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Effect of ladder training on speed and agility of Kho-Kho players

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Abstract
Objective: The long-term objective of this study was to review how Kho-Kho players' speed and agility responded to ladder training.
Participation: Thirty male kho-kho players were randomly selected from SMS College of Arts and science, Sivakasi and their age ranged between 18 to 21 years old.
Method and Measures: The subjects were randomly assigned to two equal groups (n=15) namely experimental group and control group. Experimental group underwent ladder training for a period of eight weeks and control group did not participate in any kind of protocol-related exercises under supervision or specific training programme. The speed and agility were selected as dependent variables. Pre and post-assessment random group design was used for this study.
Statistical technique: The dependent 't' test was applied to determine the difference between the means of two groups. To find out whether there was any significant difference between the experimental and control groups. To test the level of significant of difference between the means 0.05 level of confidence was fixed.
Results: The result of the study shows that, there was a significant improvement takes place on speed and agility of kho-kho players due to the effect of eight weeks ladder training and also concluded that, there was a significant difference exists between experimental and control group.
Conclusion: Ladder training can also be used to help improve sports skill performance, as it can help to develop speed and agility on male kho-kho players.

Keywords: Kho-kho players, Ladder training, speed and agility

Introduction
Kho Kho, a traditional Indian sport with a history dating back over a century, is a captivating and high-energy game that combines agility, strategy, and teamwork. The name "Kho Kho" is derived from the Marathi word "kho kho," which means "to chase." Played predominantly in India, but also in some other South Asian countries, Kho Kho is a sport that brings together players from diverse backgrounds, promoting inclusivity and unity. The game is played by two teams, each consisting of twelve players, with the objective of tagging opponents in a chase-and-escape format. One team, the "chasers," aims to tag the players of the opposing team while avoiding being tagged themselves. The game demands quick thinking, agile movements, and seamless coordination among team members. Kho Kho is not only a test of physical prowess but also a mental challenge, as players strategize to outwit their opponents. Kho Kho's popularity extends to schools, colleges, and community events, where it fosters teamwork, endurance, and a sense of sportsmanship. With its rich cultural heritage and inclusive nature, Kho Kho continues to be a cherished and thrilling sport that showcases the spirit of unity and athleticism in India. Ladder training in Kho Kho enhances agility and speed by promoting rapid footwork, improving sprinting abilities, and honing acceleration and deceleration skills. These benefits enable players to swiftly change direction and move with agility, making them more effective in both offensive and defensive roles during matches, ultimately elevating their performance on the field.

Materials and Methods
Purpose of the study was to find out the effect of ladder training on male kho-kho players.

Thirty male kho-kho players were randomly selected from SMS College of Arts and science, Sivakasi and their age ranged between 18 to 21 years old and they were divided into two equal groups consists of 15 each. The selected variables namely, speed was measured by 50m dash, and agility was measured by T agility test. Group I underwent specific training programme and Group II acted as control group. The training was given to the group I for 3 days per week for the period of 8 weeks. The group II was not given any sort of training except their routine work. All the subjects involved in this study were carefully monitored throughout the training program, none of the reported with tear and muscle soreness. The data were collected from the subjects was statistically analyzed with dependent 't' test to find out significant improvement if any at 0.05 level of confidence.

Results and Discussion

Table 1: Analysis of 'T' ratio for speed, agility, explosive power and endurance

Variables	Groups	No of subject	Pre test	Post test	Std.dev	S.E.M	T- ratio
Speed	Exp	15	8.02	7.70	0.13	0.034	8.9*
	Control	15	7.92	7.89	0.050	0.014	1.68
Agility	Exp	15	10.62	10.46	0.082	0.021	7.26*
	Control	15	10.52	10.50	0.056	0.014	1.38

(Significance at 0.05 level of confidence for df of 14 is 2.14)

Table 1 shows that the pre-test mean values of experimental group and control group 8.02, 10.62 and 7.92, 10.52 respectively and the post-test mean values are 7.70, 10.46 and 7.89, 10.50 respectively. The obtained dependent t-test, t value on speed, agility, explosive power and endurance of experimental group are 8.9and 7.26 respectively. The table value required for significant difference with degrees of freedom 14 at 0.05 level of confidence is 2.14. The obtained 't' test value of experimental group was greater than the table value. The results clearly indicated that the speed and agility, of the experimental group improved due to ladder training of male kho-kho players.

