

Muscular Endurance and Muscular Strength of Varsity Kabaddi and Kho-Kho Players

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Abstract: The primary aim of the study was to determine the differences of muscular endurance and muscular strength. Total students 15 Kabaddi and 15 Kho-Kho players participated in the study and their age ranged between 18-30years. The demographic information about Gender, age, daily smoking, drug use, etc. was obtained before seeking responses. The study area was restricted to Marathwada region of Maharashtra Muscular Endurance was evaluated by using 1 minute Bent Knee Sit Up test. Abdominal muscular endurance was measured by performing the 1-minute bent knee sit-up test. The findings of the study indicates that Kabaddi Players was found to have got more Muscular Endurance and Muscular Strength as compare to their counterparts.

Keywords: Muscular endurance, kabaddi, kho-kho players, force development

I. INTRODUCTION

The game of Kabaddi is very popular game in India and played with 20-minute halves with a 5-minute half break in which the teams exchange sides. During each play, known as a "raid", a player from the attacking side, known as the "raider", runs into the opposing team's side of the court and attempts to tag as many of the seven defending players as possible. Whereas, Kho Kho is a popular tag game invented in Maharashtra, India. It is played by teams of 12 nominated players out of fifteen, of which nine enter the field who sit on their knees, and 3 extra who try to avoid being touched by members of the opposing team. Muscular strength is determined by how much force you can exert or how much weight you can lift. Building muscular strength uses heavier weights for fewer repetitions. Muscular endurance refers to the ability of a muscle to sustain repeated contractions against resistance for an extended period of time. Muscular strength is the amount of force you can put out or the amount of weight you can lift. Muscular endurance is how many times you can move that weight without getting exhausted. A training focused on endurance has a less significant effect on the strength of the athlete, and reversely, strength has a greater effect on endurance.

Greater muscular strength is strongly associated with improved force-time characteristics that contribute to an athlete's overall performance. ... Greater muscular strength allows an individual to potentiate earlier and to a greater extent, but also decreases the risk of injury. Higher levels of strength lead to improved performance in a variety of general and sports specific activities, with stronger athletes regularly performing better than weaker athletes of a similar skill level. Greater muscular strength was shown to improve rate of force development (explosive strength) and external muscular power.

II. METHODS

In all 15 Kabaddi and Kho – Kho players who were participating Krida Mahotsva 2015 in swami Ramanand Teerth Marathwada university selected for the study and their age ranged between 22-30 years. The subjects were free of smoking, alcohol and caffeine consumption, antioxidant supplementation and drugs during the programmes. They completed an informed consent document to participate in the study. The age, height, weights, flexibility and power ability of all subjects were measured in Nanded. The muscular endurance was evaluated by using 1 minute Bent Knee Sit Up test. Abdominal muscular endurance was measured by performing the 1-minute bent knee sit-up test. Subject Lied on his back with knees bent at a 90-degree angle. His feet were flat on the floor. Subject interlocked his fingers behind his head, and then slowly rises to sitting Stages and touched his elbows to knees. Now subject let down his body back to the starting Stages, and repeated the process as many times as possible for the subject within one minute. Kraus Weber Strength Test: used for measure muscular strength of Kabaddi and Kho-Kho Players This test is made up by combining six physical activities or tests.

III.RESULTS AND DISCUSSION

Table – 1
Demographic information of Kabaddi Players

Sr. No.	Components	Means Scores	Standard Deviations
1.	Age (Year)	21.44	2.67
2.	Weight (Kg)	68.90	7.23
3.	Height (cm)	169.20	11.45
4.	Training Hours in a day	1.20	0.55
5.	Training in weeks	2.80	0.80

Table-1 shows, Mean Scores and Standard deviations of Kabaddi players of selected demographic information.

Table – 2
Demographic information of Kho-Kho Players

Sr. No.	Components	Means Scores	Standard Deviations
1.	Age (Year)	21.57	2.78
2.	Weight (Kg)	68.56	8.45
3.	Height (cm)	170.34	12.46
4.	Training hours in a day	1.96	0.67
5.	Training weeks	2.75	0.80

Table-2 shows, Mean Scores and Standard deviations of **Kho-Kho Players** of selected demographic information.

