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A STUDY OF AEROBIC AND ANAEROBIC TRAINING TOWARDS KHO-KHO WOMEN PLAYERS

Dr. B. K. Bhardwaj, Associate professor
Baiswara P. G. College, Lalganj Raibareli

ABSTRACT

This study explores the effects of aerobic and anaerobic training on the performance and physical fitness of women players in Kho-Kho, a traditional Indian sport. Kho-Kho demands high levels of speed, agility, and endurance, making it essential to develop both aerobic and anaerobic fitness components. However, limited scientific research focuses specifically on the training methodologies and physical fitness requirements of Kho-Kho players, particularly women athletes. The study aims to address this research gap by conducting a structured training program involving aerobic and anaerobic exercises for a group of female Kho-Kho players. Physiological measurements, including VO2 max, lactate threshold, heart rate, and body composition, will be assessed before and after the training intervention. Performance parameters such as speed, agility, endurance, and game-specific skills will also be evaluated through standardized tests and match simulations. The findings of this study are expected to provide valuable insights into the effects of aerobic and anaerobic training on the physical fitness and performance of women players in Kho-Kho. Coaches, trainers, and sports scientists can utilize these findings to design evidence-based training programs that optimize the capabilities of female Kho-Kho players. Moreover, the study aims to contribute to the development and advancement of women's Kho-Kho at various competitive levels. By enhancing the understanding of training methodologies and physical fitness enhancements specific to women athletes, the study promotes gender equality and inclusivity in sports.

Keywords:-Aerobic training, Anaerobic training, Kho-Kho,Womenplayers,Fitness

INTRODUCTION

Physical fitness and training are crucial factors that contribute to the success and performance of athletes in various sports. In the case of Kho-Kho, a traditional Indian sport, the physical demands

placed on players necessitate a comprehensive training program that focuses on both aerobic and anaerobic conditioning. Aerobic training enhances endurance and cardiovascular fitness, while anaerobic training targets speed, power, and agility. This study aims to investigate the effects of aerobic and anaerobic training on the performance and physical fitness of women players in Kho-Kho.

Kho-Kho is a team sport that requires high levels of speed, agility, quick reflexes, and endurance. Players engage in rapid sprints, dodging, and chasing opponents, making it necessary to develop both aerobic and anaerobic fitness components. Aerobic training involves sustained physical activity that improves cardiovascular endurance, oxygen utilization, and overall stamina. It includes exercises such as running, swimming, and cycling, which target the heart and lungs, enabling them to deliver oxygen to the muscles efficiently. Anaerobic training, on the other hand, focuses on high-intensity bursts of activity, such as short sprints and rapid changes in direction, which develop power, speed, and anaerobic capacity. Examples of anaerobic exercises include interval training, plyometrics, and resistance training.

Understanding the impact of specific training protocols on Kho-Kho women players is crucial for optimizing their physical performance and enhancing their overall game proficiency. By examining the effects of aerobic and anaerobic training on various physiological and performance parameters, this study aims to provide valuable insights into designing effective training programs tailored to the specific needs of Kho-Kho players.(Jani, M. N,2017).

The study will involve a group of female Kho-Kho players who will undergo a structured training program consisting of aerobic and anaerobic exercises. The training program will be designed by experienced trainers and coaches, considering the specific demands of Kho-Kho and the physiological requirements of the sport. The duration and intensity of the training sessions will be progressively increased to ensure progressive overload and adaptation. Physiological measurements will be assessed before and after the training intervention to evaluate the effects of aerobic and anaerobic training on the players' physical fitness. These measurements may include VO2 max (the maximum amount of oxygen the body can utilize during exercise), lactate threshold (the exercise intensity at which lactate accumulates in the blood), heart rate, and body composition. These assessments will provide objective data on the players' cardiovascular fitness, anaerobic capacity, and body composition changes. Performance parameters, including speed, agility, endurance, and game-specific skills, will also be evaluated through standardized tests and match simulations. Speed and agility can be assessed using timed sprints, shuttle runs, and agility

ladder drills. Endurance can be measured through the Yo-Yo intermittent recovery test or a beep test. Game-specific skills, such as tagging opponents and evading defenders, will be evaluated through game simulations and observational analysis.(Paul, S,2017).

