



A Comparative Study of Selected Motor Fitness Variables Between Male Kabaddi and Hockey Players

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Abstract

The aim of this study was to find out the difference in agility and muscular strength variables between male kabaddi and hockey players. Forty inter-college level male players (20 kabaddi players + 20 hockey players) were selected by purposive sampling technique from affiliated colleges of Punjabi University, Patiala. The age of the subjects was ranged between 18-25 years. Selected variables: agility was measured by shuttle-run test and muscular strength was measured with pull-ups test. Descriptive statistics and independent t-test was employed by 'SPSS Version-23'. The results showed that there was a significant difference in agility and muscular strength variables between male kabaddi and hockey players.

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Keywords: Kabaddi, Hockey, Agility, Muscular strength

Introduction

The capacity of performing physical activity is named physical fitness or motor fitness, albeit these terms are difficult to define (Gallahue, 1982). Physical fitness may be conceived as the capacity to perform one's daily tasks without fatigue; motor fitness, also termed motor ability, refers to a person's performance abilities as affected by the factors of speed, agility, balance, coordination, and power (Gallahue, 2006).

Motor fitness has multiple benefits for physical, mental, and psychosocial health and is a crucial aspect of assessing an individual's physical capability, particularly in athletes, which includes various components of agility, balance, coordination, strength, reaction time, and speed (Kohl & Cook, 2013; Kumar & Kumar, 2011).

Kabaddi is a combative team game, played with absolutely no equipment, in a rectangular court, either out doors or indoors with seven players on the ground in each side. Each side takes alternate chances at offense and defense. The basic idea of the game is to score points by raiding into the opponents' court and touching as many defense players as possible without getting caught on a single breath. During play, the players on the defensive side are called 'Antis' while the player of the offense is called the 'Raider'. Kabaddi is perhaps the only combative sport in which attack is an individual attempt while defense is a group effort. The attack in Kabaddi is known as a 'Raid'. The antis touched by the raider during the attack are declared out if they do not succeed in when their side scores point against the opposite side during their raiding turn or if the remaining players succeed in catching the opponent's raider (Devaraju & Needhiraja, 2012).

The hockey is a game of earth, and not of air, to be played with stick and ball (Gulzara Singh, 1993). Hockey is a game of intricate maneuvers, delicate turns, skillful footwork, stamina and endurance. It is a game of individual skill and brilliance finally meshed with co-ordinate team work (Kanwal, 1995). It is believed that hockey is the oldest game in the world. According to historians, it had deep roots in Persia where it was played in a crude form as long back as 2000 B.C. It was confirmed in the early twentieth century when studies were made of drawings on the ancient tombs in the Nile Valley. On a wall in Tomb No. 16

at Beni Hasan, near Minia, there are drawings of six sports, one of which shows two men holding implements that, with their curved ends, closely resemble early twentieth century hockey sticks.

Aim of Study

The aim of this study was to find out the difference in agility and muscular strength variables between male kabaddi and hockey players.

Material and Methods

Forty inter-college level male players (20 kabaddi players + 20 hockey players) were selected by purposive sampling technique from affiliated colleges of Punjabi University, Patiala. The age of the subjects was ranged between 18 to 25 years. The study was explained to each participant. The participants were divided into following groups on the basis of the game of the players and each group was comprised of 20 subjects:

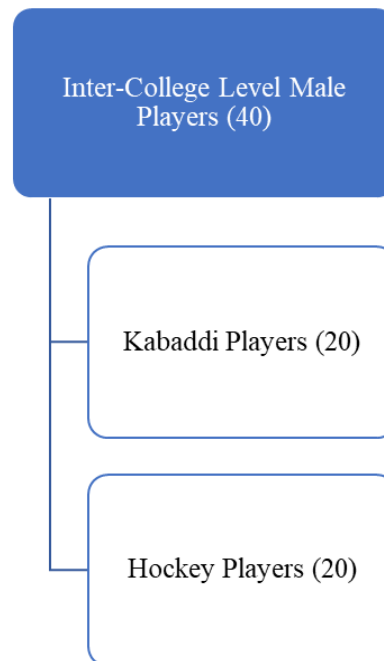


Fig 1

Description of Subjectscriterion Measures

The following were the criterion measures for this study:

Table 1: Criterion Measure

S. No.	Variable	Test	Measurement Unit
1.	Agility	Shuttle Run	Second
2.	Muscular Strength	Pull-Ups	Count

Collection of Data

The investigator explained the purpose of the study to the subjects and their part in the study. For the collection of the data, the investigator explained the procedure of testing for selected variable and give instructions about the procedure to be adopted by them.

