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Effect of interval training on cardiorespiratory endurance of kho-kho players

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Abstract

This study was designed to effect of interval training on cardiorespiratory endurance of kho-kho players. To achieve the purpose of the study 30 male kho-kho payers were selected from SMS College of Arts and science, Sivakasi. Their age ranged between 18 and 21 years and they were divided into two equal groups consists of 15 each. Group I underwent the interval training 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. The data were collected from the subjects was statistically analysed with dependent 't' test to find out significant improvement if any at 0.05 level of confidence. The results speculated that the cardiorespiratory endurance of kho-kho players improved significantly due to the interval training with the limitations.

Keywords: Interval training, cardiorespiratory endurance and kho-kho players

Introduction

Kho Kho, a quintessentially Indian sport, encapsulates a cultural legacy that spans generations and has firmly rooted itself in the nation's sporting identity. With origins dating back well over a century, this captivating game offers a unique blend of agility, strategic thinking, and collaborative teamwork. Kho Kho derives its name from the Marathi word "khokho," which translates to "to chase," highlighting the fundamental essence of the game. Played predominantly in India, Kho Kho is a pursuit-and-evasion game where two teams, each composed of twelve players, engage in a battle of speed and wits. The objective is for the 'chasers' to tag players from the opposing team while the 'defenders' attempt to evade capture. It demands quick thinking, fleet-footed agility, and seamless coordination among teammates, making it both a physical and mental challenge.

Interval training offers numerous benefits to Kho Kho players, enhancing their overall performance on the field. This training method involves alternating between high-intensity bursts of activity and short recovery periods. In the context of Kho Kho, interval training has several advantages. Firstly, it significantly improves cardiovascular fitness. Kho Kho is a sport that demands quick sprints and constant changes in pace. Interval training conditions the players' hearts and lungs to efficiently supply oxygen to muscles during intense periods of play, ultimately enhancing their endurance and reducing fatigue. Secondly, interval training contributes to increased speed and agility. The short bursts of intense effort, followed by brief rest intervals, mimic the stop-and-start nature of Kho Kho, training players to accelerate quickly and change direction rapidly. Moreover, this training method helps in improving anaerobic fitness, vital for explosive movements like tagging opponents and escaping chasers in Kho Kho. Players develop the ability to generate power and maintain performance during high-intensity moments of the game.

Materials and Methods

Purpose of the study was to find out the effect of interval 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.

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The selected variables namely cardiorespiratory endurance was measured by a strand treadmill test. Group I underwent interval training 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 | Pre test | Post test | Std.dev | S.E.M | T- ratio |
|-----------------------------|--------------|----------|-----------|---------|-------|----------|
| cardiorespiratory endurance | Experimental | 45.13 | 48.10 | 0.99 | 0.25 | 11.2* |
| | Control | 41.20 | 42.21 | 0.73 | 0.19 | 2.1 |

(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 45.13 and 41.20 respectively and the post-test mean values are 48.10 and 42.21 respectively. The obtained dependent t-test, t value on cardiorespiratory endurance of experimental group is 11.2 respectively. The table value required for significant difference with degrees of freedom of 14 is 2.14.

The obtained 't' test value of experimental group was greater than the table value. The results clearly indicated that the cardiorespiratory endurance of the experimental group improved due to interval training

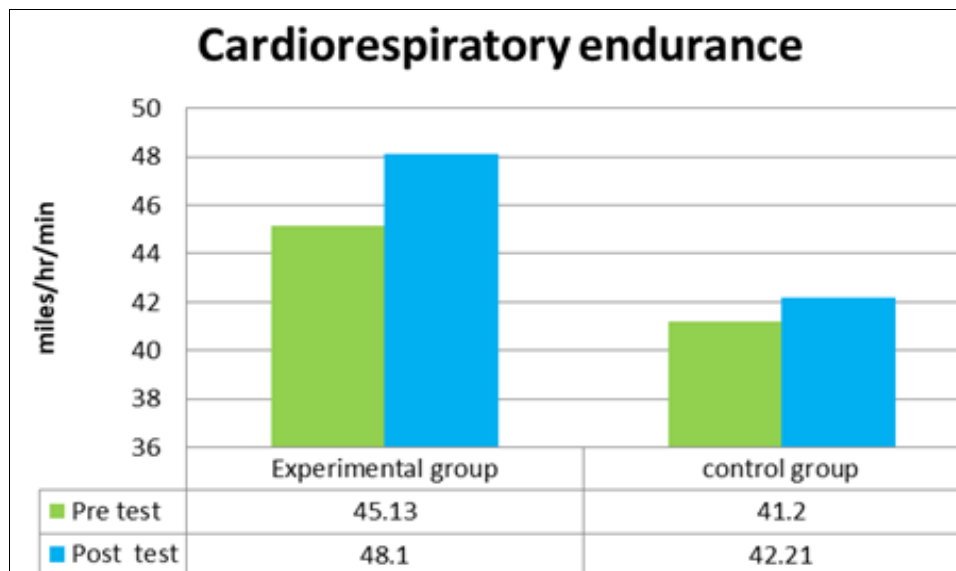


Fig 1: Bar diagram of experimental and control group on cardiorespiratory endurance

The result of the study on selected variables, namely cardiorespiratory endurance, indicates that the experimental group showed significant improvement after interval training. Based on the mean value, the experimental group showed a better increase when compared to the control group.

Discussion and Findings

The present study experimented the role of 8 weeks of interval training programme significantly improved on cardiorespiratory endurance of male kho-kho players. The results of this study indicated that interval training is more efficient to bring out desirable changes over the cardiorespiratory endurance of male 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 cardiorespiratory endurance. The results of the present study indicate that the interval training programme is appropriate protocol to improve cardiorespiratory endurance of male 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.

Zala (2019) ^[1] Effect of interval training on skill related physical variables of kho-kho players. The result show that the six weeks of interval training have significantly improved the selected skill related physical variables of kho-kho players. Das (2019) ^[2] Effect of high and moderate intensity interval training on aerobic capacity of kho-kho players. The result show that there was a significant effect of high and moderate intensity interval training on aerobic capacity of Kho-Kho players.

Conclusion

It was concluded that 8-week interval training significantly improved the cardiorespiratory endurance of male kho-kho players. This outcome can be attributed to the ladder training-focused nature, which effectively engaged and developed the relevant functional groups. Consistent practice of this interval training likely contributed to increased cardiorespiratory endurance. The findings underscore the significance of a structured and diversified training approach in optimising kho-kho players' performance.

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