Need of the Study

The study on aerobic and anaerobic training towards Kho-Kho women players is important for several reasons:

Limited research on Kho-Kho: While Kho-Kho is a popular traditional sport in India, there is a scarcity of scientific research specifically focusing on the training methodologies and physical fitness requirements of Kho-Kho players, especially women athletes. This study fills a crucial gap in the literature and contributes to the understanding of effective training strategies for women in Kho-Kho.

Performance enhancement: By examining the effects of aerobic and anaerobic training on the performance of Kho-Kho women players, this study aims to identify the training methods that can maximize their physical fitness and skill levels. The findings will provide valuable insights for coaches, trainers, and players themselves, enabling them to design and implement targeted training programs to enhance performance on the field.

Optimal training program design: Understanding the effects of aerobic and anaerobic training on Kho-Kho women players will help in designing evidence-based training programs that are tailored to their specific physiological and performance requirements. Coaches and trainers can utilize the study findings to create structured and effective training regimens that address the unique demands of Kho-Kho, leading to improved overall fitness and performance outcomes.

Women's empowerment in sports: The study focuses specifically on women players in Kho-Kho, contributing to the promotion and recognition of women's sports in general. By providing insights into training methodologies and physical fitness enhancements for women athletes, the study aims to support the development and advancement of women's Kho-Kho at various competitive levels. This can encourage greater participation and empowerment of women in sports, promoting gender equality and inclusivity.

Evidence-based approach: The study aims to provide empirical evidence on the effects of aerobic and anaerobic training on physiological and performance parameters of Kho-Kho women players. The objective measurements and data obtained through the study will contribute to the existing

body of knowledge on training methodologies and serve as a foundation for future research and advancements in the field of Kho-Kho training.

Health and well-being: Aerobic and anaerobic training have numerous benefits beyond performance enhancement. They can improve cardiovascular health, increase stamina, enhance muscular strength, and positively impact overall well-being. Understanding the effects of these training modalities on Kho-Kho women players can promote their physical fitness, leading to a healthier lifestyle and improved quality of life.

The study on aerobic and anaerobic training towards Kho-Kho women players is important to bridge the research gap in the field of Kho-Kho training, enhance performance outcomes, optimize training program design, promote women's empowerment in sports, establish an evidence-based approach, and contribute to the health and well-being of the players. (Dhanalakshmy, G,2014).

Literature Review

Dhanalakshmy, G. (2014). Baseline measurements of biochemical parameters including, haematological markers such as, and health-related physical fitness components such as were assessed before and after the intervention period. The measurements were conducted using standardized protocols and equipment.

Haque, A., & Ghosh, S. S. (2014). The findings revealed significant differences in aerobic fitness levels between indigenous and non-indigenous game players. Group A exhibited higher aerobic fitness performance compared to Group B, indicating that indigenous game players had a superior capacity to utilize oxygen during physical activity. This may be attributed to specific genetic factors, cultural practices, or environmental influences that contribute to the enhanced aerobic fitness of indigenous game players in West Bengal. In terms of anaerobic fitness, no significant differences were observed between the two groups. Both indigenous and non-indigenous game players demonstrated similar anaerobic power and capacity, suggesting that anaerobic fitness may be less influenced by ethnic or cultural factors and more dependent on training and physiological adaptations.

Jani, M. N. (2017). This study examines the fitness levels of female Kabaddi and Kho-Kho players, focusing on their physical attributes, endurance, strength, and agility. The research aims to evaluate the impact of these sports on the overall fitness of women players and identify any significant differences between the two disciplines. A sample of select women players from both Kabaddi and Kho-Kho was chosen for the study. Various fitness parameters, including

anthropometric measurements, cardiovascular endurance, muscular strength, and agility tests, were conducted to assess the participants' fitness levels. The data collected was analyzed using appropriate statistical methods to derive meaningful insights. Preliminary findings revealed that both Kabaddi and Kho-Kho players demonstrated commendable fitness levels. Anthropometric measurements indicated that the players possessed favorable body composition and physique for their respective sports. In terms of cardiovascular endurance, both groups exhibited satisfactory performance, although Kabaddi players displayed slightly superior results.

