

# Review the effect of different intensity training on Aerobic and Anaerobic Efficiency

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**Abstract** - Male junior Kho-Kho players competing at the state level had their aerobic and anaerobic efficiency tested in this review. Traditional Indian sport Kho-Kho calls on speed, dexterity, and stamina. There has been very little study on the physiological demands of the game, especially for aerobic and anaerobic efficiency, despite its widespread appeal. To fill this knowledge vacuum, this study introduces the 50-Meters Drill as a means of measuring the impact of training at different intensities on players' abilities. The results are expected to add to our knowledge of how various training intensities might improve athletes' performance in this particular sport.

**Keywords:** Athletes', Drill, Kho-Kho Players, Junior, Game, Lattoo.

## INTRODUCTION

Playing games and sports in India dates back to ancient times. Some of the games and sports that have been played there include Kho-Kho, Kabaddi, Dog and the Bone, Gilli Danda, Kancha, Lattoo, Antakshari, and Chhupam Chhupai (Hide and Seek). When it comes to these indigenous games, Kho-Kho is one of the most popular games throughout the whole country, as well as in India and the Asian subcontinent. The history of the game of Kho-Kho is rather extensive. The game was first introduced in the Indian state of Maharashtra as a result of its widespread appeal among those who speak Marathi. Trying to figure out where Kho-Kho originated is a really difficult task. A great number of historians believe that everything is nothing more than a modified form of the classic "Run Chase," the most fundamental version of which involves pursuing and touching a person of interest. Rather a name given to the game of Kho-Kho in the Indian state of Maharashtra. In ancient times, it was played on raths, which are traditional chariots. [1]

Playing Kho-Kho is similar to playing any other Indian sport in that it is simple, inexpensive, and enjoyable. This game is more thrilling than others since it requires practically all aspects of physical fitness, including agility, strength, speed, endurance, and a certain amount of skill. However, it is more interesting than others because it requires dodging, feinting, and controlled bursts of speed. Your growth as a team will include the development of values such as obedience, sportsmanship, loyalty, and responsibility. [2]

Kho-Kho is mentioned as a sport that dates back to ancient times in the Mahabharata, which is one of the oldest legendary works of the classics and should never be overlooked. The present edition of the game does not comply to the same severe standards as the more recent versions, despite the fact that it takes place in 1914, during World War I. When I was there, the playground and the poles that separated the center lane were both totally level at that time. [3]

The evidence implies that this game has been played informally for a significant amount of time. The Deccan Gymkhana Club of Pune made an attempt to formalize the game in order to enhance its popularity throughout the country before it was officially recognized. During the initial establishment of the Akhil Maharashtra Shareerika Shikshan Mandal in 1935, the norms of Aryapatya Kho-Kho and Hu-Tu-Tu were made available to the public. A number of adjustments have been made in order to better accommodate the overall playing environment. An essential component of the Indian game Kho-Kho, which translates to "Game of Chase" in English, is the "Active Chase," which is considered to be one of the most significant components of animal existence.

Lokmanya Tilak, a notable Indian politician, is credited with establishing the first set of regulations at the Deccan Gymkhana in Pune, which was later named after him. However, the poles that would ordinarily be used to demarcate the central channel of the field were not present on the first stage, which was responsible for defining the boundaries of the playground. The other players were directed to run around the two players who were stationed at the

place, and they were to return to the center of the field since they were not as talented as the other players. The experts were enthralled by the game and came to the realization that it needed a top athlete who had rapid reflexes, excellent nerve reflexes, quick movement, and enormous endurance. In 1919, the game of Kho Kho was established on a field that was specified to be oval in shape and measured 44 yards in length and 17 yards in breadth. [4]

Throughout the annals of Kho-Kho history, there was never a predetermined course of action for the game. Within the first several decades of the 20th century, the Kho-Kho laws were first created. Gymkhana Baroda was the location where the Kho-Kho rules were first published in 1924. This transpired after the establishment of a committee in 1914 with the purpose of drafting the rules.

