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A COMPARATIVE ANALYSIS OF FLEXIBILITY AND SPEED AMONG COLLEGE-LEVEL KABADDI AND KHO-KHO PLAYERS

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ABSTRACT :

The purpose of this study was to examine a comparative analysis of flexibility and speed among college-level kabaddi and kho-kho players. To conduct the research, 30 Kabaddi players and 30 Kho-Kho players were selected from Bharathiar University, Coimbatore district. The focus of the study was to assess the levels of flexibility and speed among these players. The participants were within the age range of 21 to 25 years. The study specifically concentrated on the variables of flexibility and speed in relation to the two sports. To analyze the data, an independent t-test was applied to determine whether there were significant differences between the two groups. A significance level of 0.05 was used for testing. The findings revealed that there were notable differences in both flexibility and speed between Kabaddi and Kho-Kho players.

Keywords: Kabaddi Players, Kho-Kho Players, Flexibility, Speed.

INTRODUCTION

The world of games and sports has crossed many milestones, as a result of different achievements in general and their application in the field of sports in particular. Scientific investigation into performance of sportsman has been playing an increasingly importance role to attain excellence of performance in different sports. Now the sportsman has been able to give outstanding performance because of involvement of new scientifically substantiated training methods and means of execution of sports exercise such as sports techniques, tactics, improvement of sports grass, and equipment, as well as other components and condition of the system of sports training **(Powel 1983).**

Variable play a vital role in almost all games and sports. Sportsman concentrates on the development of speed, strength, agility flexibility, endurance etc. as a part of preparation in their respective sports General motor abilities assist a sportsman in learning specific skills from a solid base over which he can develop excellence in the particular game he is involved **(Dobbins, 1985).** Sports in 21st century have gained much popularity and prominence than in any other period of human history. Now it is become an absolute necessity that right talents are identified for the right same. The main aim of sports training is preparing the sportsperson for higher performance in a given competition. The show of performance in competition is the reflection of combined effect of performance factors. Competition is closely linked to training. Several competitions are always playing a decisive role and by participating in varied competitions a sportsperson develops the ability to adapt quickly to different competitive situations. More the exposure to competitions better the learning and the sportsperson gains experience as result influences the development of performance and promotes a proper attitude towards performance.

NEED FOR THE STUDY

In the realm of competitive sports, physical fitness components such as flexibility and speed play a crucial role in enhancing performance. Kabaddi and Kho-Kho, two traditional Indian sports, demand high levels of physical agility, quick reflexes, and dynamic movements. Although both games are rooted in similar cultural contexts and share certain physical requirements, they differ significantly in terms of gameplay, movement patterns, and positional demands. This makes it essential to understand how athletes from each sport develop and utilize specific physical attributes like flexibility and speed. Flexibility is a key component for injury prevention and effective performance, particularly in sports involving frequent directional changes, sudden stops, and contact with opponents, as seen in Kabaddi. On the other hand, Kho-Kho players rely heavily on speed and agility to evade opponents and cover the ground efficiently within a limited time. By comparing these two athlete groups, coaches and sports scientists can gain insights into the physiological demands of each sport, leading to more targeted training regimens. The comparative study of flexibility and speed among college-level Kabaddi and Kho-Kho players is necessary to identify sport specific strengths and weaknesses. It can assist in designing tailored fitness programs that address the unique demands of each game. Moreover, such a study can contribute to talent identification and development processes by highlighting which attributes are more developed in athletes of each sport. This data can also be valuable for physical education teachers, trainers, and sports institutions in promoting and optimizing performance through scientific and evidence-based approaches. Ultimately, understanding these differences can pave the way for interdisciplinary research in sports science, bridging gaps between traditional sports practices and

modern athletic training methodologies. This study aims to provide a scientific foundation for improving the overall athletic development of college-level Kabaddi and Kho-Kho players.

HYPOTHESIS

1. It was hypothesized that there would be a significant difference in flexibility between Kabaddi and Kho-Kho players.
2. It was hypothesized that there would be a significant difference in speed between Kabaddi and Kho-Kho players.

METHEDOLOGY

The design of the study was to find out the result of kabaddi and Kho-Kho on flexibility, speed of college-level players. To achieve the idea of the study 30 kabaddi and 30 Kho-Kho players were selected from Bharathiar university Coimbatore district. The subjects were the flexibility and speed level of kabaddi and Kho-Kho players. The age group of subjects ranged from 21-25 years. The study was delimited to the following variables: achievement flexibility and speed between kabaddi and Kho-Kho players. To perform this analysis, the researcher used independent t-test to find out the significant difference between the flexibility and speed level of kabaddi and Kho-Kho players. In this case to test the significance 0.05 level of confidence was utilised.

TEST ADMINSTRATION

The administration of test was explained as follows.