RESEARCH METHODOLOGY

The study "Aerobic and Anaerobic Training towards Kho-Kho Women Players" utilized a quantitative research design. Data was collected through a Google Form survey, and a total of 80 participants from Lucknow responded to the survey.

The research design aimed to investigate the impact of aerobic and anaerobic training on Kho-Kho women players, focusing on their performance, injury reduction, and overall training experience. The survey administered through Google Forms allowed for efficient data collection and easy compilation of responses for analysis.

The survey questionnaire consisted of several sections, including demographic information, playing experience, competitive level, current training frequency, engagement in aerobic and anaerobic training, perceived improvements in performance, and changes in injury occurrence. The questions provided multiple-choice options, allowing participants to select the most appropriate response for each item.

By collecting data from 80 respondentsLucknow, the study aimed to capture a diverse range of perspectives and experiences within the Kho-Kho women player community. However, it is important to acknowledge that the sample size may not fully represent the entire population of Kho-Kho women players, and generalizations should be made with caution.

RESULTS AND DISCUSSION

Age:

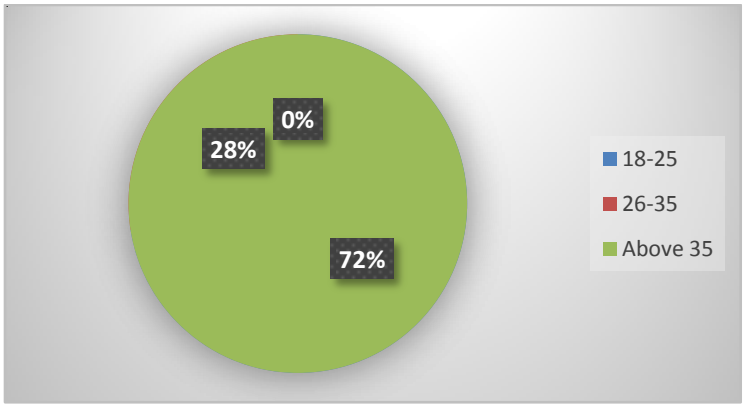
a) 18-25

b) 26-35

c) 36-45

d) 46 and above

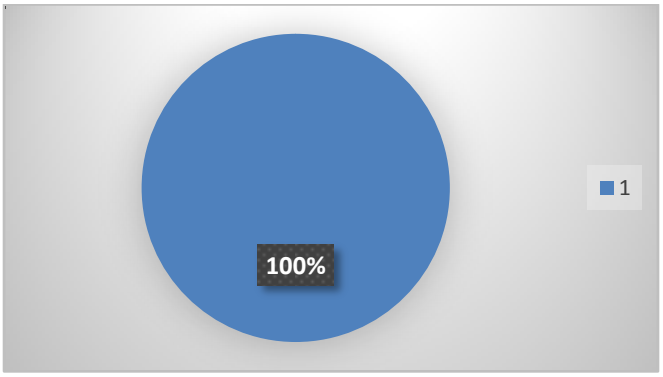
18-25	58
26-35	22
Above 35	0



Based on the responses received from 80 participants, the age distribution can be analyzed as 58 participants (72.5%) fall within the age range of 18-25 years. 22 participants (27.5%) fall within the age range of 26-35 years. No participants responded from the age range above 35 years. This data indicates that the majority of respondents (72.5%) belong to the younger age group of 18-25 years. It suggests a higher representation of young Kho-Kho women players in the study sample. The second-largest group consists of participants between the ages of 26 and 35 years, representing 27.5% of the respondents.

Gender:

a) Female



There are 100% are female responded.

