

# A Study on Cardiovascular Endurance, Agility and Strength among the Women Players of Kabaddi and Kho-Kho

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## Abstract

The main purpose of the present study was to determine the Cardiovascular Endurance, Agility and Strength among women players of Kabaddi and Kho-kho. To achieve the purpose of the present study 30 women players of Kabaddi and 30 women players of Kho-Kho were selected as subjects from the Colleges Affiliated to Kerala University and their age ranged from 18 to 25 years. The subjects were divided into two groups namely Group-I Kabaddi women players and Group-II Kho-Kho women players. The following variables were selected namely Cardiovascular Endurance, Agility and Leg Strength. These were the variables of this study. The data were collected on selected criterion variables and they were statistically analyzed by using 't' ratio. All subjects were participated in 12 minutes Cooper run and walk test to measure the Cardiovascular Endurance, Agility was measured by Shuttle Run, and Leg strength was measured by 1 Rm leg press. The selected criterion variables was statistically analyzed by using 't' ratio were used to find out the percentage of Cardiovascular Endurance, Agility and Leg strength among women players of Kabaddi and Kho-Kho from the colleges Affiliated to Kerala University. The obtained ratio was 1.67 on Cardiovascular Endurance, 4.37 on Agility, 3.11 on Leg Strength among women players of Kabaddi and Kho-Kho. In all the cases 0.05 level of confidence was fixed to test of the significance.

**KEYWORDS:** Cardiovascular Endurance, Agility, Leg Strength, Kabaddi women players and Kho-Kho women players.

## Introduction

Physical fitness refers to the ability of your body systems to work together efficiently to allow you to be healthy and perform activities of daily living. Being efficient means doing daily activities with the least effort possible. A fit person is able to perform schoolwork, meet home responsibilities, and still have enough energy to enjoy sport and other leisure activities. A fit person can respond effectively to normal life situations, such as raking leaves at home, stocking shelves at a part-time job, and marching in the band at school. A fit person can also respond to emergency situations - for example, by running to get help or aiding a friend in distress.

Physical fitness is to the human body what fine tuning is to an engine. It enables us to perform up to our potential. Fitness can be described as a condition that helps us look, feel and do our best. Physical fitness involves the performance of the heart and lungs, and the muscles of the body. And, since what we do with our bodies also affects what we can do with our minds, fitness influences to some degree qualities such as mental alertness and emotional stability.

Physical fitness involves the performance of the heart lungs and muscles of the body physical fitness is necessary for success in all game and sports. In addition to bringing about better performance in games and sports, also help in prevention of the injuries in the long run. In need to perform well in a game one must be physically fitness and it protects him from injury. Physical fitness is a means to share greater responsibility without undue stress, fatigue and help in the quality of health and well being. Physical education activities and

programs are rendering valuable service to the man in improving their health and life style. Sometimes the lack of regular exercise results in chronic fatigue. Regular participation in physical exercise and its activities enhance the level of physical fitness. If an individual wants to lead a healthy and prosperous life he has to be physically fit that is the way of wellness and wellbeing.

Physical fitness is a state of health and well-being and, more specifically, the ability to perform aspects of sports, occupations and daily activities. Physical fitness is generally achieved through proper nutrition, moderate-vigorous physical exercise, and sufficient rest.

Physical fitness is one of the core preconditions of health. We cannot imagine a person to be healthy without being physically fit. Physical fitness therefore needs to be appreciated in full measure. The common perception of physical fitness is the absence of ailment. The physical fitness of a sports person is different from that of the persons working in army factory or a layman. In fact, physical fitness means different things to different people. In this lesson, let us discuss various aspects of physical fitness.

**According [Howley T, 1943],** Physical fitness components and specific training package of technical skills are very important factors for athletes. These components of training package are important are more important to the athletes in the competition periods and for the development of their technical skills." physical fitness is one's richest possession and cannot be purchased; it has been earned through a daily routine of physical exercise".

The aim of physical education should be practically the same as the general education. Physical education is an integral part of education through interest and self directed activity on the part of the pupils. It is only through activity on the part of the pupils. It is only through activity of the learner that education takes place. Physical education needs the accumulation of wholesome experience through large muscle activities that optimum growth development.

**Cardiovascular Endurance** consists of maintaining an increased heart rate and breathing rate for a longer period of time. Cardiovascular endurance can be accomplished through consistent exercise performed for prolonged periods of time. Cardiovascular exercise improves your body's ability to bring oxygen from the environment, into the lungs, and diffused into the bloodstream. With an increase flow of oxygen to cells in the body will help them work to their capacity. In addition, cardiovascular exercise helps the heart become bigger and stronger (it is a muscle), allowing more blood to be pumped out with each beat. If more blood is pumped out with each beat, the heart does not have to beat as fast or work as hard. (*National Academy of Sports Medicine*)

**Agility** or nimbleness is an ability to change the body's position efficiently, and requires the integration of isolated movement skills using a combination of balance, coordination, speed, reflexes, strength and endurance. Agility is the ability to change the direction of the body in an efficient and effective manner.