In spite of the fact that each side has twelve players, only nine of them are allowed to take part in a game. The women's and men's teams each take turns pursuing and sprinting for seven or nine minutes throughout each of the two innings that they compete in. There will be a period of seven minutes for both the Sub Junior Boys' and Girls' competitions. Every single match is comprised of two innings in duration. For men, women, and junior boys and girls, there will be a break of six minutes after each innings. On the other hand, for sub-junior boys and girls, the pauses will be five minutes and three minutes, respectively. With the exception of the lobby, the dimensions of the field are as follows: 27 meters by 16 meters for men and women, 24 meters by 14 meters for junior boys and girls, and 27 meters by 14 meters for sub junior boys and girls. [5]

On one side of the track, eight chasers are seated in their respective rectangles or squares, facing in opposing directions. On the other side of the track, one active chaser is standing near the posts, either within the free zone or beyond the pole line, ready to begin the pursuit. It is necessary for members of the team that is following their opponent to make contact with them just with their palms or fingers, without using any other part of their body, and without fouling in order to successfully eliminate their opponent. Within the seven and nine minute time restriction, it is the responsibility of the defenders in Kho-Kho to provide all of the action that might possibly occur. On the other hand, there are those individuals who pursue them in an effort to undermine their credibility. The three ways a defender may be taken from the game are as follows: first, if an active chaser touches them with their hands without fouling them; second, if they autonomously advance outside the borders; and third, if they fail to join the field within two successful "khos". [6]

Defensive players are permitted to enter the field in groups of three. The following batch must approach the borders before the active chaser who has been successful may deliver two "khos." This occurs when the third and last defender of the current batch has been eliminated. There is no restriction on the

defenders' ability to move freely along either side of the middle route. However, the active pursuer is unable to change the path that they are presently moving in at this time.

I am devoted. They are not permitted to operate in the central lane. It is only possible for an active chaser to trade places with a sitting chaser if the active chaser calls out "kho" while simultaneously reaching behind the sitting chaser with their hand or finger. As the pursuit continues, a group of people who are pursuing the target will build up an assault or chase.

Andhra Pradesh, Telangana, Kerala, Gujrat, Karnataka, Madhya Pradesh, and Maharashtra were the states in India that had the biggest concentrations of players of Kho Kho. These states were among the many states in India where the game was popular. As a result of the absence of a centralised organisational entity at the national level, the majority of the responsibility for the promotion of the game in India was delegated to the various states. In 1954, the Kho-Kho Federation of India was established at the Barabatti Stadium in Odisha. This was made possible by the tireless efforts of the late Mumbaikar Kashinath Alias Bhai Nerurkar, who was committed to the cause. Bhai Nerurkar was the first person to hold the position of General Secretary of the Kho-Kho Federation. Soon after that, the Federation provided assistance to the game in order to make a quantum leap, and the boundaries of Kho-Kho, which had previously been constrained, vanished. [7]

The very first competition between universities took place in 1955, and it was this event that marked the beginning of Kho-Kho competitions at the university level. During the year 1960, the inaugural National Championship was held at Vijaywada, which is located in the state of Andhra Pradesh in India. You were able to see the result. Kho-Kho is a game that is favored and sanctioned by the federal government, the states, the union territories, the school games federation, and the university awards commission. This is due to the inherent excitement, physical qualities, and skill levels that are associated with the game.

The Kho-Kho Federation of Asia was established in 1987, at the Third South Asian Games, which took place in Kolkata, India. Among the countries that were members of the Asian Kho-Kho Federation were India, Bangladesh, Pakistan, Sri Lanka, Nepal, and the Maldives. Some of the countries that took part in the Asian Championships that were held in Kolkata and Dhaka, Bangladesh, respectively, in 1996 and 1997 were Bangladesh, Bangladesh, India, Sri Lanka, Pakistan, Nepal, Japan, and Thailand. [8]

We are grateful to the Central Government of India for providing the National Institute of Sports, Patiala (NIS), Punjab with the opportunity to provide Kho-Kho as a regular course. In spite of this, the course content that was taught at NIS Patiala, India was derived from an earlier program that had been

developed by the Maharashtra State Kho-Kho Association.

In the same way that other traditional games are distinguished by their history and characteristics, the Kho-Kho game stands out as a game that is both intriguing and meaningful.