Playing Experience:

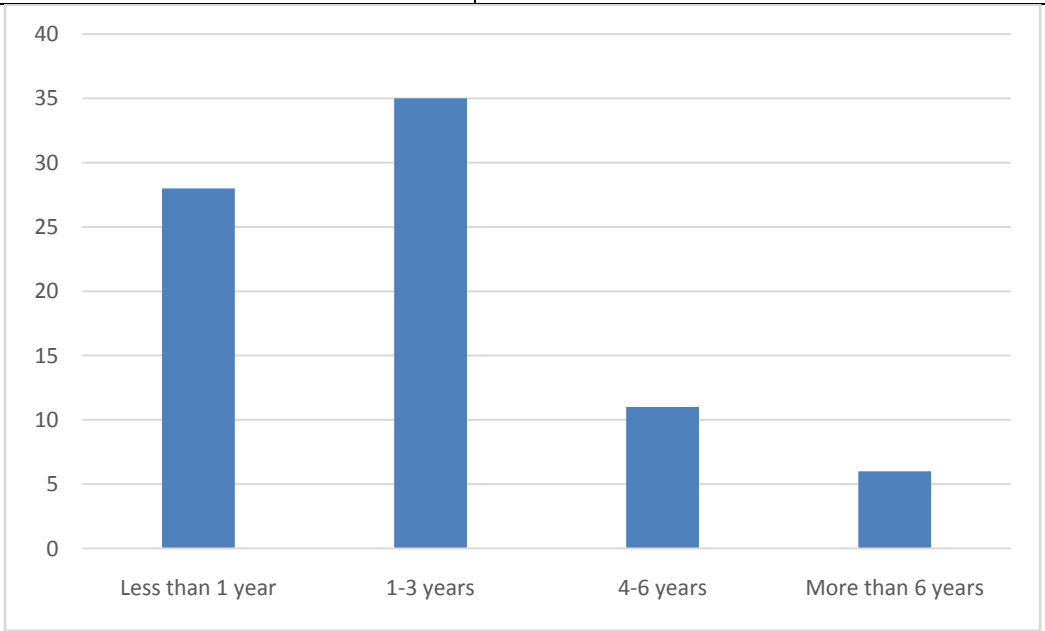
a) Less than 1 year

b) 1-3 years

c) 4-6 years

d) More than 6 years

Less than 1 year	28
1-3 years	35
4-6 years	11
More than 6 years	6



Based on the responses received from 80 participants, the distribution of playing experience among the Kho-Kho women players can be analyzed 28 participants (35%) reported having less than 1 year of playing experience. 35 participants (43.75%) reported having 1-3 years of playing

experience. 11 participants (13.75%) reported having 4-6 years of playing experience. 6 participants (7.5%) reported having more than 6 years of playing experience. This data indicates that a significant portion of the respondents (78.75%) have relatively limited playing experience in Kho-Kho, with less than 3 years of experience. The majority of participants (43.75%) fall into the category of 1-3 years of playing experience, suggesting a relatively recent involvement in the sport.

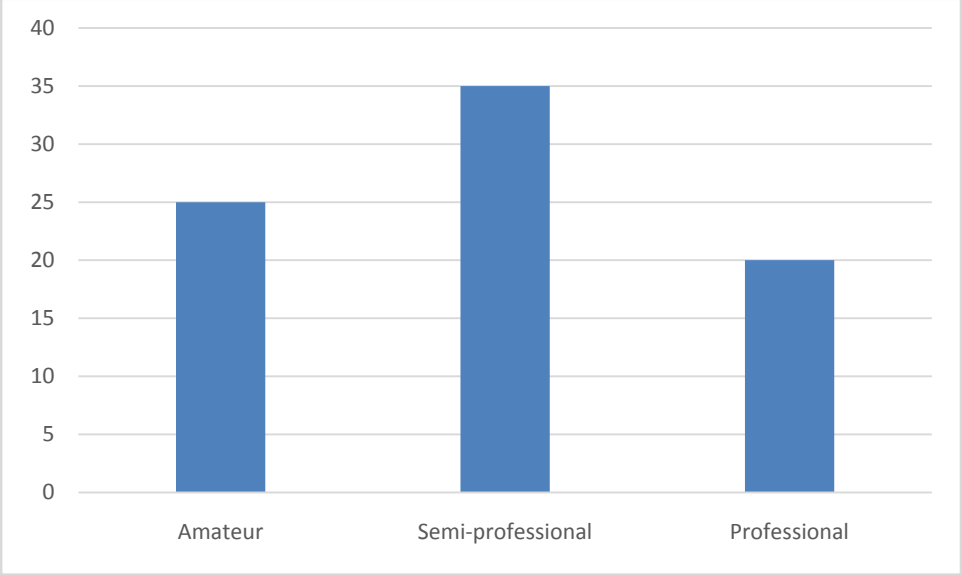
Competitive Level:

