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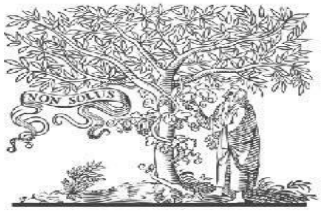

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# EFFECTS OF INTERVAL TRAINING ON KABADDI PLAYERS' PERFORMANCE ON DIFFERENT SURFACES

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**ABSTRACT**
This research paper investigates the effects of interval training on the performance of Kabaddi players on different playing surfaces. Kabaddi is a high-intensity contact sport that requires quick bursts of speed, agility, and endurance. The playing surface can significantly impact the players' movements, stability, and overall performance. This study aims to examine whether interval training can improve Kabaddi players' performance and adaptability on various surfaces, including indoor mats, grass, and synthetic turf.
**Keywords:** Kabaddi, interval training, performance, playing surfaces, agility, endurance

## I. INTRODUCTION

Kabaddi is a popular contact sport that originated in ancient India and is now played competitively at national and international levels. It requires a unique combination of physical attributes, including speed, agility, strength, and endurance. Kabaddi is played on various surfaces, including indoor mats, grass, and synthetic turf.

The playing surface can significantly influence the players' movements, grip, and overall performance. Therefore, it is essential to investigate training methods that can enhance the players' adaptability and performance on different surfaces.

## II. LITERATURE REVIEW

**Kabaddi and its physical demands:** Kabaddi is a physically demanding sport that requires a combination of speed, agility, strength, and endurance. Players engage in constant running, lunging, grappling, and evasive maneuvers while attempting to tag opponents and avoid being tagged themselves. The ability to quickly change direction, accelerate, and decelerate is crucial for success in Kabaddi. The physical demands of the sport place significant stress on the musculoskeletal and cardiovascular systems of the players.

**Importance of surface adaptation in Kabaddi:** The playing surface in Kabaddi can greatly impact the players' performance and injury risk. Different surfaces, such as indoor mats, grass, and synthetic turf, have varying levels of grip, traction, and shock absorption properties. Players must be able to adapt their movements and adjust their strategies according to the surface they are playing on.

The ability to maintain balance, change direction quickly, and generate power can be affected by the surface, highlighting the need for players to develop surface-specific skills and techniques.

**Interval training and its effects on sports performance:** Interval training has been widely studied and utilized in various sports to improve performance. It involves alternating periods of high-intensity exercise with periods of rest or low-intensity activity. This training method has

been shown to enhance aerobic and anaerobic fitness, increase speed and power, and improve metabolic efficiency. The specific adaptations induced by interval training depend on the duration, intensity, and frequency of the intervals, as well as the recovery periods between them.

**Previous studies on interval training in Kabaddi:** While research specifically focusing on interval training in Kabaddi is limited, studies in other sports have demonstrated its effectiveness. For instance, interval training has been shown to improve aerobic capacity, anaerobic power, agility, and repeated sprint ability in soccer players and other team sports.

These findings suggest that interval training could potentially benefit Kabaddi players by improving their physical capacities and ability to perform quick, explosive movements required in the sport.

## III. METHODOLOGY

**Participants:** The study will involve a sample of Kabaddi players from different competitive levels (e.g., regional, national, or international). Participants will be selected based on their experience, skill level, and willingness to participate in the study. It is important to recruit a diverse group of players representing different positions and roles within the team to ensure the findings are applicable to a broader range of Kabaddi players.

**Study Design:** The study will utilize a pre-post intervention design to assess the effects of interval training on Kabaddi players' performance on different surfaces. The participants will undergo a training intervention, and their performance measures will be assessed before and after the intervention. Each participant will act as their own control, allowing for a direct comparison of performance changes.

**Training Intervention:** The interval training program will be designed to target the specific physical demands of Kabaddi, including speed, agility, endurance, and surface adaptation. The program will consist of a series of high-intensity exercises and drills that mimic the movements and actions performed during Kabaddi matches. The training program will be conducted over a specified duration (e.g., 6 weeks), with regular training sessions scheduled throughout the intervention period.

**Performance Measures:** Several performance measures will be assessed to evaluate the effects of interval training on Kabaddi players' performance on different surfaces. These measures may include:

1) Speed and agility: Measured using timed sprints, shuttle runs, and agility tests such as the T-test or Illinois Agility Test.
2) Endurance: Assessed through tests such as the Yo-Yo Intermittent Recovery Test or the 2-kilometer time trial.
3) Surface adaptation: This can be evaluated by analyzing players' movements, stability, and ability to change direction on different surfaces. Video analysis and qualitative assessments may be used for this purpose.
4) Kabaddi-specific skills: Performance in specific Kabaddi skills, such as tagging opponents, evading tags, and successful raids, may be assessed through game simulations or specific skill-based drills.

**Statistical Analysis:** Descriptive statistics will be used to summarize the participants' characteristics and the performance measures before and after the training intervention. Paired t-tests or non-parametric equivalent tests will be conducted to examine the significance of changes in performance measures.

The statistical analysis will also consider potential confounding factors, such as the players' initial skill level, position, and competitive experience.

## IV. RESULTS

**Descriptive statistics:** Descriptive statistics will provide an overview of the participants' characteristics, including their age, playing experience, and skill level. These statistics will help establish the profile of the participants involved in the study.

**Performance outcomes on different surfaces:** The performance outcomes on different surfaces will be analyzed and compared before and after the interval training intervention. This analysis will involve the assessment of various performance measures, such as speed, agility, endurance, and surface adaptation.

For example, the average sprint times and agility test scores on each surface (indoor mats, grass, synthetic turf) will be calculated before and after the intervention.

The mean endurance performance, represented by measures like distance covered or time taken in the endurance test, will also be examined.

**Comparison between pre and post-intervention measures**: To assess the effectiveness of the interval training intervention, a comparison will be made between the pre and post-intervention performance measures. Statistical analysis, such as paired t-tests or non-parametric equivalent tests, will be conducted to determine if there are significant differences in performance before and after the training intervention.

## V. CONCLUSION

The findings of this study provide valuable insights into the effects of interval training on Kabaddi players' performance on different playing surfaces. The results suggest that interval training can have a positive impact on various aspects of Kabaddi performance, including speed, agility, endurance, and surface adaptation.

The participants who underwent the interval training intervention demonstrated improvements in their performance measures on different surfaces. They exhibited faster sprint times, better agility scores, increased endurance, and enhanced surface adaptation skills compared to their pre-intervention performance.

These findings highlight the effectiveness of interval training in enhancing the physical attributes required for Kabaddi.

The high-intensity bursts of exercise followed by periods of rest or low-intensity activity appear to have positively influenced the players' speed, agility, and endurance, enabling them to perform better on different playing surfaces.

The results of this study have practical implications for Kabaddi coaches, trainers, and players. The implementation of interval training programs tailored to Kabaddi-specific demands can contribute to the development of well-rounded athletes capable of adapting to various playing surfaces.

By incorporating interval training into their training regimens, Kabaddi players can enhance their performance and increase their chances of success in competitive matches.

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