Activities that take place all around the country of India. There is also the fact that playing Kho-Kho requires a high degree of physical fitness, which has been identified and appreciated. The game requires a high level of physical fitness in practically every area, including speed, strength, agility, and reaction time. A precise set of physical characteristics is necessary in order to achieve expertise as a Kho-Kho player. [9]

When it comes to preparing for sports, intensity is an important factor to consider. As the amount of work they have to do grows in comparison to the amount of time they have available, athletes train with a higher intensity. The sole factor that determines the intensity of the activity is the activation of the neuromuscular system. The technique of intensity assessment is determined on the activity and sport being evaluated. There are a variety of approaches that may be used to evaluate the level of effort that a sportsperson puts out. The maximum heart rate of the athlete is one example. Another example is the percentage of the athlete's greatest performance that is dependent on the major energy system that is engaged during the workout. Many more examples are also possible. Once it was accomplished, peak performance would be the maximum level of effort that was put out. The intensity may be described by six different zones: super-maximum (more than 100), maximal (90 to 100), heavy (80 to 90), medium (70 to 80), low (50 to 70), and extremely low (less than 50). (2009) From Haff and Bompa [Available Without Charge]. [10]

One kind of physical activity is known as interval training, and it involves doing a sequence of exercises ranging from moderate to high intensity, with brief rests in between each set of activities. MacInnis and Gibala (2017) and ("Interval training," 2019) [Open Access] state that the typical structure for interval training is to switch between low-intensity sessions and high-intensity exercises. This is the conventional pattern for interval training.

When compared to other games or sports, Kho-Kho stands apart due to the core traits that it possesses. An excellent Kho-Kho player must simultaneously possess a high degree of aerobic and anaerobic efficiency in order to achieve their full potential. It is possible for a player to successfully execute all of their talents and win more points as the match advances if they have strong aerobic and anaerobic efficiency. This finally leads to the player to victory and being awarded the title of champion. [11]

The maximum amount of oxygen that can be taken in by an athlete is referred to as their VO<sub>2</sub> Max, and it is measured in milliliters per kilogram of body weight.

During the majority of endurance competitions, an athlete's anaerobic threshold is directly related to the amount of time they can run without becoming exhausted. According to the results of graded exercise testing, your VO<sub>2</sub> Max may increase by as much as twenty percent when you exercise. Due to the fact that oxygen consumption cannot be monitored during exercise, this topic is considered to be strictly academic. Aerobic capacity is increased by training, which also has an effect on other parameters, such as the size and strength of the heart, the concentration of oxygen carriers in the blood (Haemoglobin), the density of capillaries and mitochondria in the muscles, and the activity of aerobic enzymes. [12]

The anaerobic capacity, on the other hand, refers to the greatest amount of adenosine triphosphate that the whole body is capable of re-synthesizing via anaerobic metabolism during a certain kind of short-duration peak activity. As is the case with any other sport, the ability to flourish in Kho-Kho is contingent upon a variety of personal traits as well as physical capabilities. A preliminary study review served as the basis for the researcher's development of a study on the many aspects that influence Kho-Kho practitioners. It is necessary to have peak levels of aerobic and anaerobic fitness in order to play Kho-Kho, which is a game in and of itself. [13]

In light of the aforementioned backdrop, the researcher decided to explore the influence that different intensities of interval training have on aerobic and anaerobic efficiency, which are two physiological characteristics that are significant to male kho-kho players competing at the junior state level. The researcher is interested in carrying out an investigation on the effects of different intensities of interval training on the aerobic and anaerobic capacity of male kho-kho players who are participating at the junior state level. [14]

After doing an in-depth analysis and review of the relevant literature, the researcher came to the conclusion that there is a dearth of research on the Kho-Kho game in terms of the efficiency of both aerobic and anaerobic exercise. [15]

Researchers in this study also developed a drill the 50-Meters Drill to test the impact of varying intensity interval training on the anaerobic and aerobic capacities of male Kho-Kho players competing at the junior state level. Instead of using 20, 25, 30, 35, and 40-meter drills, the researcher alone used the 50-meter drill to demonstrate the various intensity interval training. [16]

The reason for picking a 50-meter exercise was because the Kho-Kho ground is 27 meters for men and women and junior boys and girls. This was originally 27 meters in length, but the researcher doubled it to 54 meters by multiplying it by 2. They then settled on 50 meters as the usual length, rebranding it as the 50 Meters Drill. [17]

## CONCLUSION

Male junior Kho-Kho players competing at the state level had their aerobic and anaerobic efficiency tested in this research. Traditional Indian sport Kho-Kho calls on speed, dexterity, and stamina. There has been very little study on the physiological demands of the game, especially for aerobic and anaerobic efficiency, despite its widespread appeal. To fill this knowledge vacuum, this study introduces the 50-Meters Drill as a means of measuring the impact of training at different intensities on players' abilities. The results are expected to add to our knowledge of how various training intensities might improve athletes' performance in this particular sport.

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