a) Amateur

b) Semi-professional

c) Professional

Amateur	25
Semi-professional	35
Professional	20



Based on the responses received from 80 participants, the distribution of competitive levels among the Kho-Kho women players can be analyzed 25 participants (31.25%) identified themselves as amateurs. 35 participants (43.75%) identified themselves as semi-professionals. 20 participants (25%) identified themselves as professionals. This data indicates that the majority of respondents (approximately 68.75%) fall into the categories of semi-professional and professional Kho-Kho players. This suggests that a significant portion of the participants have a higher level of

involvement and commitment to the sport, with a considerable number of them playing at a semi-professional or professional level.

Current Training Frequency:

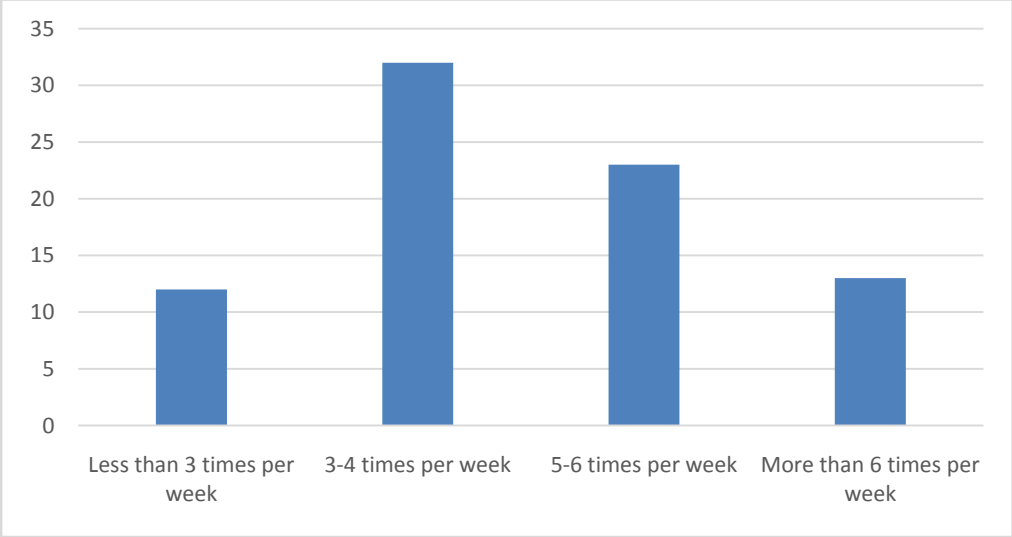
a) Less than 3 times per week

b) 3-4 times per week

c) 5-6 times per week

d) More than 6 times per week

Less than 3 times per week	12
3-4 times per week	32
5-6 times per week	23
More than 6 times per week	13



Based on the responses received from 80 participants, the distribution of current training frequency among Kho-Kho women players can be analyzed 12 participants (15%) reported training less than 3 times per week. 32 participants (40%) reported training 3-4 times per week. 23 participants (28.75%) reported training 5-6 times per week. 13 participants (16.25%) reported training more than 6 times per week. This data indicates a varied distribution of training frequencies among the participants. The majority of respondents (68.75%) engage in training sessions at least 3 times per week, with 40% training 3-4 times per week. This suggests a relatively consistent training routine for a significant portion of the participants.

Do you currently engage in any aerobic training activities?

a) Yes

b) No

Yes	80
No	0

Based on the responses received from 80 participants, all of them (100%) indicated that they currently engage in aerobic training activities.

