that anthropometry and physical components of an athlete have a lot to do with the performance, more than the techniques and tactics of a player of a team. The research findings show that a high level of technical perfection alone has nothing to do with the success in competitive sports. Most of the game demands a greater amount of speed, strength, endurance, flexibility, co-ordination and maximum fitness of the Organism. Modern scientific methods of training players or team place greater responsibility on the coaches and physical educators. They are also responsible for the selection of team taking into consideration the physical and physiological qualities essential for the game. The performance of football and volleyball depends upon many characteristics. The skill and physical condition play major role, but the physiological factors and games experience cannot be overlooked. In India, men football and volleyball is in infancy stage. It has

to go long way to catch the world standard and in order to catch the world standard; there should be proper planning and implementation of the programme. And the implemented programme should be evaluated from time to time so that the best result can be attained. To move in the above direction there should be continuous research on the players.

Methodology:

For the purpose of the study thirty players- 15 from the game of volleyball and 15 from the Basketball has been selected on purposively and randomly basis selected participated in chitrakoot mandal schools, Inter-zonal and School National Games represented respective team of Chitrakoot mandal Schools. All the subjects were regularly practicing and competing in their respective sports competition. Health and Physical Education is defined as the process by which individuals and groups of people learn to behave in a manner conducive to the promotion, maintenance or restoration of health. It is a continuing process of informing people how to achieve and maintain good health; of motivating them to do so; and of promoting environmental and lifestyle changes to facilitate their objective. In this modern era of competition the physical and physiological preparation of team is as much important as teaching the different skills of a game on the scientific lines. The team is prepared not any to play the games also to win the games it is not the proficiency in the skills which gives victory but more important is the spirit of the players, with which they play and perform their best in the competition. Keeping the feasibility criterion in mind, especially in the case of availability of instruments, the following physical and physiological abilities were selected i.e. Height, Bodyweight, Body Mass Index (BMI), Speed, Standing Broad Jump, 12minutes Run/walk. Clarke (1966) defined „Physical Fitness” as „the ability of carry out daily task with vigor and alertness without undue fatigue and with ample energy to enjoy leisure time pursuits to meet unforeseen emergencies”. The American Association for Health, Physical Education, and Recreation defines total fitness as: ... that state which characterizes the degree to which the person is able to function. Fitness is an individual's matter. It implies the ability of each person to live most effectively with his potential. Ability to function depends upon the physical, mental, emotional, and spiritual components of fitness, all of which are related to each other and are mutually inter-dependent.

DATA COLLECTION:

The necessary data was collected with standardized procedure by administering selected physical and physiological abilities tests as suggested by Hardyal Singh and W. Cooper. The necessary work was done before the start of the test. All the tests were administered and explained to the subjects categorically and left no ambiguity. Any doubts of the subjects raised were clarified before taking the test, but no special training was given to the subjects. To find out the difference between volleyball and Basketball players on their selected Physical and Physiological variables the required statistical calculation were

computed with the help of SPSS software in the computer. The difference among all the selected variables, the data were collected and analyzed using the descriptive statistics and „t“ test. The level of significance was set at .05 level. When a two tailed equal group statistical significance mean comparison, „t“ test was employed on both the set of data volleyball and basketball players on selected variables, the result found evident significantly in majority of the variables.

RESULTS:

The following variables were found significant at both 0.05 and 0.01 level of confidence such as - Height „t“ value 1.79, Body Mass Index „t“ value 7.11, speed test by 50m dash the „t“ value 4.19, Standing Broad Jump the „t“ value 1.94, cardiovascular endurance in form of 12min Run/Walk Test, the „t“ value 3.61, which was significant at both 0.05 and 0.01 level of confidence, while the tabulates value required 2.01 and 2.68 respectively. But the Body weight value found the „t“ value 1.77 which was not found significant at 0.05 level of confidence. Because it's calculated „t“ value was less than the tabulated value.

DISCUSSION:

The significant difference was found in the Body Mass Index- in relation to the volleyball and basketball players. The basketball players group was have more BMI showing greater body mass than the volleyball players group. The significant difference was found in the speed ability- 50m sprint test the basketball players group had better speed in comparison to the volleyball players group. The no significant difference was found in the Standing Broad Jump a test of explosive strength in relation to the volleyball and basketball players. No significant difference was found in the volleyball players group in comparison to the football players group height in.. The significant difference was found in the 12minutes Run/Walk test of cardiovascular endurance in relation to the volleyball and basketball players. The basketball players group had better cardiovascular endurance, showing greater heart and lungs capacity than the volleyball players group. There was not found any significant difference in relation to body weight. The study has drawn certain conclusion and suggested some recommendations for the future research which may be conducted in related area. The similar study may be undertaken for female players. The similar study may be conducted by taking others important variables which affects the performance of the volleyball and basketball players along with others important physical, physiological and psychological variables. Similar study may be undertaken by comparing the players of the other team games sports competition and comparing the players of the other teams“ games sports competition. A similar study may be undertaken by comparing the players of the individual sports competition and comparing the players belonging to different socio-economic status, geographical conditions and variation in ethnicity. The same type of study can be conducted on other different level of subjects such as Senior National or International level. It is also recommended that the training programme for volleyball and basketball players should be different as per their respective needs and requirements of the games.

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