



Study Of Physical Fitness Level Of North And South Indian Hockey Players

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Abstract:

Physical Fitness is base of each and every sport and game. Without high level of Physical Fitness, we cannot think about good performance in the Sports. The objective of this research is to assess and compare the Physical Fitness level of North and South Indian male Hockey players. This analysis has taken 200 subjects as the sample size (100 of North region and 100 of South region) aged 18 to 24 years from different Colleges and Universities students. The data related to Physical Fitness was collected through AAHPER Youth fitness test. This included Pull ups, Bent Knee Sit ups, Shuttle run, Standing broad jump, 50 Yard dash and 1.5 mile run /walk test in this research. The statistical analysis was performed by using the “t” test to achieve mean and standard deviation of the collected information. The results of study showed that Northern Male Hockey players was better in Pull ups, Sit ups and Standing Broad Jump than southern male Hockey players whereas south hockey players were better in Zig Zag run, and 50 yards’ dash.

Key Words: Body Composition, Flexibility, Muscular Strength, Muscular Endurance and Cardio Respiratory Endurance

Introduction:

In today’s time, it is very important for everyone to be good in Physical Fitness. If we talk about the sports field, then the importance of physical fitness increases even more because only a physically fit sportsperson can bear the training load and will be able to do good training. Looking at the importance of Physical Fitness in sports, we should know very well what is physical fitness? **“PHYSICAL FITNESS IS A STATE OF HEALTH AND WELL BEING”**

In the field of game and sports physical fitness is a, **“Good level of body composition, flexibility, muscular strength, muscular endurance and cardio respiratory endurance”**.

Hockey is one of the toughest forms of sports known to mankind. It develops soldierly the qualities of strength, agility, courage, tenacity and will power. Once a man steps on to the ground to face an opponent, he must take his own decision and execute them

himself/herself. Every Hockey player knows that when he counters his opponents, he has done it himself. He has outmaneuvered, out-thought and out-last-ed a man of equal ability. Apart from speed, strength and endurance, the and player needs many other qualities such as alertness, agility, flexibility, skill constant mental and physical exertion, carrying out strategy in the face of every changing situation, lighting speed in the right direction and timely and correct use of attack and counter-attack, etc. there is no denying that it develops moral qualities. It is essentially a real man's pastime, and strenuous from of physical activity, developing the great characteristics of the "fighting spirit" as well as to" love of fair play and true sportsmanship.

Background:

In worldwide, field hockey becomes always a trending sport. India has also declared it as a national sport. This game needs the strong Physical Fitness level. This game has the high impact of Speed, Agility, Power and strength as the major significant components. It is due to the need of Sprinting, Acceleration, Instant change of direction and high technique and tactics. Besides this Endurance, Strength and flexibility also play major role in Hockey games, especially flexibility of back and hamstring, is a significant aspect of healthy back functions that is quite necessary in field hockey not just for optimum performance but also to prevent injuries (Castro-Sepulveda et al., 2015). The field Hockey players are needed to bend forward and touch the ground surface for optimum groundwork and broader range of joint during the practice, tournament and competitions. The field Hockey has four different positions such as forward, midfielder, defender and goalkeeper. Every position and players have their own activities and roles. India's Hockey male team was the most successful team ever in Olympics, had won a total of 8 gold medals in 1928, 1932, 1936, 1948, 1952, 1956, 1964 and 1980. India also was the best overall performance in Olympics history with 83 victories out of 134 matches played.

Objective: To analyze and compare Physical Fitness level of North and South Indian male Hockey Players.

Material and Method:

Data collection: Two hundred male Hockey players (N=200) have been selected in this research work. All the players were from Sports Authority of India (SAI) Schemes. In current research work, the players were minimum level of National level and Inter University.

Sample selection: The current research work is limited to North India (considering Four states such as Delhi, Himachal Pradesh, Punjab and Haryana) and South India (involving Four states such as Andhra Pradesh, Maharashtra, Kerala and Tamil Naidu). This study considers 200 male Hockey players as the sample size and using convenience sampling of the both two zones. Out of these 200 male Hockey players 100 from North region and 100 from South region selected as a Subjects.

Measurement procedure:

Physical Fitness Variables

Pull-ups: The purpose of this examination is to calculate the muscular endurance and strength of shoulder/arms. It can be measured by using stop watch, score card, a measuring tape and horizontal bar. General procedure involves the demonstration and explanation of this test personally before the commencement of examination. The considered participant do the pull-ups with facing of palm outside the bar. The bar should be placed high enough thus the feet of the tallest boy do not touch the floor during the test performance. the boy should hold the bar in the position of chin cross the bar. The participants were instructed to pull-ups to chin cross the bar and during the down position hand should be strait position. the total no. of complete Pull-ups was recorded as the final score of the hockey players.

Bent knee sit- ups: The aim of this test is to measure the muscular endurance and strength of Abdomen. The key tools for this examination are an outdoor ground area, stopwatch, score sheet and judo or yoga mat. The participant did sit -ups in one minute. Elbow should be parallel and bent, while hand should be bind of neck. The final score should be recorded by counting the number of complete sit- ups.