Table 3
Mean scores, standard deviations and t-test of muscular endurance between Kabaddi and Kho-Kho Players

Variable	Players	Numbers	Means	S. D.s	T-Ratio
Muscular Endurance	Kabaddi	15	25.56	2.79	(=t p<.05)
	Kho-Kho	15	22.45	3.30	

Table 3, show the Mean Scores, Standard Deviations and T ratio of Muscular Endurance between Kabaddi and Kho-Kho Players. With regard to Muscular Endurance among between Kabaddi Players , they have obtained mean values 25.56 and the standard deviation was 2.79 respectively. Furth more, Muscular Endurance among Kho-Kho Players, they have obtain mean values 22.45 and the standard deviation was 3.30 respectively, which are given in table- 3,the results of the study revealed that there was significant difference of Muscular Endurance was found between Kabaddi and Kho-Kho Players. The findings of the study indicates that Kabaddi Players was found to have got more Muscular Endurance as compare to Kho-Kho Players.

Figure- 1show the Mean Scores and Standard Deviations of Muscular Endurance between Kabaddi and Kho-Kho Players

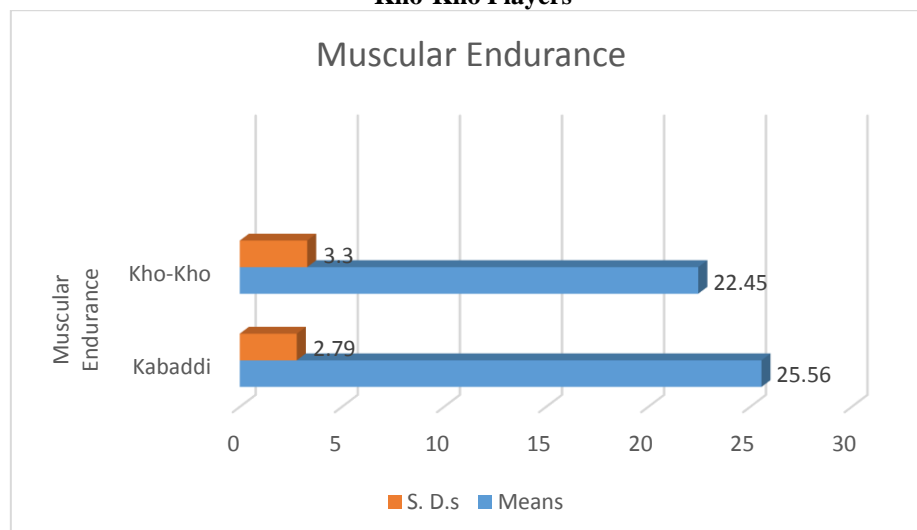
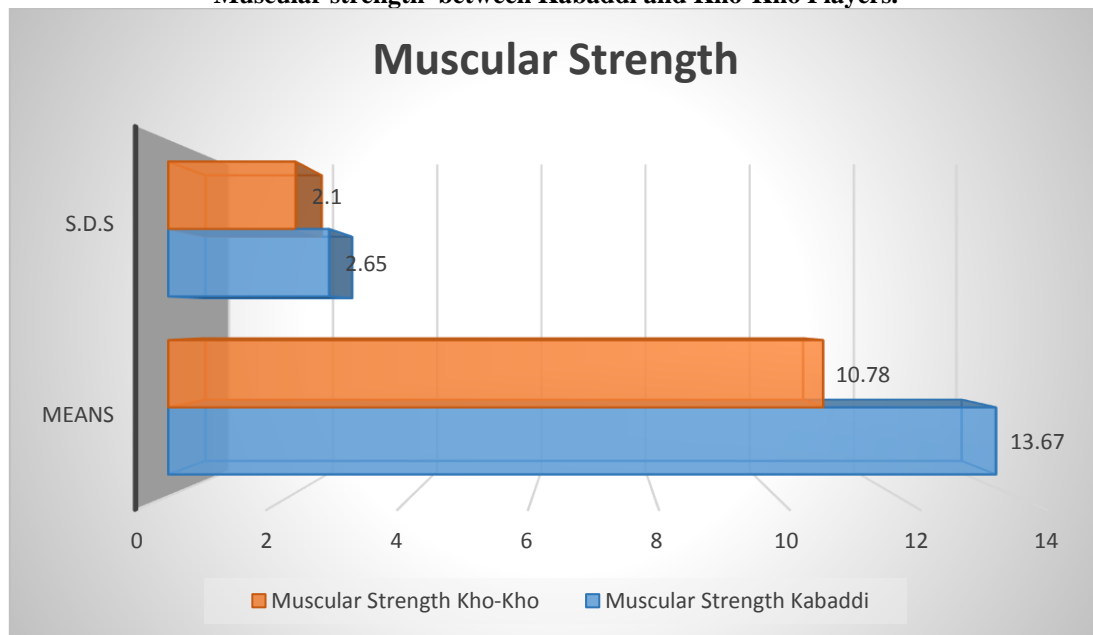


