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A Comparative Study of Agility and Speed among Kabaddi Players across Different Age Groups

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Abstract

Kabaddi is a high-intensity indigenous sport that requires a unique combination of physical, physiological, and motor fitness components. Among these, agility and speed play a decisive role in determining successful performance during raiding and defending situations. The present study aims to compare agility and speed among Kabaddi players belonging to different age groups. A total of selected male Kabaddi players were divided into three age groups: Under-16, Under-19, and Senior. Standardized tests such as the Shuttle Run Test for agility and the 50-meter sprint test for speed were administered. The collected data were statistically analyzed using descriptive statistics and one-way analysis of variance (ANOVA). The findings revealed significant differences in agility and speed among different age groups, indicating age-related development in physical performance variables. The results of the study may be helpful for coaches, trainers, and physical education professionals in designing age-specific training programs for Kabaddi players.

Keywords: Kabaddi, Agility, Speed, Age Groups, Physical Fitness

Introduction

Kabaddi is a popular combative team sport in India and many other Asian countries. It demands high levels of physical fitness, including strength, endurance, flexibility, agility, speed, balance, and coordination. The dynamic nature of Kabaddi, characterized by rapid directional changes, explosive movements, and short-duration high-intensity efforts, makes agility and speed crucial performance determinants.

Agility refers to the ability to rapidly change direction while maintaining balance and control, whereas speed is the capacity to move swiftly from one point to another. In Kabaddi, raiders require speed to escape defenders, while defenders rely on agility to execute successful tackles. Age plays a vital role in the development of these physical attributes, as physiological maturation and training exposure vary across age groups.

Although several studies have examined physical fitness components in athletes, limited research has focused on age-wise comparison of agility and speed specifically among Kabaddi players. Therefore, the present study attempts to fill this gap by comparing agility and speed among Kabaddi players across different age groups.

Literature Review

Thomas and John (1999) conducted an empirical study to examine the agility and speed performance of Kabaddi players. The study aimed to identify the differences in physical performance variables among players and to understand how these attributes contribute to successful gameplay. Using standardized agility and speed tests, the authors measured the performance of players across different skill levels. The findings revealed that higher-skilled players demonstrated significantly better agility and speed compared to their lower-skilled counterparts, emphasizing the importance of these physical components in Kabaddi performance. The study highlighted the need for targeted training programs focusing on agility and speed development to enhance competitive performance in the sport. This research provides a foundational basis for subsequent studies examining age-wise and skill-wise differences in Kabaddi players' motor abilities.

Kumar and Tiwari (2005) conducted a study to investigate the development of speed among Kabaddi players across different age groups. The researchers measured speed using standardized sprint tests and analyzed differences among younger, adolescent, and adult players. The findings indicated that speed performance improved significantly with age, highlighting the role of physical maturation and training experience in enhancing this key performance attribute. The study emphasized that systematic speed training, tailored to the specific age and developmental stage of Kabaddi players, is essential for optimizing performance during competitive play. This research contributes to understanding how age-

related factors influence speed development in the sport.

Jain and Mehta (2008) investigated the effect of age on agility performance in Kabaddi players. The study measured agility using standardized agility tests across different age groups, ranging from adolescents to adults. The results demonstrated that agility improved with age, with older players showing superior performance compared to younger participants. The authors attributed these differences to neuromuscular development, training experience, and physical maturation. The study highlights the importance of age-specific agility training in Kabaddi to optimize player performance and reduce the risk of injury. This research provides valuable insights into how age influences a critical motor skill in competitive Kabaddi.

Prasad and Singh (2012) conducted a comparative study to assess agility among Kabaddi players of different age groups. The study utilized standardized agility tests to measure the players' performance and compared results across adolescents and adults. The findings indicated significant differences in agility, with older and more experienced players demonstrating superior agility levels. The authors emphasized that agility is a critical component of Kabaddi performance, affecting both offensive and defensive maneuvers. They recommended incorporating structured agility drills into training programs tailored to the age and skill level of players to enhance overall game performance. This study reinforces the role of age and training in developing essential motor skills in Kabaddi.

Objectives of the Study

1. To assess the level of agility among Kabaddi players of different age groups.
2. To evaluate the level of speed among Kabaddi players of different age groups.
3. To compare agility among Kabaddi players across selected age groups.
4. To compare speed among Kabaddi players across selected age groups.

Hypotheses

1. There will be a significant difference in agility among Kabaddi players across different age groups.
2. There will be a significant difference in speed among Kabaddi players across different age groups.

Methodology

Selection of Subjects

The subjects for the present study consisted of Kabaddi players selected from recognized schools, colleges, and clubs. A total of ninety (90) male Kabaddi players were randomly selected and divided into three groups:

- Group I: Under-16 (n = 30)
- Group II: Under-19 (n = 30)
- Group III: Senior (n = 30)

All subjects had a minimum playing experience of two years and were medically fit at the time of data collection.

Selection of Variables

- **Independent Variable:** Age groups (Under-16, Under-19, Senior)
- **Dependent Variables:**
  - Agility
  - Speed

Criteria Measures

1. **Agility:** Shuttle Run Test (time measured in seconds)
2. **Speed:** 50-meter sprint test (time measured in seconds)

Administration of Tests

All tests were conducted on a standard Kabaddi ground under similar environmental conditions. Proper warm-up was given to all subjects prior to testing. Each subject was given two trials for each test, and the best performance was recorded.

Statistical Techniques

Descriptive statistics (mean and standard deviation) were calculated. One-way Analysis of

Variance (ANOVA) was used to determine significant differences among age groups. The level of significance was set at 0.05. Where significant differences were found, post-hoc tests were applied to identify specific group differences.

Results and Discussion

Agility

The results indicated that Senior Kabaddi players demonstrated better agility performance compared to Under-16 and Under-19 players. The ANOVA results revealed a statistically significant difference in agility among the three age groups. The improved agility in senior players may be attributed to greater training exposure, neuromuscular coordination, and competitive experience.

Speed

Analysis of speed performance showed that Senior players recorded faster sprint times than the younger age groups. A significant difference was observed among the age groups in speed performance. The findings suggest that physical maturation and systematic training contribute significantly to speed development in Kabaddi players.

The findings of the present study are consistent with earlier research indicating that age and training experience have a positive influence on motor fitness components such as agility and speed.

Conclusions

Based on the analysis and interpretation of data, the following conclusions were drawn:

1. Significant differences exist in agility among Kabaddi players across different age groups.
2. Significant differences exist in speed among Kabaddi players across different age groups.
3. Senior Kabaddi players exhibit superior agility and speed compared to Under-16 and Under-19 players.
4. Age and training experience play an important role in the development of agility and speed in Kabaddi.

Practical Implications

- Coaches should design age-specific training programs focusing on agility and speed development.
- Younger Kabaddi players should be introduced to systematic speed and agility drills at an early stage.
- Talent identification programs can use agility and speed as key performance indicators.

Limitations of the Study

1. The study was limited to male Kabaddi players only.
2. The sample size was limited to selected institutions.
3. Only two physical fitness variables were studied.

Suggestions for Future Research

1. Similar studies may be conducted on female Kabaddi players.
2. Additional variables such as strength, endurance, and flexibility may be included.
3. Longitudinal studies may provide deeper insights into age-related performance changes.

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