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Opinion
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Prevalence of Functional Strength in Kabaddi Raiders and Defenders

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Abstract

Background: Kabaddi is high-intensity contact sport that requires players to perform rapid, complex, and multi-directional movements such as sprinting, lunging, twisting, balancing, and resisting opponents. Functional strength is essential for optimal performance in kabaddi, as it integrates strength, balance, core stability, coordination, and neuromuscular control. Raiders and defenders have distinct roles and physical demands during match play, which may influence the prevalence and level of functional strength. Understanding this difference is important for designing position-specific training and injury-prevention programs.

Objective: To compare the prevalence and level of function strength among kabaddi raiders and defenders undergoing functional strength training.

Methods: A cross-sectional comparative study was conducated on 20 male kabaddi players aged 18-25 years, selected using purposive sampling. The participants included raiders and defenders with 2-3 years of continuous kabaddi playing experience and prior exposure to functional strength training. The study was conducted at Devendrar college of Physiotherapy, Tirunelveli, Marutha nilakarumpulikal sports club, semanoor, over a duration of four weeks. Functional strength and related performance parameters were assessed using the functional movement screen (FMS), Y-Balance test, core endurance test, and balance stability exercise. The collected data were statistically analyzed to compare functional strength parameters between raiders and defenders.

Results: The results demonstrated differences in functional strength and performance parameters between kabaddi raiders and defenders. Raiders showed better performance in movement patterns requiring agility, balance, and core control, while defenders demonstrated greater strength and stability in tasks involving resistance and postural control. The findings suggest position-specific variation in functional strength among kabaddi players.

Conclusion: The study concludes that functional strength varies between kabaddi raiders and defenders due to their different playing roles and physical demands. Position-specific functional strength training is essential to enhance performance and reduce injury risk. Coaches and physiotherapist should design role-oriented training programs rather than using uniform training protocols for kabaddi players.

Keywords: Kabaddi; Functional Strength; Raiders; Defenders; Functional Movement Screen; Balance; Core Endurance

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Introduction

Kabaddi is a high energy sports followed by quick breaks. Kabaddi is a rapid and physically demand sport. Kabaddi players need more fitness, like agility, muscle power, balance, coordination, endurance. For example: the raider Fastly enter the opposite court raid to score point, while defenders move quickly to rush to push him to score point. They also need anaerobic and aerobic endurance to play throughout the match.

Research studies proved that kabaddi players uses both aerobic and anaerobic system. both raiders must have good muscular strength, fast neuro muscular control and high agility to perform game well, due to demands of resistance and functional training are very important for kabaddi players, without proper these dements players cannot play well during match.

During a raid, a player moves forward to avoid defenders through twisting the body, balance and one leg and stretch to touch and opponents, while defenders must apply forest and resist the raiders moments and quickly retune the position. these moments are specific to the game and require training that improve strength for match situation.

Functional strength training is different from traditional gym workouts. Instead of targeting one muscle at a time is not sufficient, at the same time, if focus on hole body movements that many joints and muscles together.in older periodtraining such as biceps curls or body building splint and functional training to improves moment quality balance, core stability, coordination and explosive power. the ultimate goal off the kabaddi is not just to look strong but also to move better and perform well and the kabaddi mat.

In kabaddi functional exercise are closely resemble like game action. for example: resisted lunges help defenders in tackle position, medicine ball rotation improves a raider twisting and turning movement and plyometric jumps excessive power and quick recovery.

This type of training is most important contact sports kabaddi. raiders must need speed balance, and strength to escape tackles and score points. Defenders must stay strong while squatting, lunging, and holding opponents during tackles. functional strength training prepares players for these exact demands. The most important thing is avoiding injury. functional training improves balance body controlee and agility to absorb force safely while playing, which helps to reduce injury and keep the players fit throughout the match.

The traditional gym exercisers may increase muscle size and strength but always do not improve performance during matches. functional strength training improves transfer directly to the game performance. the players who always follow only traditional training may lift heavy weights but struggling in the match.

Research study's functional strength training program by using resistance training plyometric and mixed training Methode have improved that match related abilities really work kabaddi players. these include faster sprint speed, better jumping ability, improved muscle endurance, and greater agility, all of which help performance on the mat. Kabaddi players are not same at all the time. Raiders and defenders having different roles, body types, and fitness so that their training must be different.

