

Comparison of Flexibility among the Hockey and Football Players

Dr. Prabhakar L. Karad: Head, Department of Physical Education & Sports, Vaidyanath College, Parli Vaidyanath, Beed (Maharashtra)

Abstract

The purpose of this study was to compare the flexibility among hockey and football players. For the purpose of this study 30 hockey and football players from the Beed District of Maharashtra were selected as subjects who had participated in inter university. The subjects were ranging from 18 to 25 years of age. To measure the flexibility of back and (Hamstring) leg muscles Sit and Reach test and for shoulders flexibility Johnson shoulder rotation test were used. To compare the Flexibility of hockey and football players, mean and independent t-test was applied. The level of significant was set at 0.05. When the hockey and football player were compared there mean difference was found to be statistically significant for flexibility of back and (Hamstring) leg muscles and In case of shoulder flexibility, there was no significant difference. The flexibility of players reflects their functional capacity of the joints to move through a full range of movement, which was found to be better in football players.

Key words: Flexibility, sit and reach test, Johnson shoulder rotation test

Introduction:

Games and Sports have been part of human life almost since the time immemorial. Be it a necessity for his survival i.e. hunting for food and shelter, safety from wild animals or other enemies or as a pursuit of pleasure, the games and sports have been indispensable to mankind and have been part of his culture. Though the origin of sports is lost in antiquity, it is quite certain that physical activity has been a basic necessity of life, more than fun and diversion, for his survival depended on it. Gradually along with the process of evolution, such activities became more of play and became part of culture of tribes. People used sports and games as a means of transmitting the cultural heritage of their tribes. Game, sports and physical activities persisted despite the rise and fall of ancient civilizations as a cultural heritage, which was passed on from one generation to another. Today games and sports have emerged as universal cultural phenomena. Motor fitness is gauged by performance and this performance is based on a composite of many factors. The most commonly mentioned fitness factors are strength, endurance, power, speed, agility, balance, flexibility and stamina. Some of these factors evidently are more dominant than others and thus have a higher relationship with motor fitness. Motor fitness is made up of factors that seem more dynamic such as strength and endurance. Minimum standards of motor fitness may be achieved over a short period of time. By the same token, fitness is lost unless it becomes a product of day to day living. A comprehensive list of components of motor ability for performance of various physical activities (including sports) include muscular strength, muscular endurance, muscular power, cardio-pulmonary endurance), agility speed, balance, flexibility, reaction time, co-ordination (eye foot co-ordination, eye hand co-ordination, whole body co-ordination). In addition, traits like simple motor response, reflexes sensory input and awareness of space and tempo (characteristic speed and rhythm of movement) are also considered important in motor

Variorum Multi-Disciplinary e-Research Journal
Vol.,-05, Issue-III February 2015

Both the hockey and football games having the origins dating back thousands of years. Both are played on the grass, but more often these days hockey, especially at the top levels is played on synthetic fields (artificial turf). The nature of both the games is different. There is difference in the area of field, difference in the ground and difference in the duration of the game. Football is a game of kicking the ball with the foot whereas hockey is a game with a stick in hand. Therefore, there may be difference and similarities in motor fitness between the hockey and football players because of the more relative involvement of the upper and lower body in hockey and football. These games require high degree of motor-fitness and the combined motor fitness qualities such as speed strength, agility and endurance are indispensable for outstanding performance. The onset of fatigue is the point at which skill standards drop, mental reactions become lower, these problems are offset at high fitness level and the players become better prepared to meet the demands of the game. As we know prolonged period of practice adapts one player to the natural pre-requisites of the game so similar adaptations might have occurred with both the groups i.e. hockey and footballers but how far they are dissimilar or similar is the biggest reason. The results will open the door for the players if they want to change their game.

Methodology:

Thirty football players and thirty hockey players from the Beed District of Maharashtra were selected as subjects for this study. Sit and Reach Test was used to measure the flexibility of back and (Hamstring) leg muscles. The subjects were asked to sit in long sitting position by keeping the back straight and arms forward for initial stage. Then, on the command "Go" they stretched their hands and back towards toe as far as possible. The distance from the middle finger to the toe or beyond toe was recorded as score. For measuring shoulder flexibility the subject was asked to hold a stick as per his convenience so that he can cross the stick over his head back and forth smoothly subjects were told not to bend their elbows while taking the scale back. The half of the entire distance between both the hands were recorded as score.

Statistical procedure:

To find out the significant difference (if any) between the football and Hockey players on the flexibility of back and (Hamstring) leg muscles and shoulders flexibility, the test of significance ('t'-test) was employed. Further the level of significance was set at 0.05 level of confidence.

Results:

Significance of Difference between Footballers and Hockey Players in Flexibility

Variable	Footballers		Hockey Players		DM	σ DM	't' Ratio
	Mean	\pm SD	Mean	\pm SD			
Sit and Reach	3.38	0.78	3.05	1.005	0.33	0.155	2.12*
Shoulder Flexibility	16.60	1.97	16.90	2.96	0.30	0.378	0.793

For significant - * Significant, $t_{0.05} (28) = 2.048$

Variorum Multi-Disciplinary e-Research Journal
Vol.,-05, Issue-III February 2015

It is further evident from the above Table that there was significant difference in relation to Sit and Reach as the calculated 't' (2.12) value was more than the tabulated 't' (2.048) value at 0.05 level of significance. Thus data provide sufficient evidence to ensure that the mean sit and reach was significantly higher for footballers in comparison to hockey players at 0.05 level of significance. In case of shoulder flexibility, there was no significant difference as the calculated 't' (0.793) value was less than the tabulated 't' (2.048) value at 0.05 level of significance.

Conclusion:

The analysis of the data revealed that the obtained value of mean difference in flexibility has shown significant difference in case of sit and reach where football players have shown better performance than hockey players. This may be because of the continuous involvement of kicking, trapping, sliding and heading the ball which involves flexion and extension of the hip joints. In case of shoulder flexibility, no significant value of mean difference was found. So it may be attributed to the fact that hockey involves more stick work and in football 'throw in' of the ball leads to increase the shoulder flexibility. This may be the reason that significant value of mean difference was not obtained.

References:

Buskisk E. R. and Jhonson- **Science and Medicines of Exercise and Sports**, Harper and Bros. Publication, 1974.

Barrow and Mcgee, **A Particle Approach to Measurement in Physical Education**, Philadelpia, London, 1989.

Clarke, **Application of Measurement to Health and Physical Education**.

Kansal, D.K. **Test and measurement in Sports and Physical Education**, D.V.S. Publication, New Delhi.

Kamlesh, M.L. and Sangral, **Principles and History of Physical Education**, Prakash Brothers Education Publishers, 1980.

Mathew D.K. and Fox, **The Physiological basis of Physical Education and Athletes**, Philadelphia, Saunders Company – 1916.

Robert, **Physical Fitness, The Pathway to Healthful Living**.

Singh Ajmer, Bains et. Al., **“Modern Textbook of Physical Education Health & Sports”**, Kalyani Publishers, Ludhiyana, 2001, p-99.

Uppal, A.K., **Principles of Sports Training**, Friends Publication, New Delhi.