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Comparative study on selected physical fitness abilities between kabaddi and kho-kho players

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Abstract

The main objective of the present study was to compare the Kabaddi and Kho-Kho players of from North 24 Parganas District, who has obtained position at district level sports competition on selected physical abilities through the selected test items such as: Speed, Standing Broad Jump, Sit and Reach, Sit-ups, 12 Minutes Run/walk Test between the players of Kabaddi and Kho-Kho.

For the purpose of the present study, finally sixty players were selected as subjects. Out of total sixty subjects, 30 subjects from the game of Kabaddi and 30 subjects from the Kho-Kho has been selected on purposive and random sampling basis, who has won medal/position district level sports competition. All the subjects were involved in regular practice as a preparation for their targeted competition in their respective sports.

The data were collected in raw form and analyzed by computing the descriptive statistical techniques and 't' test were applied. The level of significance was set at 0 .05 level of confidence.

The Result of the study significant difference was found in the Speed Ability tested through 50 M Dash Test. There was no significant difference was found in the Standing Broad Jump, a test of explosive strength in relation to the Kabaddi and Kho-Kho players. The significant difference was found in the Sit and Reach Test. There was no significant difference was found in the One Minute Sit-ups, a test to measure muscular strength endurance in relation to the Kabaddi and Kho-Kho players. The significant difference was found in the 12 Minutes Run/Walk Test of Cardio-vascular Endurance in relation to the Kabaddi and Kho-Kho players.

Key words: physical fitness, Kabaddi, Kho-Kho players etc.

1. Introduction

According to the AAHEPERED assumptions [1984], physical fitness is identified with the concept of human health, for it allows an efficient functioning during the day, as well as undertaking various forms of physical activity during free time. Adaptation in unexpected or critical situations is also important from the aspect of the further functioning of an individual. Hence, the Health-Related Fitness (H-RF) components include: cardiovascular endurance, muscle strength, endurance, flexibility and body composition.

Physical fitness is used in the context of two meanings: General fitness (a state of health and well-being) and specific fitness (the ability to perform specific sports of occupational skill). Fitness can be further subdivided into five categories: Cardiovascular endurance, muscular strength, muscular endurance, flexibility, and body composition. The criteria of physical fitness has also expanded to include the capacity to meet physical demands in an emergency situation. Physical fitness is the capacity of the heart, Blood vessels, lungs, and muscle to function at optimum efficiency. Physical fitness was defined as the capacity to carry out the day's activities without undue fatigue.

1.1 Hypothesis

It was hypothesized that there was no significant difference in physical fitness factors of Kabaddi players and Kho-Kho players.

2. Methodology

The following methodological steps were taken in order to conduct the present study.

2.1 Selection of the Subjects:

Initially, Sixty Kabaddi and Kho-Kho players were selected on random basis for the present study School students from North 24 Parganas District. The designated delimitations for the present study were kept in mind for the selection of the subjects; those have participated in district level competition. It was also taken into consideration that all the selected subjects were ranged from 16 to 19 years of age and who were involved in regular practice for their respective games of Kabaddi and Kho-Kho to remain physically and mentally fit. Finally, total 30 players were randomly selected from Kabaddi and 30 players were selected from game of Kho-Kho. It was also kept in mind that all the subjects should participate voluntarily for purpose of data collection during present study.

2.2 Selection of the Physical Fitness Variables and their Tests:

a. **Speed:** 50 m. Sprint Test
b. **Explosive Strength:** Standing Broad Jump
c. **Cardio-Vascular Endurance :** 12min. Run/Walk Test
d. **Flexibility:** Sit and Reach Test
e. **Muscular Strength:** One Minute Sit-Up

2.3 Statistical Procedure:

For the purpose of the analyses, the following statistical procedures were employed:

In first step, descriptive statistics was employed in which Mean; SD, were computed. The required statistical calculations were computed with the help of SPSS software. The descriptive calculation and "t"- test were computed. Then, both the groups were tested to observe the differences among the selected variables. The level of significance was set at .05 level of confidence.

3. Result and Discussion

Table 1

Mean, Standard deviation and 't'- ratio in respect of Speed between Kabaddi and Kho-Kho Players

VARIABLES	KABADDI		KHO-KHO		"t"-Ratio
	Mean	Standard Deviation	Mean	Standard Deviation	
Speed	7.613	0.84	6.65	0.76	4.56*

*Significant "t"0.05 (58) =2.00

Table-2 indicated that the mean and standard deviation scores of Speed of Kabaddi had been found 7.613±0.84 and those of Kho-Kho Players had been found 6.65±0.76. The calculated 't' value (4.56 >2.00) of Speed of the subjects were found to greater than the table value; so the result reflected significant difference at 0.05 level of confidence. The results had been presented graphically in figure–1.