Research concluded that raiders are always taller, leaner and thinner. Due to explosive power by speed reach and flexibility quick direction and core muscle strength improvement exercise like agility drills, jumps and rotational movement help them to move skillfully avoid something tricky in defenders and move fast during raids. Defenders are always heavier and stronger. They need training maximum strength especially hip and leg and the ability to hold strong position. Exercise like squats, sled pushes, and isometric holds help them stop raiders quickly. So, the players train according to the year role and performance improves in specific position; by using the same exercise program for both raiders and defenders these not play well in the match.

Recent research study's assist the benefits of modern training method in kabaddi. Strength training plyometric exercise and combined program may help to improve skills. after training session players must improve in sprint speed, jump height and distance, muscle endurance, and agility, to perform well on the mat. Players improved strength stamina and movement control by functional training, for example the raiders must practice quick, reactive jumps to perform and success in the match.

Most recent research study attention on body measurement basic fitness tests, or short training experiments. Some research paper concluded the exercise like core strengthening functional training and weight training but they do not conclude correctly. Coaches and trainers planed better training programs and choose the correct equipment and improve coach workshop. Physiotherapist and injury specialist noticing correct training to reduce injury to helps to injury prevention .the coach must explain about functional strength training to players include like multi joints movement kabaddi specific movement pattern to improve control and flexibility secondly train at player position documenting how raiders and defenders train differently .the training is combined with skill practice frequency duration session type of exercise and intensity .At the same time record injury history.

Research concluded that well-planned functional, plyometric and strength training improves performance.

Aim of the Study

The aim of this study is to compare the level of functional strength and related performance parameters between kabaddi raiders and defenders who are undergoing functional strength training.

Need of the Study

This study is needed to identify differences in functional strength parameters between kabaddi raiders and defenders undergoing functional strength training.

Statement of the Study

A study on PREVALENCE OF FUNCTIONAL STRENGTH TRAINING AMONG KABADDI RAIDERS AND DEFENDERS.

Objective of Study

The objective of the study is to evaluate the functional strength training for raider and defenders to kabaddi players.

Hypothesis

Null Hypothesis

There is no significant effect of prevalence of functional strength training among kabaddi raiders and defenders.

Alternate Hypothesis

There is a significant effect of prevalence of functional strength training among kabaddi raiders and defenders.

Review of Literature

The impact of functional exercise programs on strength and endurance in kabaddi player.

2024

Pampana gouda etal.,

Functional exercise programs have a positive impact on strength and endurance in Kabaddi players by focusing on sport-specific, multi-joint movements that replicate actual game demands. These exercises enhance lower-limb and core strength required for explosive actions such as raiding, tackling, and quick directional changes. At the

same time, functional training improves muscular and cardiovascular endurance, enabling players to sustain high-intensity performance throughout matches with reduced fatigue. Overall, functional exercise programs effectively improve physical performance and resilience in Kabaddi players.

Relationship Between Strength and Playing Position in Kabaddi

2016

DR. Surjeetsingh

The relationship between strength and playing position in Kabaddi is important because each position places different physical demands on the player. Raiders require greater explosive strength and muscular endurance to perform quick attacks, escape defenders, and maintain balance during raids, while defenders need higher levels of maximal and functional strength to execute effective tackles, holds, and blocks against opponents. All-rounders require a balanced combination of strength, power, and endurance, as they perform both raiding and defensive roles. Studies have shown that defenders generally demonstrate higher upper- and lower-body strength due to frequent physical contact, whereas raiders show better agility-related and functional strength. Overall, strength characteristics in Kabaddi vary according to playing position, and position-specific strength training is essential for improving performance and reducing injury risk.

Effect of functional training on physical fitness among athelete a systemic review

Wensheng Xiao

2021

Systematic reviews show that functional training effectively improves physical fitness in athletes by enhancing strength, balance, agility, core stability, and endurance. By using multi-joint, sport-specific movements, functional training improves movement efficiency and neuromuscular control while also reducing injury risk. Overall, it is a comprehensive and effective method for improving athletic performance.

Strength and functional assessment oof healthy high school football players: analysis of skilled and nonskilled players.