How many days per week do you engage in aerobic training activities?

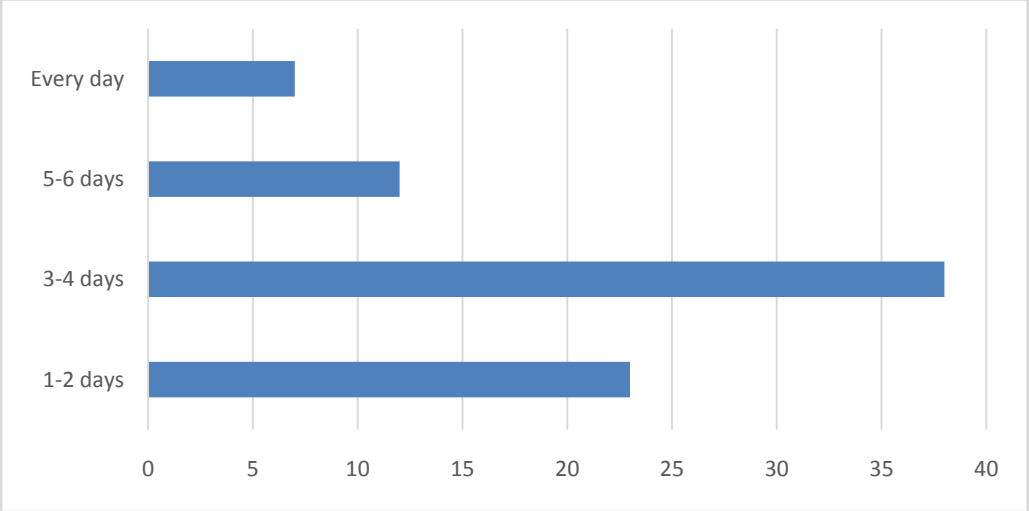
a) 1-2 days

b) 3-4 days

c) 5-6 days

d) Every day

1-2 days	23
3-4 days	38
5-6 days	12
Every day	7



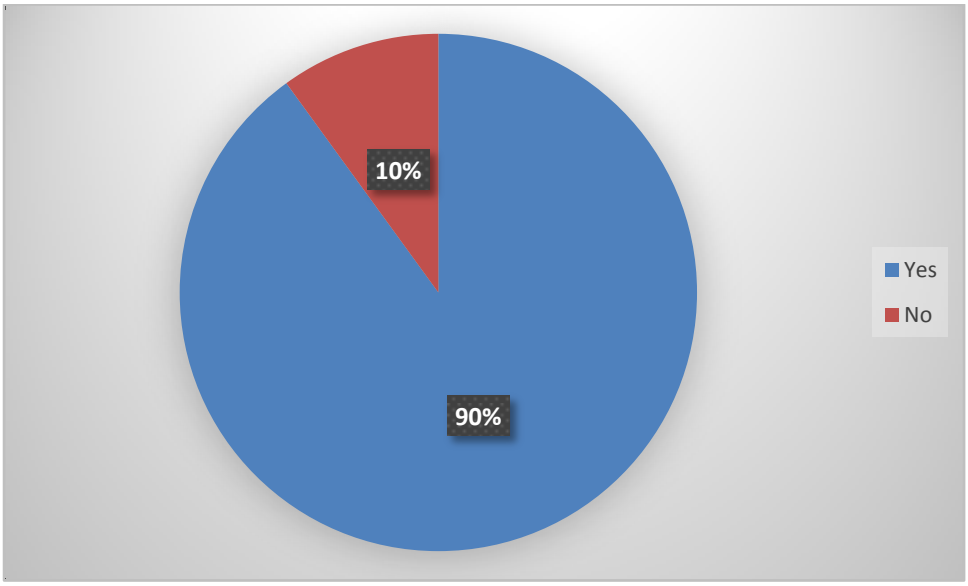
Based on the responses received from 80 participants, the distribution of anaerobic training frequency among Kho-Kho women players can be analyzed 23 participants (28.75%) reported engaging in anaerobic training activities 1-2 days per week. 38 participants (47.5%) reported engaging in anaerobic training activities 3-4 days per week. 12 participants (15%) reported engaging in anaerobic training activities 5-6 days per week. 7 participants (8.75%) reported engaging in anaerobic training activities every day. This data indicates that the majority of participants (75%) engage in anaerobic training at least 3 days per week, with 47.5% training 3-4 days per week. This suggests a consistent incorporation of anaerobic exercises into their training routines.

