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**Dr. Surjeet Singh**

Assistant Professor,

Directorate of Physical  
Education & Sports University  
of Kashmir, Jammu and  
Kashmir, India

## Relationship between strength and playing position in Kabaddi

**Dr. Surjeet Singh**

### Abstract

**Introduction:** Muscular Strength plays important role in every game, in Kabaddi strength is of immense importance. Nataraj *et al.* 2008<sup>[12]</sup> said that muscular endurance of arms, and explosive power of legs and arms are dominant, and contribute for the success in the game. During the course of forty minutes of game, both raider and defense players repeatedly use arm strength to prove them self better than others.

**Methodology:** For the purpose of this study 40 kabaddi were selected from the inter-college tournaments held in 2015 at university of Kashmir. Ten player from every position on which they used to play were selected, that was 10 from corners position, 10 covers positions, 10 raiders and 10 were all-rounder's. Different types of Dynamometer were applied to measure back strength, leg strength and arm strength of kabaddi player. Appropriate statistical test were used to get the interference of result. F test was applied to find out the relationship of strength on position of playing.

**Conclusion:** The result shows that there was significant different in leg strength among Kabaddi players of at different position. No significant difference was found in Back strength with relation to different playing positions. No significant difference was found in Arms strength with relation to different playing position.

**Keywords:** Sargent jump, high school students, T- Value

### Introduction

In Kabaddi, muscular strength of arms is of immense importance, for both raider and anties. During the course of forty minutes of game, both raider and defense players repeatedly use arm strength to deceive the opponents. Raider uses his arms frequently to escape from holds, to push and pull defenders in combination with muscular power, unlike raider, defense players use only arms to hold a raider Sackett 1963<sup>[18]</sup>. As both raider and defense players overcome the resistance of each other, muscular endurance is necessitated. Explosive power of legs and arms is found to be very essential in Kabaddi Cotts 1976<sup>[2]</sup>. The movements executed in Kabaddi, are swift and should be explosive in nature. Several of the techniques executed the raiders are by lower limbs and are performed quickly and suddenly. Leg power is of vital importance for both raider and defense, for quick start, turns and stooping Devi Sanatombi (1985)<sup>[3]</sup>. They should possess optimum amount of leg power to generate force from the ground. (Maity, D. K. 1983)<sup>[8]</sup> Both raider and anti raiders frequently make use of their arms to touch, escape, counter the movements to escape from hold, and for the application of firm grip on opponents. Defense players, for all types of hold, predominantly use both the arms. Quicker and faster movements of arms, by raiders and defensive players, guarantees better performance in holding the raider or in executing individual and group holds Clark 1978. A slow and lethargic movement is detrimental to secure a point. Invariably, raider and anti raider to push and pull each other, during the course of game, either to hold or escape and for repeated movements similar type of muscular power and endurance are needed. Arm strength and power dominate in Kabaddi, as game is a body contact game. Significant correlation was found between the selected motor ability variables of muscular strength of arms muscular endurance of abdomen, explosive power of arms, explosive power of legs, running speed, stretch ability of legs Malhotra 1972<sup>[9]</sup>. Lot of research has conducted globally to study and predict performance factors in various games and sports. But not enough research had conducted especially on Kabaddi. The researchers try to study the relationship between muscular strength with the playing position in Kabaddi which is very important role in determining the performance of any Kabadd players.

### Correspondence

**Dr. Surjeet Singh**

Assistant Professor,

Directorate of Physical  
Education & Sports University  
of Kashmir, Jammu and  
Kashmir, India

**Methodology**

For the present study the 40 kabaddi players were selected from the inter-college tournaments of university of Kashmir. Total 40 Kabaddi players were selected for this study represents different college of university. Ten players were taken from every position on which they used to play that was 10 from corners position, 10 covers, 10 raiders and 10 were all-rounder's. All protocol was followed for the administration of test Kansal, D. K. (1996) [7]. Dynamometer suitable for measuring back, leg and arm were applied Clark, H. H. 1978.

Appropriate statistical test were used to get the interference of result. F test was applied to find out the relationship of muscular strength on different playing position in kabaddi. The level of significant difference was fixed at the 0.05 level. Below mentioned parameters selected for the study

- I. Back strength
- II. Legs strength
- III. Arm strength

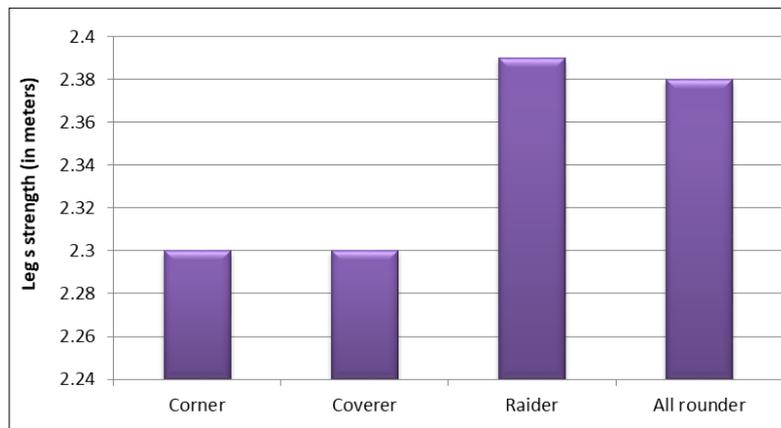
**Results**

**Table 4.1:** Comparison of Leg strength (in meters) between Corners, Coverers, Raideres and All- rounderes of Kabaddi players.