Statistical Technique

Descriptive statistics i.e., mean and standard deviation were calculated. As per objective of the study, independent 't-test' was applied to find out the difference between various

groups. All tests were employed with the help of SPSS-software version 23. Level of significance will be set at 0.05.

Results

Table 2: Descriptive Statistics and T-Value for Agility Variable

Group Name	Mean	SD	t-value	Sig.
Kabaddi Players	11.04	.77	4.994	.000
Hockey Players	12.32	.86		

*Significant at 0.05 level Tabulated value at DF 38 = 1.684

Table-2 shows the Mean and SD values with regard to kabaddi players is $11.04 \pm .77$ whereas in the case of hockey players is $12.32 \pm .86$ respectively. The calculated t-value (4.994) which is more than the tabulated t-value (1.684) at .05 level. So, it demonstrates that there is a significant difference between kabaddi players and hockey players for their agility variable.

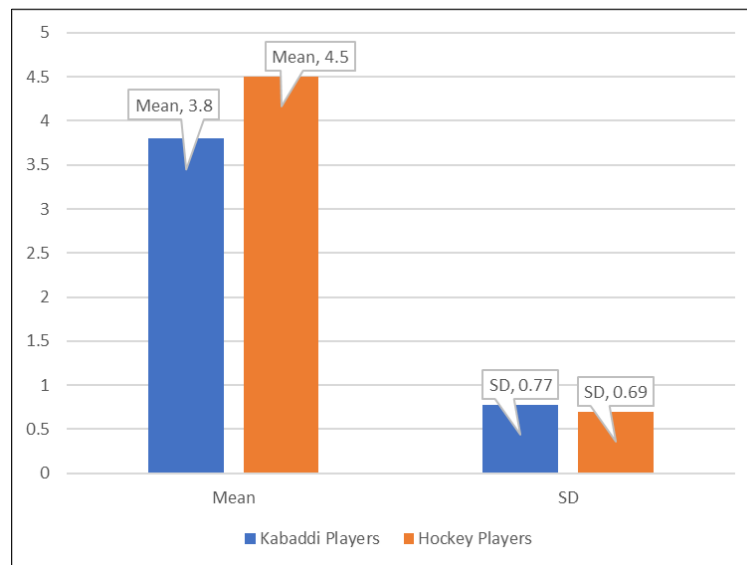


Fig 2: Graphical Representation Of Descriptive Statistics For Agility Variable

Table 3: Descriptive Statistics And T-Value for Muscular Strength Variable

Group Name	Mean	SD	t-value	Sig.
Kabaddi Players	10	1.45	4.355	.000
Hockey Players	8.35	.86		

*Significant at 0.05 level Tabulated value at DF 38 = 1.684

Table-3 shows the Mean and SD values with regard to kabaddi players is 10 ± 1.45 whereas in the case of hockey players is $8.35 \pm .86$ respectively. The calculated t-value (4.355) which is more than the tabulated t-value (1.684) at .05 level. So, it demonstrates that there is a significant difference between kabaddi players and hockey players for their muscular strength variable.

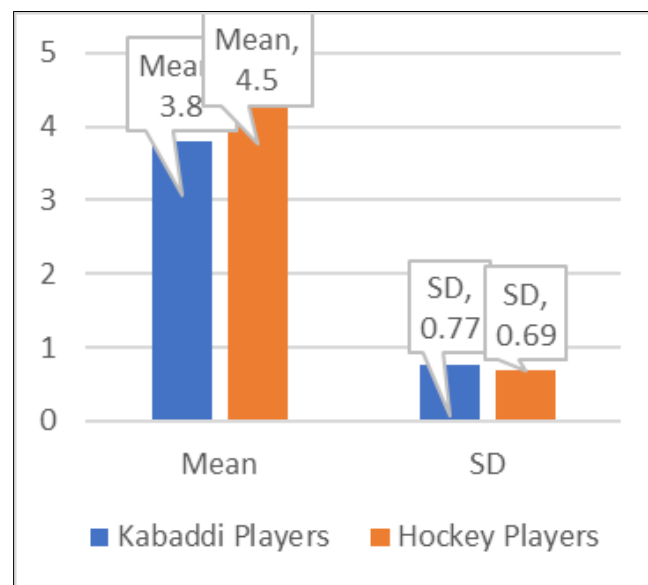


Fig 3: Graphical Representation of Descriptive Statistics for Muscular Strength Variable

Discussion of Findings

The purpose of the study was to find out the difference in selected motor fitness variables between kabaddi and hockey players and to fulfil the purpose of this study, total forty (N=40) players (20 kabaddi players +20 hockey players) were selected with purposive sampling technique from affiliated colleges of Punjabi University, Patiala. Based on the statistical analysis of data following findings were drawn by the researcher:

Agility

The results of the study showed that there were significant differences found between kabaddi and hockey players in

agility variable. Kabaddi players found more agile than hockey players. Previous study by Madhu and Siva (2020) who found significant difference in football, handball and volleyball players in agility variable.