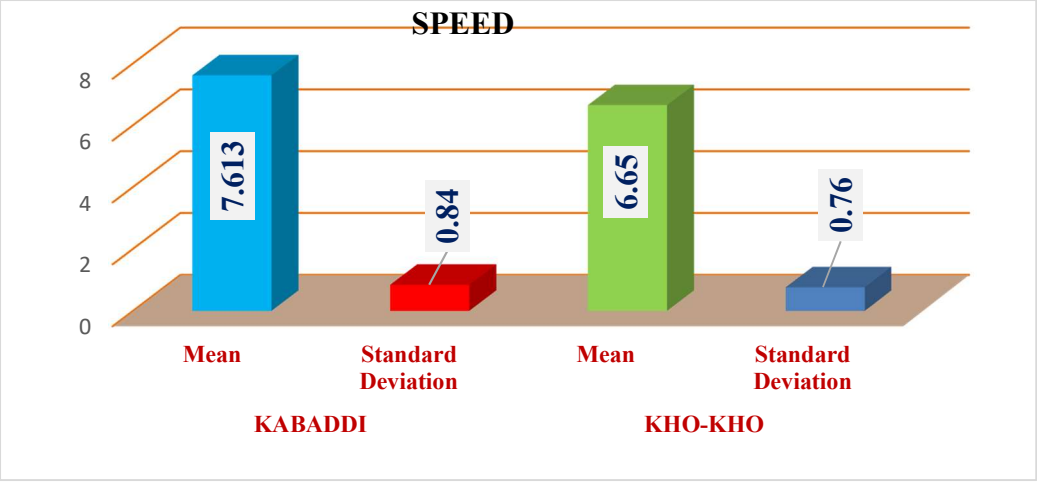

Fig- 1: Comparison of Speed between the Kabaddi and Kho-Kho Players.

Table-3

Mean, Standard deviation and 't'- ratio in respect of Explosive Strength between Kabaddi and Kho-Kho Players.

VARIABLES	KABADDI		KHO-KHO		"t"-Ratio
	Mean	Standard Deviation	Mean	Standard Deviation	
Explosive Strength	2.026	0.355	1.988	0.348	0.40

*Significant "t"0.05 (58) =2.00

Table-3 indicated that the mean and standard deviation scores of Explosive Strength of Kabaddi had been found 2.026±0.355 and those of Kho-Kho Players had been found 1.988±0.348. The calculated 't' value (0.40 <2.00) of Explosive Strength of the subjects were found to less than the table value; so the result reflected no significant difference at 0.05 level of confidence. The results had been presented graphically in figure–2.

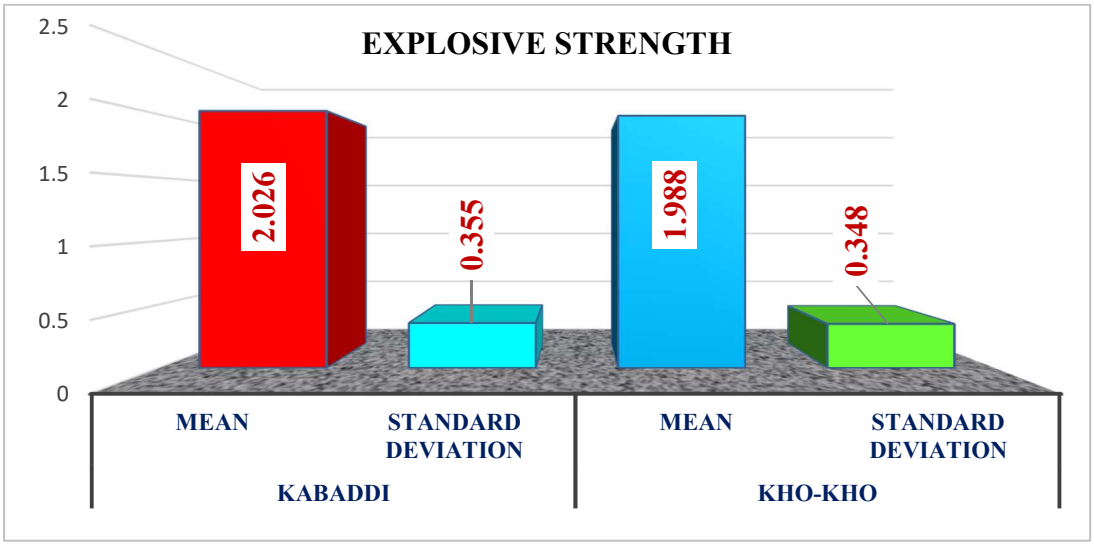

Fig- 2: Comparison of Explosive Strength between the Kabaddi and Kho-Kho Players.

