



ISSN: 2456-0057

IJPNPE 2019; 4(1): 229-232

© 2019 IJPNPE

www.journalofsports.com

Received: 15-11-2018

Accepted: 18-12-2018

#### Yallappa M

Research Scholar, University  
College of Physical Education,  
Bangalore University,  
Bangalore, Karnataka, India

#### Dr. R Munireddy

Professor, Director of Physical  
Education Bangalore University,  
Central College Cricket Pavilion,  
Gandhinagar, Bangalore,  
Karnataka, India

## To study the impact of physical variables on the performance of Karnataka state inter university male kabaddi players

Yallappa M and Dr. R Munireddy

#### Abstract

The present investigation it to find out the relationship with performance ability of of kabaddi players of selected physical variables among 180 male university kabaddi players of Karnataka state the subject were measured for physical variables were (a) speed (b) agility (c) power (d) flexibility (e) pull ups (f) endurance were measured by using standardized tests and measurement. The performance ability was measured by using subjects rating of 10-point rating scale. The data were analyzed through multiple version analysis the following conclusion were drawn.

**Keywords:** Physical variables, kabaddi players

#### Introduction

##### Nature of Game

The origin of Kabaddi game lies in remote antiquity. In the pre independent India it was familiar in different regions. Never the less, different formats prevailed and were also called by different names such as Du-Du, Chadu Gudu, Kaun-Bada, Hututu etc. Amar, Gemini and Sanjeevini were the popular formats, and the latter version was accepted by vast majority of people in India by consensus. The game which was mostly popular in mofusil areas soon spread to urban areas too and become a part of curriculum in Physical Education colleges and is a scheduled competitions item in inter-school, inter-collegiate, inter-university, inter-district and inter-state competitions. In order to promote, control and regulate the game Kabaddi Federation of India was constituted. Since Kabaddi was familiar in India's neigh Boring countries, Asian Kabaddi Federation was formed. Innumerable State and National level Kabaddi Tournaments are conducted each year, besides continental and sub-continental level tournaments. Kabaddi game was included in the official competition events of Asian games at Beijing in 1990. India has been reigning supreme in the Asian games Kabaddi competition. This game is getting popular in Japan, Thailand, Singapore, Malaysia, China, Maldives, Bhutan, Srilanka, Pakistan, Nepal, Korea, and in the distant England and France. In India it has a mass following.

To the naive on lookers, the game looks as if it demands brutal strength. To the contrary, the game demands speedy movements, feinting, dodging, agility, arm-foot-eye coordination, cardiovascular endurance, flexibility and power besides characteristics body build and mental abilities. The Kabaddi game encompasses attacking (Raidering) and defensive (Catching) skills. Attacking skills, (Raiders skills) include touching the anti raiders with hand with leg thrusts, and kicking, the defensive skills (skills of anti raider) include ankle hold, knee hold, thigh hold, waist hold, wrist hold and a host of chain holds.

Kabaddi is a combative team game, played with absolutely no equipment, on a rectangular court, either out-doors or indoors with seven players on the ground in each side. Each side takes alternate chances at offence and defense. The aim of the game is to score points by raiding in the opponents court and touching as many defense players as possible without getting caught on a single breath. During play, the players on the defensive side are called "Anties" while the player of the offence is called the "Raider". The attack in Kabaddi is known as a "Raid".

#### Correspondence

##### Yallappa M

Research Scholar, University  
College of Physical Education,  
Bangalore University,  
Bangalore, Karnataka, India

The anties touched by the raider during the attack are declared 'out' if they do not succeed in catching the raider before he returns to home court. These players can resume play only when their side scores points against the opposite side during their raiding turn or if the remaining players succeed in catching the opponent's raider. It requires skills, agility, and good lung capacity, muscular co-ordination, presence of mind, and quick responses, courage etcetera. For a single player to take on seven Opponent is no mean task. It requires courage as well as ability to concentrate and anticipate the opponent's moves. In order to facilitate further growth of Kabaddi game, valid assessment procedures to comprehensively estimate the players physical, physiological and psychological abilities are needed.

### Statement of the Problem

The purpose of the present investigation is to find the relationship of selected Physical variables, variables with Performance in Kabaddi.

### Objective of the Study

1. To estimate the performance ability of Kabaddi players from the study variables.
2. To find the dominant predictors of performance ability of kabaddi players among the study variables.
3. To estimate the performance ability of kabaddi players from the selected physical variables speed, agility, power, flexibility, arm strength, and cardiovascular endurance.

### Methodology

in the South-zone inter university Kabaddi championship held at To establish the nature of relationship between the performance in Kabaddi and the study variables, the following methodology was used.

**Selection of the Subjects:** The Subjects for the present study were male Kabaddi players of universities who had received regular training and participated in competitive Kabaddi game. The subjects were regular participants in the south zone inter university level Kabaddi championships.

