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Comparative study of health related physical fitness of college level students of volleyball and football players

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Abstract
The main purpose of the study was to compare the health related physical fitness among the players of Volleyball and Football of Govt. degree college Kulgam who were selected for national level that was organised by the Department University of Kashmir. For this purpose of the study fifteen players from the game of volleyball and fifteen from the football were selected. 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 analysed 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 Football players on selected variables, the result found evident significantly in majority of the variables.

Keywords: Speed, explosive strength, cardiovascular, volleyball and football

Introduction
In today's techno-scientific age, the world has completely changed in all aspects due to discovery and research. In the field of games and sports also, there has been a great change with the help of scientific coaching and training. 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 over-looked.

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 one thirty players- 15 from the game of volleyball and 15 from the football has been selected on purposively and randomly basis selected from Kulgam College, who has participated in inter University Competition. 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, 12 minutes Run/walk. Clarke (1966) defined „Physical Fitness" as „the ability of carry out daily task with vigour 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 interdependent.

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 football players of Kulgam College 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 analysed 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 football 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 5.09, Body Mass Index "t''value 7.11, speed test by 40m dash the "t''value 5.89, Standing Broad Jump the "t''value 4.24, cardiovascular endurance in form of 12min Run/Walk Test, the "t''value 5.61, which was significant at both 0.05and 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.

Conclusion

The significant difference was found in the Body Mass Index- in relation to the volleyball and football players. The football players group was have more BMI showing greater body mass than the volleyball players group. The significant difference was found in the speed ability- 40m sprint test the football players group had better speed in comparison to the volleyball players group. The significant difference was found in the Standing Broad Jump a test of explosive strength in relation to the volleyball and football players. The volleyball players group had high explosive strength, showing greater jumping ability than the football players group. The significant difference was found in the height. The volleyball players group had better height in comparison to the football players group. It has already been mentioned that modern volleyball requires extremely tall players in all positions. This is particularly desirable in the game at the net, and differences found in relation to body height of cadet female volleyball players can partly be explained by taking into account the height of the net as a limiting factor, crucial for success in volleyball. The net height is set, according to the rules of the game, at 2.43mt for men. The significant difference was found in the 12minutes Run/Walk test of cardiovascular endurance in relation to the volleyball and football players. The football 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 football 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 football players should be different as per their respective needs and requirements of the games.

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