In sports, **Agility** is often defined in terms of an individual sport, due to it being an integration of many components each used differently (specific to all of sorts of different sports). *Sheppard and Young (2006) defined agility as a* "rapid whole body movement with change of velocity or direction in response to a stimulus".

Everyone seems to agree that **Strength** is a good thing.

Sports trainers claim that increasing your **Strength** will allow you to run faster, jump higher, hit harder. Physical therapists will tell you that increasing strength in a certain muscle will cure back pain, knee pain, and hip pain.

## **Methodology**

The main purpose of the present study was to determine the Cardiovascular Endurance, Agility and Strength among women players of Kabaddi and Kho-kho. To achieve the purpose of the present study 30 women players of Kabaddi and 30 women players of Kho-Kho were selected as subjects from the Colleges Affiliated to Kerala University and their age ranged from 18 to 25 years. The subjects were divided into two groups namely Group-I Kabaddi women players and Group-II Kho-Kho women players. The

following variables were selected namely Cardiovascular Endurance, Agility and Leg Strength. These were the variables of this study. The data were collected on selected criterion variables and they were statistically analyzed by using 't' ratio. All subjects were participated in 12 minutes Cooper run and walk test to measure the Cardiovascular Endurance, Agility was measured by Shuttle Run, and Leg Strength was measured by 1 Rm Leg Press.

**TABLE-1**

### Computation of 't' Ratio of Cardiovascular Endurance between Women Players of Kabaddi and Kho-Kho

	N	Mean	S. D.	S. E.	't' Ratio	Table Value
<b>Kabaddi</b>	30	2744	290.23	52.98	1.67	2.047
<b>Kho-Kho</b>	30	2865	231.14	42.20		

\*Significance at 0.05 level (2,047)

Table-1 indicates that the mean values of Cardiovascular Endurance for Kabaddi and Kho-Kho Women Players were 2744 and 2865 respectively. The obtained t-ratio value was 1.67 on Cardiovascular Endurance. The required table value was 2.047; it was insignificant at 0.05 level of confidence for the degrees of freedom 2 and 58. The result clearly shows that there was no significant difference between Kabaddi and Kho-Kho women players on Cardiovascular Endurance.

**TABLE-2**

### Computation of 't' Ratio of Agility between Women Players of Kabaddi and Kho-Kho

	N	Mean	S. D.	S. E.	't' Ratio	Table Value
<b>Kabaddi</b>	30	11.22	0.5059	0.092	4.37	2.047
<b>Kho-Kho</b>	30	10.78	0.2798	0.051		

\* Significance at 0.05 level.(2,047)

Table-2 shows that the mean values of Agility for Kabaddi and Kho-Kho women players were 11.22 and 10.78 respectively. The obtained t-ratio value was 4.37 on Agility. The required table value was 2.047, it was significant at 0.05 level of confidence for the degrees of freedom 2 and 58. The result of the study shows that there was significant difference between Kabaddi and Kho-Kho women players on Agility.

**TABLE-3**

### Computation of 't' Ratio of Leg Strength between Women Players of Kabaddi and Kho-Kho

	N	Mean	S. D.	S. E.	't' Ratio	Table Value
<b>Kabaddi</b>	30	129	27.88	5.09	3.11	2.047
<b>Kho-Kho</b>	30	112	15.92	2.90		

\* Significance at 0.05 level.(2,047)

Table-3 shows that the mean values of Leg Strength for Kabaddi and Kho-Kho women players were 129 and 112 respectively. The obtained t-ratio value was 3.11 on Leg Strength. The required table value was 2.047, hence it was significant at 0.05 level of confidence for the degrees of freedom 2 and 58. The result of the study shows that there was significant difference between Kabaddi and Kho-Kho women players on Leg Strength.

## Results

Table-I showed that the results of the study there was No significant difference between groups on Cardiovascular Endurance of Kabaddi and Kho-Kho women players. Further the results of the study showed that there was a significant improvement on Agility and Leg Strength of Kabaddi women players better than the Kho-Kho women players.

## Conclusion

It was concluded that there was no significant difference in Cardiovascular Endurance among Kabaddi and Kho-Kho women players. It was also concluded that there was a significant difference in Agility among Kabaddi and Kho-Kho women players. Further it was also concluded that there was a significant difference in Leg Strength among Kabaddi and Kho-Kho women players.

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