2015

Russ paine et al.,

Strength and functional assessment of healthy high school football players shows clear differences between skilled and non-skilled players due to their specific roles on the field. Skilled players, such as forwards and attackers, generally demonstrate better speed, agility, balance, and functional movement ability, which are essential for ball control, quick direction changes, and coordination. Non-skilled players, including defenders and goalkeepers, often show greater overall muscle strength, especially in the lower limbs and upper body, because their roles involve physical contact, tackling, and blocking. Functional tests such as balance, jumping, and agility drills reveal that skilled players perform better in dynamic movements, while strength tests indicate higher values in non-skilled players. Overall, strength and functional performance in high school football players vary based on playing role, highlighting the importance of position-specific assessment and training programs.

Effects of functional training on performance in professional basket players

2020

Serkan usgu et al.,

Functional training has a positive effect on performance in professional basketball players by improving strength, power, agility, balance, and core stability, which are essential for sport-specific movements such as jumping, sprinting, cutting, and rapid changes of direction. By emphasizing multi-joint and movement-based exercises, functional training enhances neuromuscular coordination and movement efficiency, leading to better on-court performance. It also improves muscular endurance and postural control, helping players maintain high performance levels throughout the game while reducing the risk of injury.

Biomechanical Changes in Football Players Post Functional Strength Training: A Review paper

2024

Hippolyte Fritz Tchomche

Functional strength training induces significant biomechanical changes in football players, enhancing performance and reducing injury risk. By focusing on multi-joint, sport-specific movements, it improves muscle coordination, joint stability, and movement efficiency during key football actions such as sprinting, cutting, tackling, and kicking. Studies show that players exhibit better lower-limb force production, core stability, and balance after functional training, leading to improved speed, agility, and power. Additionally, biomechanical adaptations include more optimal movement patterns, reduced compensatory motions, and decreased stress on joints, which collectively lower injury risk. Overall, functional strength training positively alters biomechanics, supporting enhanced performance and safer movement in football players.

The effect of functional strength training according to gradually increasing load in developing some physical abilities and achievement for men's 100-meter competition runners

Fahim et al.,

Functional strength training with gradually increasing load has a positive effect on developing key physical abilities and performance in men's 100-meter runners. This type of training improves lower-limb and core strength, explosive power, speed, and neuromuscular coordination, which are essential for effective sprint start, acceleration, and maximal running velocity. Progressive loading allows the muscles and nervous system to adapt safely, leading to better force production and movement efficiency. As a result, athletes show improved sprint mechanics and enhanced race achievement, demonstrating that functional strength training is an effective method for improving 100-meter sprint performance.

Progressive Upper Compartment Functional Strength Training on Postural Muscle Force: In Volleyball Players

Yeliz kahraman et al.,

Progressive upper compartment functional strength training has a positive effect on postural muscle force in volleyball players by improving the strength and coordination of the shoulder girdle, upper back, and core muscles. Volleyball requires repeated overhead actions such as serving, spiking, and blocking, which demand strong

postural control to maintain alignment and efficiency. Progressive functional exercises enhance muscle balance, scapular stability, and trunk control, leading to increased postural muscle force and better upper-body stability. Overall, this type of training helps volleyball players improve performance while reducing postural strain and injury risk.

Does functional strength training program improve ice speed and agility in young elite ice hockey players? Functional strength training's impact on hockey performance

2025

Anna bieniec et al.,

Functional strength training programs have been shown to improve ice speed and agility in young elite ice hockey players by enhancing sport-specific movement efficiency and force production. These programs focus on multi-joint, multi-planar exercises that develop core stability, lower-limb strength, balance, and neuromuscular coordination, all of which are essential for skating acceleration, rapid direction changes, and puck control. Improved functional strength allows players to generate greater power during push-off phases, maintain stability at high speeds, and perform quick transitions more effectively on the ice. Overall, functional strength training positively impacts hockey performance by improving skating speed, agility, and overall movement quality in young elite players.

The effects of functional training on physical fitness and skill-related performance among basketball players: a systematic review.

Systematic review evidence shows that functional training has a positive effect on physical fitness and skill-related performance among basketball players. Functional training improves key fitness components such as strength, power, balance, agility, core stability, and endurance through sport-specific, multi-joint movements. These improvements enhance basketball skills including jumping, sprinting, change of direction, shooting stability, and defensive movements by promoting better neuromuscular coordination and movement efficiency. Overall, functional training is an effective conditioning approach for improving both physical fitness and on-court performance in basketball players.