Table 4
Mean scores, standard deviations and t-test of muscular endurance between Kabaddi and Kho-Kho Players

Variable	Players	Numbers	Means	S.D.s	T-test
Muscular Strength	Kabaddi	15	13.67	2.65	(=t p<.05)
	Kho-Kho	15	10.78	2.10	

Tables 4 show the Mean Scores and Standard Deviations of Muscular Strength between Kabaddi and Kho-Kho Players

Figure- 2 show the Mean Scores and Standard Deviations of Muscular strength between Kabaddi and Kho-Kho Players.



IV.DISCUSSION

Sports performance has been found to be related to muscular endurance and muscular strength. The game of Kabaddi and Kho-Kho are simple in nature, easy to organize, less expensive. Hence they reach to common men. Both games can be played in a small area and practically less equipment is required. Kabaddi is most aggressive and heavy contact game, but Kho-Kho is a semi contact game. Both games differ from each other in their nature, skill, techniques and strategies etc. the mean scores of age and standard deviation of Kabaddi players was 21.44 and 2.67 years respectively. In addition the mean scores and Standard deviations of Kabaddi players with respect to weight was 68.90 and 7.23 Kg. respectively. Whereas, the Mean Scores and Standard deviations of Kabaddi players with respect to height was 169.20 & 11.45 cm Respectively. Further more the Mean Scores and Standard Deviations of Kabaddi players with respect to Training Hours in a day was 1.20 and 0.55 respectively and the Mean Scores and Standard Deviations of Kabaddi players with respect to Training weeks was 2.80 and 0.80 respectively. With respect to age and standard deviation of **Kho-Kho Players** was 21.57 and 2.78 years respectively. In addition the mean scores and Standard deviations of **Kho-Kho Players** with respect to weight was 68.56 and 8.45 Kg. respectively. Whereas, the Mean Scores and Standard deviations of **Kho-Kho Players** with respect to height was 170.34 & 12.46 cm Respectively.

Further more the Mean Scores and Standard Deviations of **Kho-Kho Players** with respect to Training Hours in a day was 1.96 and 0.67 respectively and the Mean Scores and Standard Deviations of **Kho-Kho Players** with respect to Training weeks was 2.75 and 0.80 respectively. With regard to Muscular Endurance among between Kabaddi Players, they have obtained mean values 25.56 and the standard deviation was 2.79 respectively. Further more, Muscular Endurance among Kho-Kho Players, they have obtain mean values 22.45 and the standard deviation was 3.30 respectively, which are given in table- 3, the results of the study revealed that there was significant difference of Muscular Endurance was found between Kabaddi and Kho-Kho Players. The findings of the study indicates that Kabaddi Players was found to have got

more Muscular Endurance as compare to Kho-Kho Players . With regard to Muscular strength among between Kabaddi Players, they have obtained mean values 13.67 and the standard deviation was 2.65 respectively. Furth more, Muscular strength among Kho-Kho Players, they have obtain mean values 10.78 and the standard deviation was 2.10 respectively, which are given in table- 4,the results of the study revealed that there was significant difference of Muscular strength was found between Kabaddi and Kho-Kho Players. The findings of the study illustrates that Kabaddi Players was incur significantly more Muscular strength as compare to their counterparts. Strength, and endurance are the important abilities for successful performance. The dominant ability is the one from which the sport requires a higher contribution. Most sports require peak performance in at least two abilities. The relationships among strength and endurance create crucial physical athletic qualities. A better understanding of these relationships will help you understand power and muscular endurance and help you plan sport -specific strength training. Combining strength and endurance creates muscular endurance, the ability to perform many repetitions against a given resistance for a prolonged period. Endurance and strength in sports should be viewed as the mechanism required to perform skills and athletic actions.

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