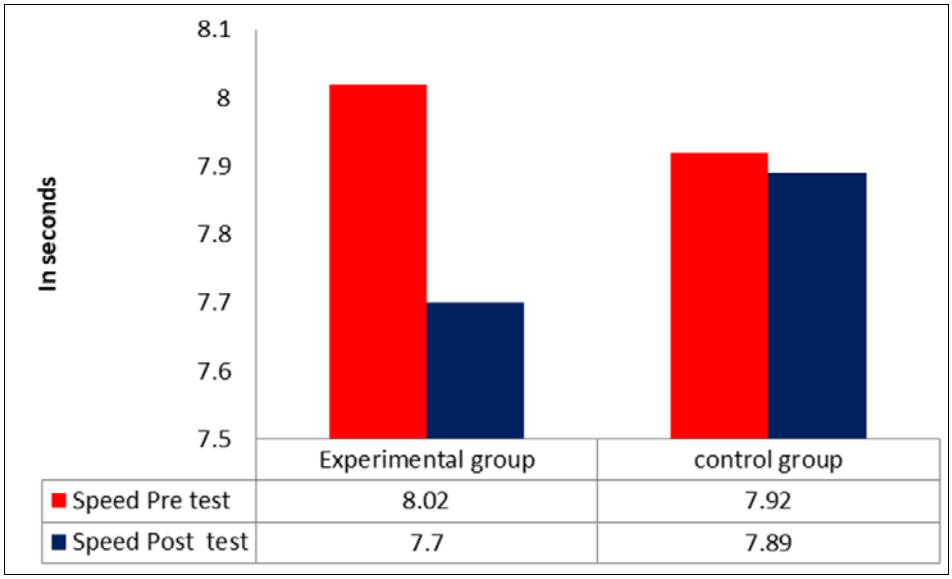

Fig 1: Bar diagram of experimental and control group on speed

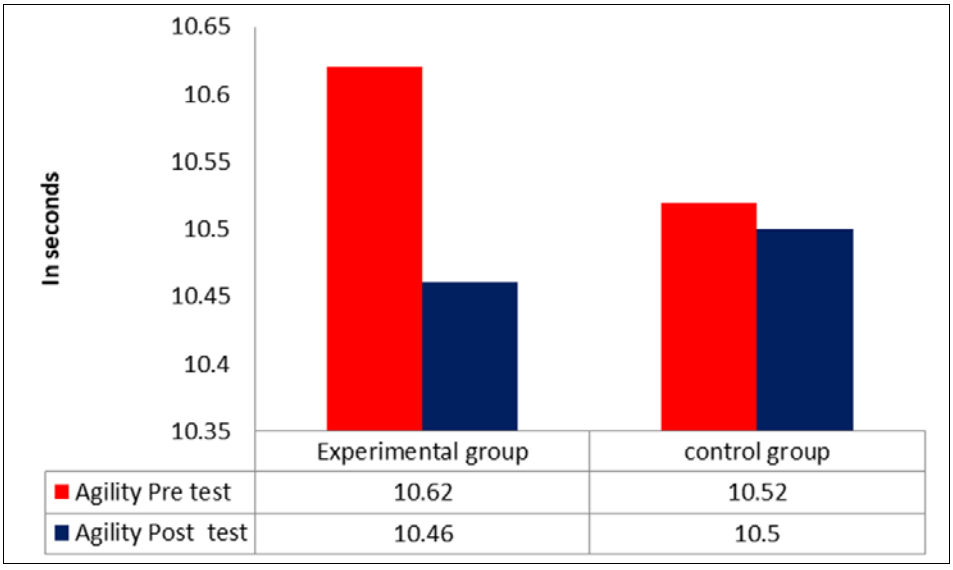

Fig 2: Bar diagram of experimental and control group on agility

The result of the study on selected variables namely speed and agility indicates experimental group (ladder training group) caused significant improvement after ladder training. Based on the mean value, the experimental group was found in better increasing on when compared to the control group.

Discussion and Findings

The present study experimented the role of 8 weeks of ladder training programme significantly improved on speed and agility on male Kho Kho players. The results of this study indicated that ladder training is more efficient to bring out desirable changes over the speed and agility of kho kho players. The results of the current study exhibited resemblances of the investigators referred in this study. However the subjects participated in the control group did not improve their speed and agility. The results of the present study indicate that the ladder training programme is appropriate protocol to improve speed and agility of kho kho players. The discrepancy between the result and the result of previous studies might be attributed to several reasons, such as the training experience level of the subjects, the training programme, in intensity used and the duration of the training programmer.

Kumaran (2021) [1] Impact of ladder and SAQ training on physical fitness parameters among Kho-Kho players living at moderate altitude in Kashmir**.** The result shows that Kho-Kho game requires fast changes in direction, vertical jumps, forward lunges around the court. Kho-Kho coaches should take place ladder and SAQ training exercises in training programme. Velkumar (2018) [2] Influences of ladder training on selected motor fitness components among university male students. The results show that 2. Velkumar, S. (2018) [2]. Influences of ladder training on selected motor fitness components among university male students.

Conclusion

It was concluded that 8 weeks ladder training significantly improved the speed, and agility on male kho-kho players. This outcome can be attributed to the ladder training focused nature, which effectively engaged and developed the relevant muscle groups. Consistent practice of these ladder training likely contributed to increased speed, and agility. The findings underscore the significance of a structured and diversified training approach in optimizing kho-kho player's performance.

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