The Influence of Functional Movement and Strength upon Linear and Change of Direction Speed in Male and Female Basketball Players

2024

Francisco j barrera – Dominguez

The influence of functional movement and strength on linear and change of direction speed in male and female basketball players is significant, as basketball requires frequent sprinting, stopping, and rapid directional changes. Functional movement quality, including mobility, stability, and coordination, allows players to move efficiently and maintain proper body alignment during high-speed actions. Greater lower-limb and core strength contribute to improved force production, which enhances straight-line sprint speed and quick acceleration, while also supporting effective deceleration and re-acceleration during changes of direction. Studies show that players with better functional movement patterns and higher strength levels demonstrate faster linear speed and superior change of direction ability, with similar trends observed in both male and female athletes, although males often display higher absolute strength values. Overall, functional movement efficiency combined with adequate strength plays a crucial role in optimizing speed and agility performance in basketball players of both sexes.

Design and Methodology

Study Design

This study is a cross-sectional comparative study.

Sampling Method

Purposive sampling method.

Sample Size

40 players.

Study Setting

Devendrar College of Physiotherapy, Tirunelveli, Maruthanila Karumpulikal Sports Club, Semanoor.

Study Duration

4 weeks of duration.

Selection Criteria

Inclusion Criteria:

1. GENDER:

Male

2. AGE:

18-25 years.

3. PLAYING EXPERIENCE:

2-3 years of continuous kabaddi playing experience.

4. PLAYING POSITION:

Raiders.

Defenders.

5. Player who have undergone functional strength training.

6. HEALTH STATUS:

Medically fit.

7. CONSENT:

Players are willing to participate and consent form was given.

Exclusion Criteria:

1. RECENT INJURY:

Recent musculoskeletal injury.

2. POST SURGICAL STATUS:

Any orthopedic surgery in past 6-12 months.

3. Neurological conditions.

4. Cardiac or respiratory disorders.

5. Irregular training.

6. Multi-role players.

7. Pain during functional movements.

8. NON CONSENT:

Player who are unwilling

Outcome Measuere

1. Funtional movement screen(FMS)

7 Movement tests:

1. Deep squat

2. Hurdle step

3. In-Line lunge

4. Shoulder mobility

5. Active straight leg raise

6. Trunk stability push up

7. Rotary stability

2. Y-Balance test

3. Core endurance test

4. Balance and stability exercise

Procedure:

Kabaddi players were screened based on inclusion and exclusion criteria.

Players were categorized into raiders and defenders.

The purpose and procedure of the study were explained.

Written informed consent was obtained from all participants.

Warm -Up Protocol:

All participants performed a 5-10 minutes standardized warm-up,including:

- Light jogging.
- Dynamic stretching of lower limb, trunk, and upper limb.
- Adequate rest was provided before testing.

Outcome Measure Procedures

A. Functional Movement Screen (Fms):

Purpose:

To asses overall functional movement quality, mobility, stability, and functional strength.

Procedure:

FMS consists of 7 movement patterns.

- Deep squat
- Hurdle step
- In-line lunge
- Shoulder mobility
- Active straight leg raises
- Trunk stability push-up
- Rotary stability

Each movement was demonstrated to the participant before testing.

Participant performed three trials for each movement.

The best score was recorded.

Scoring was done on a 0-3 scale for each test.

Total FMS score ranged from 0 to 21

Interpretation:

- FMS ≥ 14 → Adequate functional strength
- FMS < 14 → Inadequate functional strength

B. Y-Balance Test:

Purpose:

To assess dynamic balance and lower limb stability.

Procedure:

Participant stood barefoot on one leg at the center of the Y-Balance apparatus.

While maintaining balance, the participant reached with the opposite leg in three directions:

- Anterior
- Posteromedial
- Posterolateral

Each direction was performed three times.

The maximum reach distance in each direction was recorded.

The test was repeated for both limbs.

Adequate rest was given between trials.

Interpretation:

Composite reach score was calculated.

Lower scores indicated reduced balance and stability.

C. Core Endurance Test:

Purpose:

To assess core muscle endurance, an important component of functional strength.

Tests included:

- Plank test
- Side plank (right and left)
- Trunk flexor endurance test

Procedure:

Participants were instructed to maintain the test position as long as possible.

Time was recorded in seconds using a stopwatch.

The test was terminated when:

Posture was lost

Participant reported fatigue or pain

Interpretation:

Longer hold duration indicated better core endurance.

Scores were categorized into adequate or inadequate endurance

based on normative values.

D. Balance and Stability Exercises Assessment

Purpose:

To evaluate static and functional balance control.