Table-4

Mean, Standard deviation and 't'- ratio in respect of Cardiovascular Endurance between Kabaddi and Kho-Kho Players.

VARIABLES	KABADDI		KHO-KHO		"t"-Ratio
	Mean	Standard Deviation	Mean	Standard Deviation	
Cardiovascular Endurance	1662.67	392.58	2099	366.29	4.37*

*Significant "t"0.05 (58) =2.00

Table-4 indicated that the mean and standard deviation scores of Cardiovascular Endurance of Kabaddi had been found 1662.67±392.58 and those of Kho-Kho Players had been found 2099±366.29. The calculated 't' value (4.37 >2.00)

of Cardiovascular Endurance of the subjects were found to greater than the table value; so the result reflected significant difference at 0.05 level of confidence. The results had been presented graphically in figure-3.

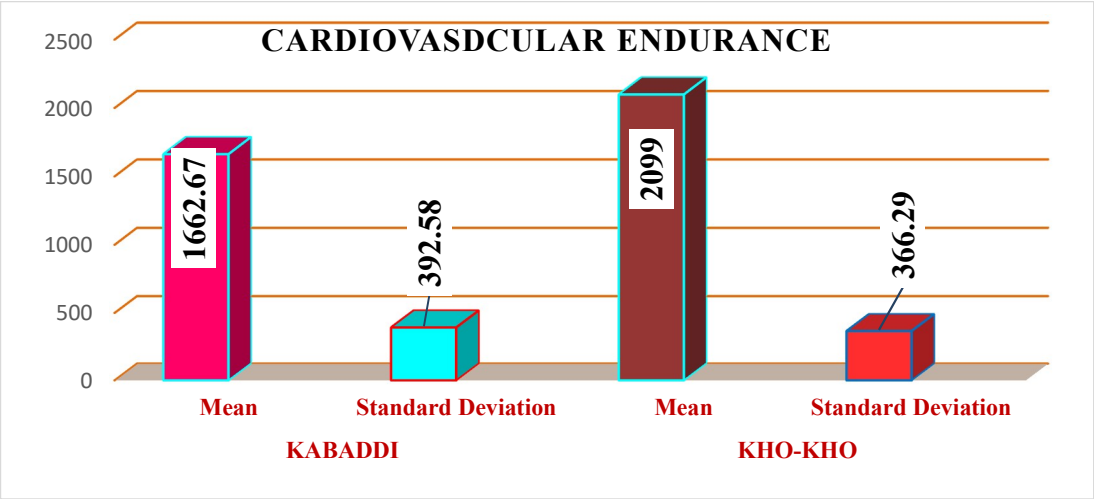

Fig- 3: Comparison of Cardiovascular Endurance between the Kabaddi and Kho-Kho Players.

Table-5

Mean, Standard deviation and 't'- ratio in respect of Flexibility between Kabaddi and Kho-Kho Players.

VARIABLES	KABADDI		KHO-KHO		"t"-Ratio
Flexibility	Mean	Standard Deviation	Mean	Standard Deviation	3.44*
	16.267	4.343	21.333	6.635	

*Significant "t"0.05 (58) =2.00

Table-5 indicated that the mean and standard deviation scores of Flexibility of Kabaddi had been found 16.267±4.343and those of Kho-Kho Players had been found 21.333±6.635. The calculated 't' value (3.44 >2.00) of Flexibility of the subjects were found to greater than the table value; so the result reflected significant difference at 0.05 level of confidence. The results had been presented graphically in figure-4.