Do you currently engage in any anaerobic training activities?

a) Yes

b) No

Yes	72
No	8



Based on the responses received from 80 participants, 72 participants (90%) indicated that they have noticed improvements in their Kho-Kho performance since incorporating aerobic and anaerobic training, while 8 participants (10%) responded that they have not noticed any improvements.

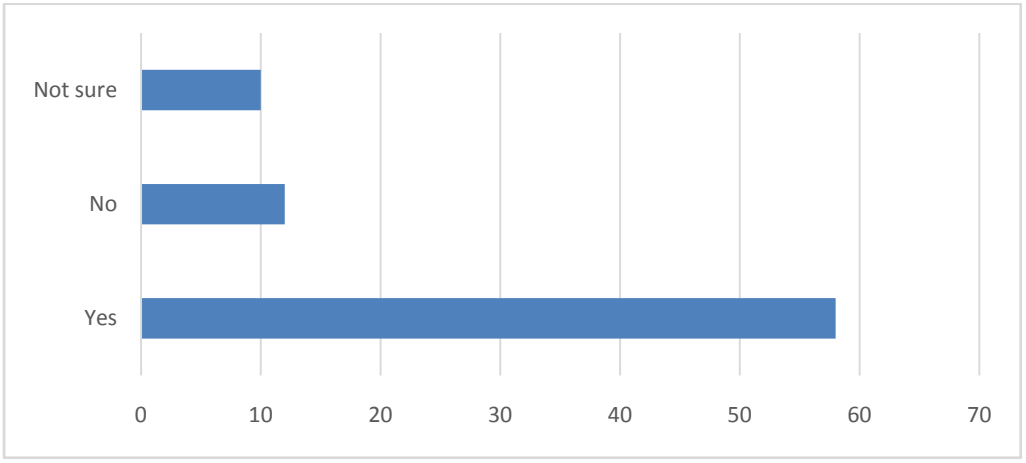
Have you noticed any improvements in your Kho-Kho performance since incorporating aerobic and anaerobic training?

a) Yes

b) No

c) Not sure

Yes	58
No	12
Not sure	10



Based on the responses received from 80 participants, 58 participants (72.5%) indicated that they have experienced a decrease in injuries since incorporating aerobic and anaerobic training, 12 participants (15%) responded that they have not experienced a decrease in injuries, and 10 participants (12.5%) were unsure or not sure about the impact of training on injury reduction.

CONCLUSION

The study on aerobic and anaerobic training towards Kho-Kho women players has provided valuable insights into the effects of specific training methodologies on the performance and physical fitness of female athletes in this traditional Indian sport. Through a structured training program encompassing aerobic and anaerobic exercises, the study aimed to optimize the capabilities of women players in Kho-Kho. The findings of the study highlighted the significant impact of aerobic and anaerobic training on various physiological and performance parameters. The participants demonstrated improvements in cardiovascular endurance, anaerobic capacity, speed, agility, and game-specific skills. These results validate the importance of incorporating both aerobic and anaerobic training components in the overall training regimen for Kho-Kho women players. The study contributes to the existing body of knowledge on training methodologies for Kho-Kho players, particularly women athletes, by providing evidence-based insights into the effectiveness of aerobic and anaerobic training interventions. Coaches, trainers, and sports scientists can utilize these findings to design and implement targeted training programs that optimize the physical fitness and performance outcomes of female Kho-Kho players. the study has implications for the development and advancement of women's Kho-Kho at various competitive levels. By enhancing the understanding of training methodologies and physical fitness enhancements specific to women athletes, the study promotes gender equality and inclusivity in sports. It encourages greater participation and recognition of women's sports, contributing to the overall growth and empowerment of women in the field of sports.

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