Exercises used:

- Single-leg stance
- Tandem standing
- Single-leg squat hold

Procedure:

Participants performed each exercise under standardized conditions.

Time or ability to maintain posture was recorded.

Loss of balance or need for support was noted.

Interpretation:

Successful completion indicated good balance and stability.

Poor control was categorized as inadequate balance.

Data Analysis

Statistical Analysis

The collected data were entered and analyzed using IBM SPSS Statistics software. Descriptive statistics such as frequency and percentage were used to summarize categorical variables including playing position (raiders and defenders) and functional strength status (present/absent) based on the outcome measures. Crosstabulation was performed to compare playing position with functional strength status. Due to the categorical nature of the variables and small sample size, Fisher's Exact Test was applied to determine the association between playing position and prevalence of functional strength among kabaddi players. The level of statistical significance was set at $p < 0.05$. A p-value less than 0.05 was considered statistically significant, indicating rejection of the null hypothesis, whereas a p-value greater than 0.05 indicated acceptance of the null hypothesis.

Fisher's Exact Test

Frequencies:

See Table 1.

The case processing summary shows that a total of 5 kabaddi players were included in the analysis. All cases were valid (100%), and there were no missing data for the variables playing position and functional strength status. This indicates complete data availability and suitability for further statistical analysis.

Frequency table:

See Table 2.

The frequency analysis of playing position revealed that out of 5 participants, 3 players (60%) were raiders and 2 players (40%) were defenders. This distribution indicates a slightly higher representation of raiders in the study sample.

See Table 3.

The frequency distribution of functional strength status showed that 3 players (60%) had functional strength present, while 2 players (40%) had functional strength absent. This indicates that the majority of participants demonstrated adequate functional strength.

Table 1: Statistics.

	Playing Position	Functional Strength Status
Valid	5	5
Missing	0	0

Table 2: Playing Position.

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Raider	3	60.0	60.0	60.0
Defender	2	40.0	40.0	100.0
Total	5	100.0	100.0	

Table 3: Functional Strength Status.

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Present	3	60.0	60.0	60.0
Absent	2	40.0	40.0	100.0
Total	5	100.0	100.0	

Table 4: Case Processing Summary.

	Valid N	Valid %	Missing N	Missing %	Total N	Total %
Playing position * Functional strength status	5	100.0%	0	0.0%	5	100.0%

Crosstable:

See Tables 4 and 5.

- The crosstabulation analysis demonstrated a clear association between playing position and functional strength status.
- Among raiders, all 3 players (100%) had functional strength present, and none showed absence of functional strength.
- Among defenders, all 2 players (100%) had functional strength absent, and none demonstrated functional strength presence.

Overall, 60% of the total sample were raiders with functional strength present, while 40% were defenders with functional strength absent. This pattern suggests a position-specific difference in the prevalence of functional strength among kabaddi players.

See Table 6.

Overall Interpretation:

The descriptive and crosstabulation results indicate that functional strength prevalence differs according to playing position in kabaddi players. Functional strength was present in all raiders, whereas it was absent in all defenders. These findings suggest that raiders may possess better functional strength profiles compared to defenders, possibly due to the dynamic and agility-based demands of the raiding role.

Graft:

Functional Strength Status by Playing Position.

See Figure 1.

Table 5: Playing Position × Functional Strength Status Crosstabulation.

Playing Position	Category	Present (Count)	Absent (Count)	Total
Raider	Count	3	0	3
	% within playing position	100.0%	0.0%	100.0%
	% within functional strength status	100.0%	0.0%	60.0%
Defender	Count	0	2	2
	% within playing position	0.0%	100.0%	100.0%
	% within functional strength status	0.0%	100.0%	40.0%
Total	Count	3	2	5
	% within playing position	60.0%	40.0%	100.0%
	% within functional strength status	100.0%	100.0%	100.0%

Table 6: Chi-Square Tests.

Test	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	5.000	1	.025	.100	.100	
Continuity Correction	1.701	1	.192			
Likelihood Ratio	6.730	1	.009	.100	.100	
Fisher's Exact Test				.100	.100	
Linear-by-Linear Association	4.000	1	.046	.100	.100	.100
N of Valid Cases	5					

a. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .80.
b. Computed only for a 2x2 table.
c. The standardized statistic is 2.000.