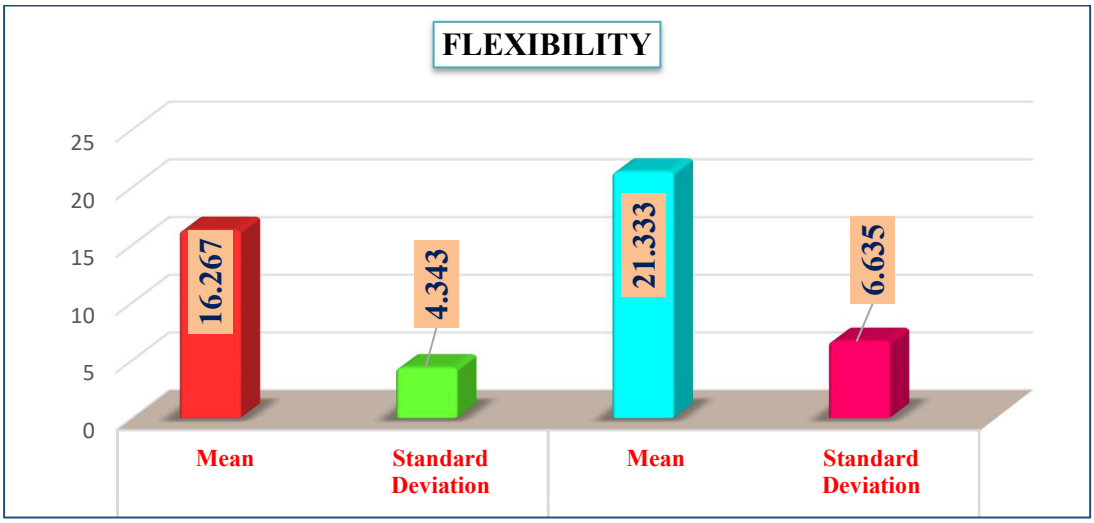

Fig- 4: Comparison of Flexibility between the Kabaddi and Kho-Kho Players.

Table-6

Mean, Standard deviation and 't'- ratio in respect of Muscular Strength between Kabaddi and Kho-Kho Players.

VARIABLES	KABADDI		KHO-KHO		"t"-Ratio
	Mean	Standard Deviation	Mean	Standard Deviation	
Muscular Strength	37.3	7.42	35.2	6.62	1.14

*Significant "t"0.05 (58) =2.00

Table-6 indicated that the mean and standard deviation scores of Muscular Strength of Kabaddi had been found 37.3±7.42 and those of Kho-Kho Players had been found 35.2±6.62. The calculated 't' value (1.14 <2.00) of Muscular Strength of the subjects were found to less than the table value; so the result reflected no significant difference at 0.05 level of confidence. The results had been presented graphically in figure–5.

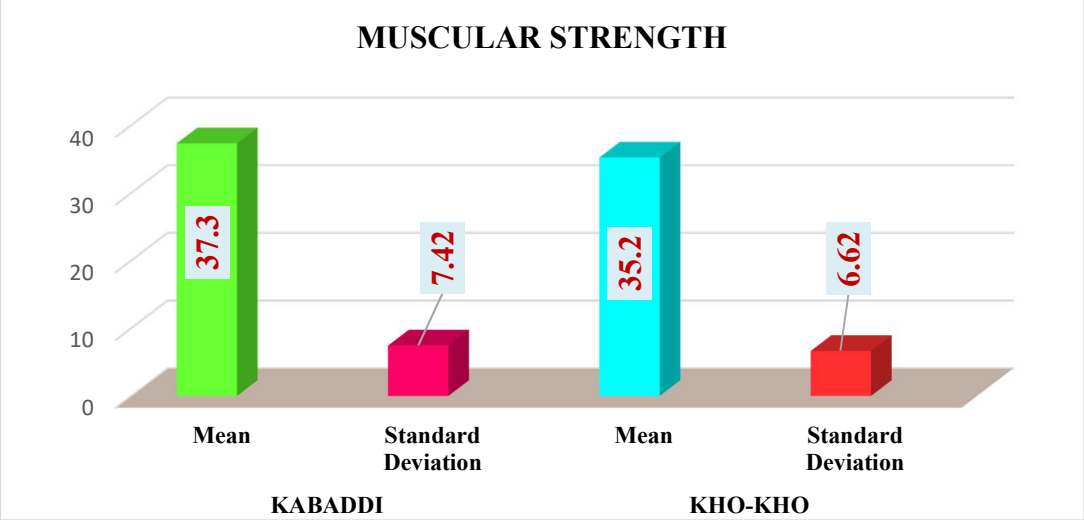

Fig- 5: Comparison of Muscular Strength between the Kabaddi and Kho-Kho Players.

4. Conclusion

On the basis of the data analysis, limitations and findings of the present study, the following conclusions were drawn:

1. The significant difference was found in the Speed Ability tested through 50 M Dash Test. The Kho-Kho players' group had better speed in comparison to the Kabaddi players' group.
2. There was no significant difference was found in the Standing Broad Jump, a test of explosive strength in relation to the Kabaddi and Kho-Kho players. The Kabaddi players' group had better explosive strength, showing greater jumping ability than the Kho-Kho players' group.
3. The significant difference was found in the Sit and Reach Test. The Kho-Kho players' group had better hips and legs flexibility in comparison to the Kabaddi players' group.
4. There was no significant difference was found in the One Minute Sit-ups, a test to measure muscular strength endurance in relation to the Kabaddi and Kho-Kho players. The Kabaddi players' group had better muscular strength endurance of abdomen muscles group, showing greater muscular endurance ability than the Kho-Kho players' group.
5. The significant difference was found in the 12 Minutes Run/Walk Test of Cardio-vascular Endurance in relation to

the Kabaddi and Kho-Kho players. The Kho-Kho players' group had better Cardio-vascular Endurance, showing greater heart and lungs' capacity than the group of Kabaddi players.

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