Kabaddi players positions	N	Mean	Std. Deviation	Std. Error	F	Sig.
Group	Corner	10	2.30	.137	8.02	.000
	Coverer	10	2.30	.102		
	Raider	10	2.39	.124		
	All rounder	10	2.38	.120		
	Total	40	2.34	.128		

Table No. 4.1 indicates the mean, Standard Deviation, S.E.M. and F ratio of leg strenght of Corners, Coverers, Raiders and All-Rounders of Kabaddi players. It was evident from the data that there was significant different among Kabaddi players of

different playing position as the value of F ratio found significant at .05 levels, therefore, post hoc test has been applied.



**Fig 4.1:** Leg strength (in meters) of Kabaddi players of different playing positions

**Table 4.2:** Scheffe's post hoc value of leg strength among kabaddi players of different playing positions.

Mean				Mean difference	Sig
Corner	Coverer	Raider	All-rounder		
2.30	2.30			.0031	1.00
2.30		2.39		-.0946*	.004
2.30			2.38	-.0791*	.026
	2.30	2.39		-.0977*	.003
	2.30		2.38	-1.533*	.047
		2.39	2.38	.0155	.947

It was observed from the table's no. 4.25 that raiders had highest leg strength followed by all-rounder's, corners and coverers respectively. The post hoc test analysis revealed that the raiders and all-rounders were significant highest in leg

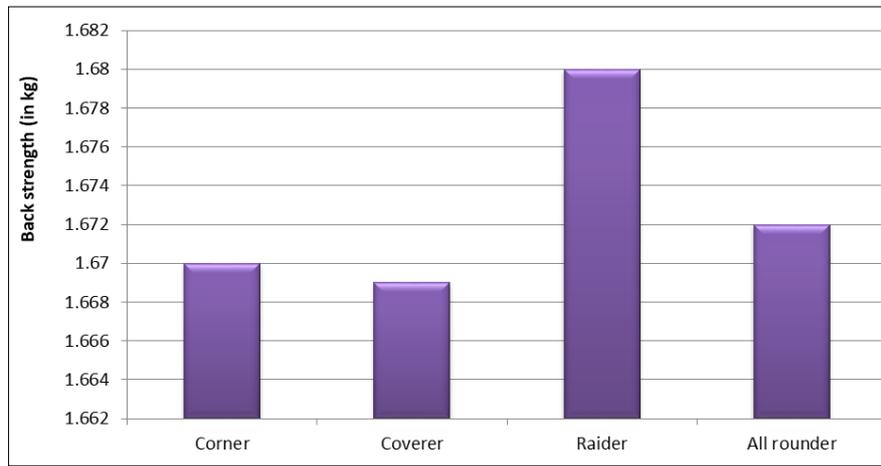
strength than corners and coverers kabaddi players. There was no significance difference in between raiders and all-rounder's and corners and coverers kabaddi players.

**Table 4.3:** Comparison of Back strength (in kg) between Corners, Coverers, Raideres and All- rounderes of Kabaddi players.

Kabaddi players positions	N	Mean	Std. Deviation	Std. Error	F	Sig.
Group	Corner	10	1.670	7.142	.193	.901
	Coverer	10	1.669	7.590		
	Raider	10	1.680	7.642		
	All rounder	10	1.672	7.151		
	Total	40	1.673	7.335		

Table No. 4.2 shows the mean, Standard Deviation, S.E.M. and F ratio of Back strength of Corners, Coverers, Raiders and All-Rounders of Kabaddi players. It was evident from the data that different of back strength among Kabaddi players of

different playing position was not significant. Although raiders possessed highest back strength and followed by all-rounder's, corners and coverers.