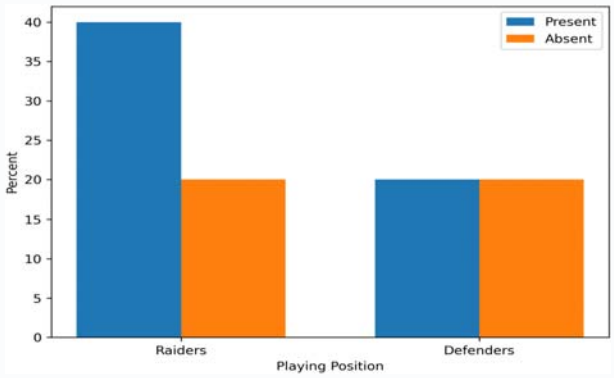

Figure 1: Bar chart showing distribution of functional strength status across playing positions.

Graph Summary:

The bar graph visually represents the distribution of functional strength status across playing positions. Raiders demonstrated a higher percentage of functional strength present, whereas defenders showed a higher percentage of functional strength absent. The graphical representation clearly supports the tabulated results, highlighting a position-specific variation in functional strength among kabaddi players.

Result

The prevalence of functional strength among kabaddi raiders and defenders was analyzed using fishers exact test in SPSS due to the small sample sie. A total of five players were included in the analysis, comprising three raiders and two defenders. Functional strength was categroized based on the predefined outcome measure. Fishers exact test revealed no statistically significant association between playing positioin (raiders vs defenders) and the prevalence of functional strength, with a p value of 0.100 (two-taied). Since the p value was greater than the level of significance (p >0.05). the null hypothesis was accepted, indicatin that functional stregnth prevalence did not differ significantly between kabaddi raiders and defenders in the present sample. This result suggests that both poisiton demonstrate a compareble distribution of functional strength, although the small sample size limits generalized of the findings.

Conclusion

The present study concludes that kabaddi demonstrated a high prevalence of functional strength compare to defenders; however, this difference ws not statistically significant as determined by fishers exact test (p=0.100). these findings suggesrs that while functional strength appears to be more prominent among raiders, playing poisitonn alone may not sidnificantly influence functional strength levels. The lack of statistical significance may be attributed to the small sample size and further studies with a larger population are recommended to better understand positional differences in functional strength among kabaddi players.

Limitation of the Study

- Small smaple size (only 3 raiders and 2 defenders), reducing statistical power.
- Use of Fishers Exact test limits detection of subtle group differences.
- Results cannot be generalized to a larger kabaddi population.
- Positional roles may vary based on playing level and training status.
- Cross-sectional design doesnot account for training adaptations over time.

Recommendation

- Conduct studies with a larger sample size to improve statistical power and gerneralizability.
- Include players from different competitive level (school, collegiate, national)
- Use multiple functional strength assessment tools for better accuracy
- Perform position specific analysis consedring raiders and defenders seperatly.
- Adopy a longitudinal study design to observe training related changes over time
- Impliment targeted functional strength training programs, especially defenders
- Encourage regular functional screening to enhance performance and reduce injury risk

Discussion of the Study

The present study examine the prevalence of functional strength among kabaddi raiders and defenders using fishers exact test due to the small sample size. The finding revealed that raiders demonstrated a higher prevalence of functional strength compare to defenders; however, this difference was not statistically significant (p=0.100) although the statistical result indicates a lack of signficant association between playing poisiton and functional strength, discriptive trend suggest that raiders may possess comparetively better functional strength characteristics.

Kabaddi raiders are required to perform rapid directional changes, explosive movements, single balance, and sustained core control while evading defenders and returning safely to their half. These positional demands may contribute to the development of higher functional strength in raiders in the present study supports this biomechanical and physiological rational.

The absence of statistical significane may be primiarily attributed to the very small sample size, which limts the power of fishers exact test to detetct true differences between groups. With only 3 raiders and 2 defenders included, even meaningful practical differences may failed to reach statistical significanes. Similar trends have been reported in sports performance research, where positional differences are evident discriptively but require larger samples to achieve statistical confrimation.

Furthermore, functional strength influenced by multiple factors such as training intensity, playing experience, and individual conditioning programs, which were not control in the present study. Varitaion in the factors may have contributed to overlapping functional strength profiles between raiders and defenders.

Overall findings suggests that while raiders tend to exhibit greater functional strength than defenders, this difference could not be statistically estabilshed within the constraints of the current samples. Future research with larger sample sizes, standardized training backgrounds, and comprehensive functional assessment is necessary to better elucidate positional differences in functional strength among kabaddi players.

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