Test I: SIT & REACH (Flexibility) Purpose: To measure the flexibility of the subject. Equipment Used: Evoque sit and reach box. Procedure: Heels of the feet should touch the edge of the taped line and be about 10 to 12 inches apart. The client/patient should slowly reach forward with extended arms, placing one hand on top of the other, facing palms down, as far as possible, holding this position for approximately 2 seconds. Score: One trial is allowed, and the distance achieved by the subject is noted in centimeters.

Test-II 50 MTS YARD DASH (Speed) Purpose: To measure the speed of the subject. Equipment Used: Measuring tape or marked track, stopwatch, cone markers, flat and clear surface of at least 70 meters. Procedure: The test involves running a single maximum sprint over 50 meters, with the time recorded. A thorough warm up should be given, including some practice starts and accelerations. Start from a stationary standing position (hands cannot touch the ground), with one foot in front of the other. The front foot must be behind the starting line. Once the subject is ready and motionless, the starter gives the instructions "set" then "go.". The tester should provide hints for maximizing speed (such as keeping low, driving hard with the arms and legs) and the participant should be encouraged to not slow down before crossing the finish line. Score: Two trials are allowed, and the best time is recorded to the nearest two decimal places. The timing starts from the first movement (if using a stopwatch) or when the timing system is triggered, and finishes when the chest crosses the finish line and/or the finishing timing gate is triggered.

STATISTICAL TECHNIQUES

The data was collected and statically examined to compare the flexibility and speed in kabaddi and Kho-Kho players. The‘t’ ratio was calculated to find out the significance difference if any in all the cases to test significance of 0.05 level of confidence was used.

Table-1

Computation of ‘T’ Ratio College Level Kabaddi and Kho-Kho Players on Flexibility

Variable	Group	N	Mean	Standard deviation	Standard Error Mean	‘t’-ratio
Flexibility	Kabaddi	30	26.70	1.87	.34	**2.86***
	Kho-Kho	30	25.26	2.40	.43	

***Significant at 0.05 level of confidence (2.04) 1 and 29**

Table 1 shows the mean value of speed for college level kabaddi and kho-kho players were 26.70 and 25.26 respectively. The obtained “t” ratio value of 2.04 was lower than the required table value of 2.86 for degrees of freedom, 1 and 29 significant at 0.05 level of confidence. The study also reveals that the kabaddi and kho-kho players had similar in flexibility.

The mean value of kabaddi and kho-kho players on flexibility were graphically represented in figure I

Graphical Representation on Mean Values of College Level Kabaddi and Kho-Kho Players on Flexibility

