

# Importance of Physiology and Physical Performance Among Kho-Kho Players

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**Abstract:-** The major objectives of the study has been made to examine the role of physical factors like strength, speed, endurance, agility and flexibility on the performance of the Kho-kho players. It offers great movements in the body which are specifically measured on motor test like speed, endurance, strength, agility and flexibility by following available standard norms in the field of sports. A large sample was selected randomly on the whole physical factors and physiological factors. They were administered with tests of resting heart rate, peak heart rate, aerobic capacity, RBC and Hemoglobin. After scoring the required sample (100) as per sample design was selected thus an equal number of players were selected on the factor on whom the motor tests were conducted as per norms. The scores were subjected to statistical analysis.

## I. INTRODUCTION

Kho-kho is one of the most popular traditional sports in India each sportive game has its own targeted body parts, where the kho-kho game plays a significant role in physiology of muscular movement in the body as it exerts acute pressure on muscular part of the body.

Kho-kho player possess coordinative ability like orientation ability, differentiation ability reaction ability, rhythmic ability. This coordination abilities primarily depends upon the motor control and regulation process of controlling nerves system kho-kho involves use of all such coordination

abilities which helps in metabolic processes to perform physiology.

## II. MUSCULAR SYSTEM

Muscular system and list of muscles of the human body.

The muscular system consists of all the muscles present in a single body. There are approximately 650 skeletal muscles in the human body, but an exact number is difficult to define. The difficulty lies partly in the fact that different sources group the muscles differently and partly in that some muscles, such as palmaris longus are not always present.

## III. METHODOLOGY

An attempt is made to find out the difference in performance between the sample sub groups. The sample sub-groups are made based on the criterion of each of the physiological factors test / scales. Accordingly during the pre-test to access the performance of chaser and defender are accessed. Among chaser Male and female in the performance of pre-test of Kho-kho game exhibited difference specifically the mean score (SD) and t-values of physical test (speed, flexibility, endurance, agility and strength) of chaser and defenders in classified groups of physiological factors are calculated for examining differences in Kho-kho performances.

**Table 1 Distribution of sample**

Kho-kho Players	Male	Female	Total
Chaser	50	50	100
Defender	50	50	100

## IV. RESULTS

Table – 2 Showing r-values between male and female in the performance of Kho-kho game with respect to physical tests

Variable	Gender (Chaser)	Strength	Speed	Endurance	Agility	Flexibility
Resting Hear rate	Male	0.266**	0.271*	0.280**	0.280**	0.279**
	Female	0.257*	0.266**	0.264*	0.265**	0.260**
Peak heart rate (bpm)	Male	0.250**	0.282**	0.296**	0.124**	0.270**
	Female	0.221*	0.262*	0.274**	0.265**	0.262**
Aerobic capacity (ml/kg/min)	Male	0.269**	0.312*	0.285**	0.264**	0.265**
	Female	0.259*	0.264*	0.268**	0.257**	0.259**
Red blood cells	Male	0.373**	0.381**	0.324**	0.270**	0.264**
	Female	0.347**	0.185**	0.313**	0.264**	0.265**
Haemoglobin	Male	0.381**	0.368**	0.383**	0.314**	0.259**
	Female	0.357**	0.330**	0.368**	0.308**	0.259**

\*\* Significant at 0.01 level

Table 2 gives r-value between male and female in the physical test performance of Kho-kho players. It shows the Kho-kho performance of players sample is co-related with gender (male / females). The r-value between male and female with respect to all physical tests are all significant, this clearly indicates that there is significant correlation between slight differences amongst male and female players in Kho-kho game. These differences are seen at all the physical tests. Thus male holds a little than female priority.

Table – 3 Showing r-values between male and female in the performance of Kho-kho game with respect to physiological factors

Variable	Gender (Defender)	Strength	Speed	Endurance	Agility	Flexibility
Resting Hear rate	Male	0.251*	0.262*	0.256*	0.277**	0.271**
	Female	0.201*	0.259*	0.251*	0.258*	0.254*
Peak heart rate (bpm)	Male	0.262**	0.270**	0.287**	0.269**	0.260**
	Female	0.257*	0.252*	0.256**	0.250*	0.251*
Aerobic capacity (ml/kg/min)	Male	0.270**	0.307**	0.276**	0.260**	0.251*
	Female	0.261**	0.285**	0.266**	0.249*	0.248*
Red blood cells	Male	0.326**	0.372**	0.314**	0.263**	0.250*
	Female	0.271**	0.348**	0.299**	0.255*	0.239*
Haemoglobin	Male	0.320**	0.356**	0.371**	0.309**	0.251*
	Female	0.310**	0.321**	0.351**	0.299**	0.248*

\*\* Significant at 0.01 level

Table -3 gives r-values between male and female in the physiological test performance of Kho-kho players. It shows the Kho-kho performance of players sample is co-related with gender (male / female). The r-values between male and female with respect to all physical tests are all significant, the clearly indicates that there is significant co-relation between slight difference amongst male and female players in Kho-kho game. These differences are seen at all the physiological tests. Thus male holds a little priority than female.

## V. CONCLUSIONS

- There is significant different in players of Kho-kho game being chaser and defender.
- The players with low strength have displayed weaker performance in the entire physical test.
- High strength and speed players showed better performance in form of their counterpart.
- There is significant effect of physiological variable on flexibility.
- Gender have slight effect on performance of players in all physical tests.
- There is significant co-relation between psychological factors and all physical tests.
- There is significant co-relation between chaser and defender and all physical test.
- A person pre-test shows border line pulse heart rate, same layer exhibit prr excellent pulse heart rate in post test.
- A person who plays kho-kho game can boost up his RBC production which in turn fluctuates the vale from lower to higher haemoglobin levels.

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