Shuttle run test: This test has the objective to measure Agility. The tools utilized in this examination are an indoor/ outdoor ground, pen and paper, score sheet, a stop watch and a measuring tape.the general procedure involves the marking of two parallel lines on the floor 10 yards apart. Behind one of the lines, the two wooden blocks are located. The participant considered a standing initial position. The participant began running on the command 'Go' toward the second line and pick up the first wooden block, thus this way the participant will be finished two rounds. The timer stooped the stopwatch as soon as the participant finished the two rounds. The participant would be told to run again, if he failed to run or made a foul in the prescribed session. The time taken to the closest tenth of a second was recorded as soon as the participant finished three rounds in a suggested sequence. It will be his final score.

Standing broad jump: The main objective of this test is to measure explosive power of leg. The required instruments for this test are a measuring tape and nearly twenty feet ground surface with marked take- off line at any side. The general procedure involves an advance demonstration and explanation about the examination to the participants before the commencement of Test. The considered participant have the standing position behind the take off line, toes pointed straight ahead and feet parallel with several inches apart. An initial movement of arms Swinging as well as bending the knees was permitted , after which the participant jumped outward as far as possible in the pit by swinging the arms forward and extending the knees. The best one out of the three trials in succession was recorded involving the nearest feet and inches. The participants were guided not to fall

backward after the landing. The male athletes were told to land as well as take off with both feet simultaneously. Every jump was calculated in Inches/ feet from the take off point to the nearest point where any body part touched the surface or ground. The final score was considered as the best jump out of there trials.

50 yard dash test: The purpose of this test is to measure the speed. the main instrument are Stopwatch, whistle and a running track of 80 yard . The general procedure involves a participant to take a standing start from the starring line. The participant sprint towards the finish line and completed the 50 yards dash in minimum time. One trial is given. The time starts when the command 'Go' is given. The score was recorded in second to the nearest tenth of a second.

1.5 mile run/walk : The purpose of this test is to measure endurance. The main required tools are marking powder, stop watch, whistle and running track of 400 meters. The general procedure involves the participant to take a standing start from the starring line. The participant walks/ run and finished the total four rounds of track at the starting signal one trail is given. The time starts when the command 'Go' is given. The score was recorded in second to the nearest tenth of a second.

RESULTS:

Table-I Comparison of Physical Fitness variables of North and South Indian Male Hockey players

Variables	Mean (North Indian)	Mean (South Indian)	SD (North Indian)	SD (South Indian)	SED	t-value
Pull-ups	11.17	10.02	1.3	1.3	0.28	5.2*
Sit-ups	33.04	31.08	1.16	1.163	0.29	5.60*
Shuttle run	12.39	12.13	0.48	0.49	0.09	2.65*
Standing broad jump	2.53	2.59	0.05	0.43	0.10	2.45*
50 yard dash	5.03	4.78	0.02	0.41	0.06	4.33*
1600 meter run	7.91	8.04	0.35	0.39	0.07	1.71**

***Significant at 0.05 levels of significance**

****Not Significant at 0.05 levels of significance**

Table: represent the mean value of north and south Indian male Hockey players in pull ups was 11.7 and 10.2 respectively and the SD value of north and south Indian male Hockey players in pull ups was 1.3 and 1.3 respectively. The standard error difference was also finding out with the reading of 0.28. The 't' was calculated as 5.26, which was significant at .05 level of significance. This was showed that significant difference in mean

values of north and south Indian male Hockey players in pull ups was found and our hypothesis was accepted.

In relation to Sit-ups the Table represent the mean value of north and south Indian male Hockey players was 33.4 and 31.8 respectively and the SD value of north and south Indian male Hockey players in Sit ups was 1.16 and 1.63 respectively. The standard error difference was also finding out with the reading of 0.29. The 't' was calculated as 5.60, which was significant at .05 level of significance. This was showed that significant difference in mean values of north and south Indian male Hockey players in Sit ups was found and our hypothesis was rejected.

The Table also represents the mean value of north and south Indian male Hockey players in Shuttle Run was 12.39 and 12.13 respectively and the SD value of north and south Indian male Hockey players in Shuttle Run was 0.48 and 0.49 respectively. The standard error difference was also finding out with the reading of 0.09. The 't' was calculated as 2.65, which was significant at .05 level of significance. This was showed that significant difference in mean values of north and south Indian male Hockey players in Shuttle Run was found and our hypothesis was rejected.

The mean value of north and south Indian male Hockey players in SBJ was 2.53 and 2.59 respectively and the SD value of north and south Indian male Hockey players in was 0.05 and 0.13 respectively. The standard error difference was also finding out with the reading of 0.10. The 't' was calculated as 2.45, which was not significant at .05 level of significance. This was showed that significant difference in mean values of north and south Indian Male Hockey players in Standing Broad Jump was not found and our hypothesis was accepted.