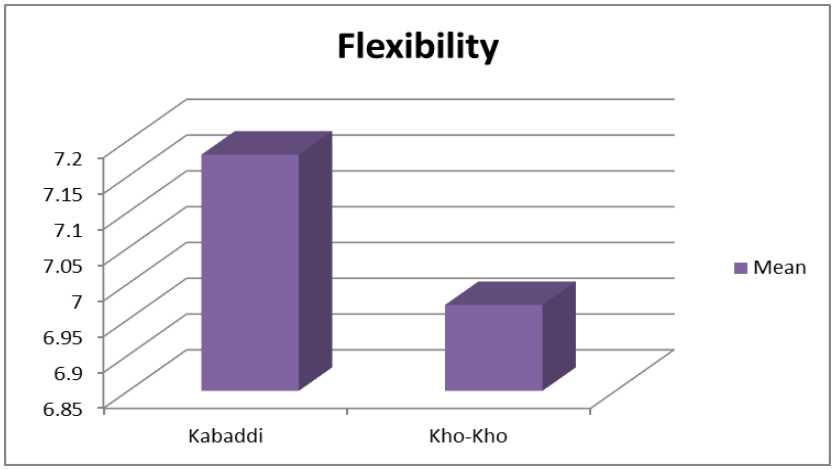


Table-2

Computation of 'T' Ratio of College Level Kabaddi and Kho-Kho Players on Speed

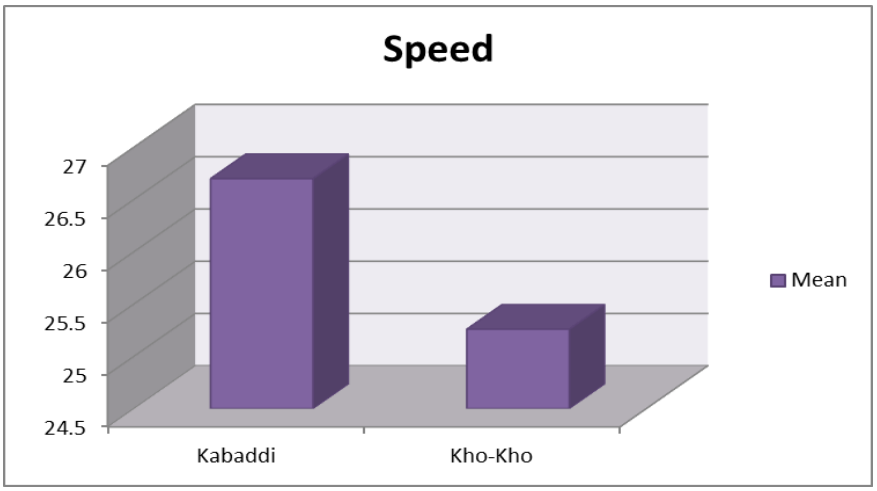
Variable	Group	N	Mean	Standard deviation	Standard Error Mean	t-ratio
Speed	Kabaddi	30	7.18	.22	.04	**2.57***
	Kho-Kho	30	6.97	.33	.60	

***Significant at 0.05 level of confidence (2.04) 1 and 29**

Table 2 shows the mean value of speed for college level kabaddi and kho-kho players were 7.18 and 6.97 respectively. The obtained "t" ratio value of 2.57 was higher than the required table value of 2.04 for degrees of freedom, 1 and 29 significant at 0.05 level of confidence. The study also reveals that the kabaddi and kho-kho players had similar in speed.

The mean value of kabaddi and kho-kho players on speed we graphically represented in figure II

Graphical Representation on Mean Values of College Level Kabaddi and Kho-Kho Players on Speed



RESULTS

The study aimed to compare the flexibility and speed of college-level Kabaddi and Kho-Kho players. A total of 60 male players (30 from each sport) were assessed using the Sit and Reach Test for flexibility and the 50-meter dash for speed. The analysis revealed that Kho-Kho players demonstrated significantly greater speed, with faster times recorded in the 50-meter dash. This is likely due to the fast-paced nature of Kho-Kho, which demands quick sprints and rapid changes in direction. In contrast, Kabaddi players showed higher flexibility scores, attributed to frequent stretching, lunging, and body-bending movements during gameplay. Statistical analysis using the t-test confirmed that the differences in both flexibility and speed between the two groups were significant at the 0.05 level. These results highlight the sport-specific physical adaptations among players, suggesting the need for tailored training programs to enhance performance in each discipline.

1. The results obtained from present studies revealed that there was in significant difference on speed college level Kabaddi and kho-kho players.
2. The study also reveals that the college level kabaddi and kho-kho players had similar in speed.
3. The results obtained from present studies revealed that there were in significant difference on flexibility college level Kabaddi and Kho- Kho players.
4. The study also reveals that the college level kabaddi and kho-kho players had similar in flexibility.

DISCUSSION ON FINDINGS

The comparative analysis of speed and flexibility between Kabaddi and Kho- Kho players reveal significant sport-specific physiological and performance adaptations. The study indicates that Kho-Kho players generally exhibit higher speed, while Kabaddi players demonstrate superior flexibility in specific ranges of motion. These results reflect the distinct demands of each indigenous sport. According to **Sajal Modak et al. (2024),** the study found no significant differences in speed between district-level Kho-Kho and Kabaddi players. Both groups displayed similar sprinting capabilities, likely due to the high-speed movements required in both games chasing and running in Kho-Kho, and raiding and tackling in Kabaddi.

However, Kabaddi players recorded better mean values in flexibility compared to Kho-Kho players. The analysis showed that flexibility training had a more pronounced impact on Kabaddi players, with significant gains achieved over the training period. This supports the findings of **Taufeeq et al. (2019),** who emphasized that progressive flexibility training improves flexibility when applied using proper training principles. The nature of each sport supports these differences. Kho-Kho, with its rapid chases, sharp turns, and sprinting bursts, promotes acceleration and agility. This aligns with Singh and **Singh (2013),** who reported that Kho-Kho players possess enhanced sprinting abilities due to the repeated high-intensity efforts involved. In contrast, Kabaddi involves lunges, squats, and dynamic whole-body movements used to dodge or tackle opponents. These actions require a wide range of motion, particularly in the hips, shoulders, and lower back. **Rajkumar and Gopinathan (2015)** noted that flexibility is essential for Kabaddi raiders and defenders. The current study supports this, as Kabaddi players scored higher in the sit-and-reach test, indicating better hamstring and lower back flexibility than their Kho-Kho counterparts.

CONCLUSIONS

Based on the results and discussion made into the previous chapter, the Following conclusions have been made:

1. It was concluded that there was in significant difference among college level kabaddi and kho-kho players on flexibility.
2. It was concluded that there was in significant difference among college level kabaddi and kho-kho players on speed.
3. It was concluded that college level kabaddi and kho-kho players had similar in flexibility.
4. It was concluded that college level kabaddi and kho-kho players had similar in speed.

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