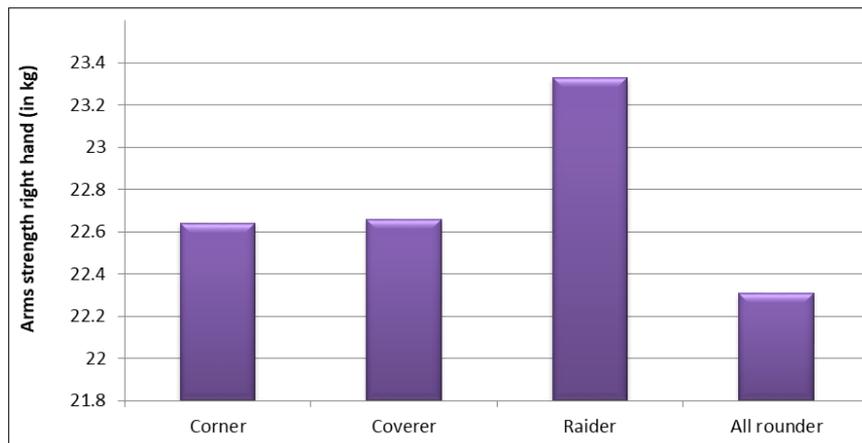
**Fig 4.2:** Back strength (in kg) of Kabaddi players of different playing positions

**Table 4.4:** Comparison of right hand grip strength (in kg) between Corners, Coverers, Raiders and All- rounderes of Kabaddi players.

Kabaddi players positions		N	Mean	Std. Deviation	Std. Error	F	Sig.
Group	Corner	10	22.64	1.597	.2381	2.28	.080
	Cover	10	22.66	2.110	.3146		
	Raider	10	23.33	1.522	.2269		
	All rounder	10	23.31	1.534	.2287		
	Total	40	22.98	1.727	.1287		

Table no. 4.4 indicates the mean, Standard Deviation, S.E.M. and F ratio of Arms strength right hand of Corners, Coverers, Raiders and All-Rounders of Kabaddi players. It was evident from the data that there was no significant different among

Kabaddi players of different playing position. Although raiders possessed highest arms strength (right hand) and followed by all-rounder’s, coverers and corners.



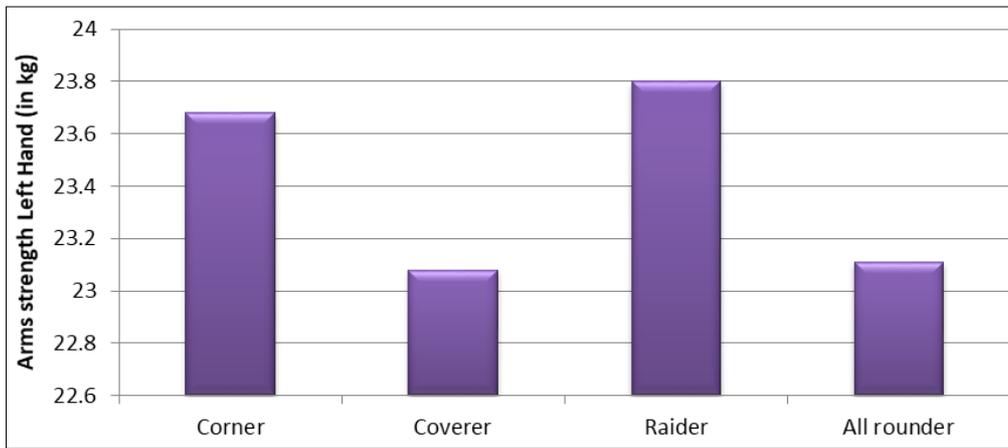
**Fig 4.3:** Arms strength right hand (in kg) of Kabaddi players of different playing positions

**Table 4.4:** Comparison of left hand grip strength (in kg) between Corners, Coverers, Raiders and All- rounderes of Kabaddi players.

Kabaddi players positions		N	Mean	Std. Deviation	Std. Error	F	Sig.
Group	Corner	10	23.68	1.489	.2220	2.01	.114
	Coverer	10	23.08	2.031	.3028		
	Raider	10	23.80	1.739	.2593		
	All rounder	10	23.11	1.786	.2663		
	Total	40	23.42	1.787	.1332		

Table no.4.4 shows the mean, Standard Deviation, S.E.M. and F ratio of Arms strength Left hand of Corners, Coverers, Raiders and All-Rounders of Kabaddi players. It was evident from the data that there was no significant different among

Kabaddi players of different playing position. Although raiders possessed highest arm strength (left hand) and followed by corners, coverers and all-rounder’s moreover No significant difference in strength was found between right and left hand.



**Fig 4.24:** Arms strength Left Hand (in kg) of Kabaddi players of different playing positions

### Conclusion

1. It was evident from the data that there was significant difference in leg strength among Kabaddi players of different playing position as the value of F ratio found significant at .05 levels, therefore, post hoc test has been applied. (Sodhi H.S. 1980) <sup>[22]</sup> It was observed that raiders had highest leg strength followed by all-rounder's, corners and coverers respectively. The post hoc test analysis revealed that the raiders and all-rounders were significant highest in leg strength than corners and coverers kabaddi players. Toor, D.S. (1996) <sup>[24]</sup>.
2. From the data it was revealed that there was no significant difference in Back strength among kabaddi players of Corners. Although raiders possessed highest back strength and followed by all-rounder's, corners and coverers. (Siridhar 1984) <sup>[21]</sup>.
3. From the data it shows no significant difference between Arms strength with relation to different playing position. Although raiders possessed highest arms strength (right hand) and followed by all-rounder's, coverers and corners.

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