The mean value of north and south Indian male Hockey players in 50 yards was 5.03 and 4.78 respectively and the SD value of north and south Indian male Hockey players in 50 yards was 0.02 and 0.41 respectively. The standard error difference was also finding out with the reading of 0.06. The 't' was calculated as 4.33, which was significant at .05 level of significance. This was showed that significant difference in mean values of north and south Indian male Hockey players in 50 yards was found and our hypothesis was rejected. The mean value of north and south Indian male Hockey players in 1.5 mile run was 7.91 and 8.04 respectively and the SD value of north and south Indian male Hockey players in 1.5 mile run was 0.35 and 0.39 respectively. The standard error difference was also finding out with the reading of 0.07. The 't' was calculated as 1.71, which was not significant at .05 level of significance. This was showed that significant difference in mean values of north and south Indian male Hockey players in 1.5 mile run was not found and our hypothesis was accepted.

Conclusions: The revealed that the male Hockey players of North region was better from South region in Pull-ups, Sit-ups and Standing long jump, whereas the south region male Hockey players was better from north region hockey players in Shuttle run and 60 yards dash and it was significant different at .05 level of significance. Data also revealed that there was significance difference found between North and South Hockey players and our hypothesis related to the above variables was rejected. The data showed that in 1.5 mile

test, players of both region almost same, and it is not significant. It is concluded that the Northern Hockey Players more powerful and have more endurance whereas southern Hockey players have more Speed and Agility. Many national and international studies already conducted similar to this study. **Akash Sukla (2020)** conducted the study on 45 male Soccer, Hockey and Cricket players of the age of 14-17 years. He concluded that southern players more agile than northern players whereas northern players more powerful than southern male players. **Latit M. Tiwari (2012)** conducted study on the physical & physiological variables of Inter District & Inter State Levels of Basketball players. Sixty (60) Male Basketball players (30 inter district and 30 interstate) were randomly selected from Uttar Pradesh as a subject. The age of the subjects was ranged from 17-28 years. The physical variables chosen were speed, endurance and power which were measured by 50m dash(sec), 2.4km. run(min.) and sergeant jump. The data collected on the different level of Basketball player were analysed by independent “t” test. It is found that the interstate level players were better than inter district players with respect to Speed, Power and Endurance.

REFERENCES:

- Akash Shukla (2020), “Comparative study on selected Physical fitness variables among different team game players”, International journal of Physical Education, Sports and Health
- Caru et al., (1970) “Maximal Aerobic Muscular Power in Football Players,” Journal of Sports Medicine and Physical Fitness: 10, June, p. 100.
- C. Cho, (2008), "The comparison of Physical Fitness of female and male Badminton players under 15 Years" e-Journal of New World Sciences Academy, Vol.-3 No. 1.
- Clarke, H.H. and Clark, H.D. (1967) “Application of measurement of health and physical education”, Englewood cliffs: prentice hall, IIIrd (Edt), p255s.
- Elizabeth Quinn, High Protein Diets and Sports Performance- nutrition for sports and exercise Jacqueline R. Burning Suzanne Nelson Steen 2005.
- Emerich and Elizabeth Bertani “Nutrition supplement: Vitamins and diet for Athletics performance” The Herb company, USA 1997.
- Harrold M. Barrow and Rosemary McGee, (1979), “Practical Approach to Measurement in Physical Education”, (Philadelphia: Lea and Fibiger), p. 9.
- Haward P. Golden, Vaccaro Paul, (1984), “The effects of endurance training intensity on the anaerobic threshold,” The Journal of Sports Medicine and Physical Fitness: 24, 0. 210.
- Kamlesh, M.L., UGC.NET DIGEST on paper third Physical Education, (New Delhi: Khel Sahitya Kendra, 2008) 20-21.
- Kullah KM, Ramnath T. Nutritional status of the aged in rural areas of Andhra Pradesh. (Indian J. Nutr. Diet, 1985).
- Kumar A, “Assessment of Health and Physical activity status of Punjab University Employees” PhD Diss., Punjab University Chandigarh 2001.

- Lalit M. Tiwari (2012) “Comparative Study of Selected Physical and Physiological Variables of Male Basketball Players at Different Levels of Competition”, An International peer reviewed journal of Social Sciences. Vol.-1 No. 1 ISSN 2249-6319 pp-42-47
- Radhika G., et. al. (2011), “Dietary profile of urban adult population in South India in the context of chronic disease epidemiology” International Diabetes Federation Centre of Education, 4 Conran Smith Road, Gopalapuram, Chennai, India.
- Swaminathan, M., “Food & Nutrition - An Advance Text Book”, (Bangalore: The Bangalore Printing and Publishing, 2009), 1-2.
- Wadhwa A, Sabharwal M, Sharma S., Nutritional status of the aged in rural areas of Andhara Pradesh”. Madrass: Indian Journal of Med. Res 1987.
- Wwww. Coachnick0.tripod.com/bb2day/id57, accessed on July 12, 2010.
- Weiss, L W et al. (2007) “Differences in technique between sprinters and distance runners at equal and maximal speeds”, Journal of Strength and Conditioning Research, 11, (1), 14-20