Muscular Strength

The results of the study showed that there were significant differences found between kabaddi and hockey players in muscular strength variable. Kabaddi players found more stronger than hockey players. The results of the present study are supported by the study conducted by Lilabhai & Chaudari (2025) who found significant difference in muscular strength variable among hockey players in Gujarat.

Conclusion

This study concludes that kabaddi and hockey players differ significantly in agility and muscular strength.

References

1. Alam S. Prediction of weight lifting performance on the basis of selected anthropometric variables.
2. Castro-Piñero J, Aragón-Aragón P, Cruz-León C, Jiménez-Iglesias J, Camiletti-Moirón D, Izquierdo-Gómez R, *et al.* Time measurement validity and reliability of the 4 × 10-m shuttle run test in adult population: the ADULT-FIT project. *J Sci Med Sport.* 2023;26(10):553-560.
3. Devaraju K, Needhiraja A. Prediction of kabaddi playing ability from selected anthropometrical and physical variables among college level players. *Asian J Inf Technol.* 2012;11(4):131-134.
4. Devaraju K, Needhiraja A. Prediction of playing ability in kabaddi from selected anthropometrical, physical, physiological and psychological variables among college level players. *Int J Manag.* 2012;3(2):150-157.
5. Jeyaraman R. Predominance of selected anthropometric and physical fitness parameters on performance among university badminton players. In: *Emerging Trends in Physical Education and Sports Sciences.* 2011. p. 29-35.
6. Johnson P. Predominance of selected anthropometric measurements on kabaddi playing ability among college male students. *Editorial Board.* 2016;15(1):76-79.
7. Kanwal RP. Applications of generalized functions to propagating and deforming interfaces. In: *World Congress of Nonlinear Analysts.* 1995. Vol. 92. p. 19-26.
8. Kaplanidou K, Gibson HJ. Predicting behavioral intentions of active event sport tourists: the case of a small-scale recurring sports event. *J Sport Tour.* 2010;15(2):163-179.
9. Kohl HW III, Cook HD, editors. Physical activity, fitness, and physical education: effects on academic performance. In: *Educating the Student Body: Taking Physical Activity and Physical Education to School.* Washington (DC): National Academies Press (US); 2013.
10. Krstrup P, Mohr M, Amstrup T, Rysgaard T, Johansen J, Steensberg A, *et al.* The yo-yo intermittent recovery test: physiological response, reliability, and validity. *Med Sci Sports Exerc.* 2003;35(4):697-705.
11. Kumar P, Solanki M. Anthropometric variables as predictor of performance in swimming. *Int J Physiol Nutr Phys Educ.* 2019;4(1):1631-1635.
12. Kumar R. Comparison of anthropometric variables between high and low performance endurance runners. 2019.
13. Mudhiganti J. A comparative study of cardiovascular endurance of kabaddi and kho-kho players of Kakatiya University. *Int J Health Phys Educ Comput Sci Sports.* p. 83.
14. Needhiraja A, Kalidasan R. Prediction of playing ability from selected anthropometrical, physical and physiological characteristics of inter-collegiate handball players. In: *Recent Trends in Yoga and Physical Education.* 2011. p. 268-271.
15. Pandey AK, Sardar S. A study of speed ability among football and hockey male players of Bilaspur, Chhattisgarh. *Int J Appl Res.* 2015;1(11):694-696.
16. Pandey BM, Reddy TO. Relationship of anthropometric measurements with the performance of forehand overhead stroke in badminton. 2019.
17. Pandey SSAK, Sardar S. An estimation of kabaddi performance on the basis of selected physical fitness components. *Indian J Phys Educ Sports Appl Sci.* 2016;6(4).
18. Patel KN, Patel GM. A comparative study of explosive power and speed of kabaddi players. *Res Rev Int J Multidiscip.* 2024;9(7):226-231.
19. Shribhagwan, Sharma J. A comparative analysis of agility of male Pro-Kabaddi and other-Kabaddi players. *Sports Sci Health Adv.* 2023;1(1):50-52. doi:10.60081/SSHA.1.1.2023.50-52.

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