They were drawn from different universities of Karnataka State who were rated as the best players by a panel of three expert coaches. The subjects were participants Kuvempu University, Shivamogga (Karnataka) during the year 2015.

**Sample size of the Study:** The sample of the present study consisted of hundred (180) male Kabaddi players in the age group of 18 to 28 years.

**Selection of the variables for the Study:** After a thorough review of literature relevant to the game of Kabaddi found in books, journals, periodicals, and research articles besides detailed discussion with the experts and keeping in view feasibility of the study in terms of availability of equipment and the relevance of the variables to the present study, the following variables were selected.

Total performance of the selected subjects was rated by three experts subjectively on a ten point rating scale. This was the dependent variable for this study.

**Independent Variables:** The various independent variables selected for the present study are listed below:

### Physical Variables

1. Speed
2. Agility
3. Power
4. Flexibility
5. Pull Ups
6. Endurance.

**Collection of Data:** The data pertaining to the performance ability of University Male Kabaddi players who were the subjects for the present study (criterion measures) were gathered by adopting rating method. A panel of three expert coaches rated the subjects in various factors like skill, technique, and application of skill in the game situation. In the aspect of playing ability of players, competitive performances and the information available on their performance together with a view of other factors such as positional play, use of skills like toe touch ability, kicking ability, hand touch ability, supporting ability, catching ability etc., were assessed on ten point rating scale. The rating was subjective evaluation to predict the performance ability among kabaddi players. The selected physical variables, were measured and different test items selected for the study were administered as per the procedure and instructions in the literature available. The data for the present study were collected in numerical form from the coaches ratings. The unit of measurement in every test item had been explained below.

**Table 1:** Physical variables

Physical Variables	Test used to Measure	Unit of Measurement
Speed	30mts run with standing start	In Secs
Agility	4 x 10 mts shuttle run	In Sec
Power – Leg explosive power	Standing broad jump	In Sec and Centimeters
Flexibility	Sit and Reach test	In Centimeters
Pull ups	Arm strength and endurance	By numbers
Endurance	1000 Metrs	By Mins

### Analysis

#### Objectives

- To study the relationship between Performance of Kabaddi players and study Physical variables
- To study the impact of study Physical variables on Performance of Kabaddi players

### Statistical hypotheses

**H1:** There was no correlation between Performance of Kabaddi players and the Physical variables

**H2:** There was no impact of the study Physical variables on Performance of Kabaddi players

**To** test H1, correlation analysis was used and the computations made were tabulated in Table 2

**Table 2: Correlations**

		Performance	Speed	Agility	Standing	Flexibility	Pull ups	Endurance
Performance	Pearson Correlation	1	.009	.032	.054	.137	.085	.460**
	Sig. (2-tailed)		.924	.726	.558	.137	.356	.000
	N	120	120	120	120	120	120	120
Speed	Pearson Correlation	.009	1	-.011	-.240**	-.167	-.110	-.290**
	Sig. (2-tailed)	.924		.906	.008	.068	.230	.001
	N	120	120	120	120	120	120	120
Agility	Pearson Correlation	.032	-.011	1	-.193*	-.024	.148	-.023
	Sig. (2-tailed)	.726	.906		.035	.797	.107	.801
	N	120	120	120	120	120	120	120
Standing	Pearson Correlation	.054	-.240**	-.193*	1	.127	.085	.014
	Sig. (2-tailed)	.558	.008	.035		.166	.354	.880
	N	120	120	120	120	120	120	120
Flexibility	Pearson Correlation	.137	-.167	-.024	.127	1	.064	.352**
	Sig. (2-tailed)	.137	.068	.797	.166		.488	.000
	N	120	120	120	120	120	120	120
Pull Up	Pearson Correlation	.085	-.110	.148	.085	.064	1	-.013
	Sig. (2-tailed)	.356	.230	.107	.354	.488		.892
	N	120	120	120	120	120	120	120
Endurance	Pearson Correlation	.460**	-.290**	-.023	.014	.352**	-.013	1
	Sig. (2-tailed)	.000	.001	.801	.880	.000	.892	
	N	120	120	120	120	120	120	120

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

**From the above table following inferences were made**

- The correlation between Performance and Speed was positive  $r = 0.009$  and  $P = 0.924 > 0.05$ , the test was not significant at 5% levels. That is, there was no significant correlation between the Performance and the Speed of the Kabaddi players at 5% levels.
- The correlation between Performance and Agility was positive  $r = 0.032$  and  $P = 0.726 > 0.05$ , the test was not significant at 5% levels. That is, there was no significant correlation between the Performance and the Agility of the Kabaddi players at 5% levels.
- The correlation between Performance and Standing Broad Jump was positive  $r = 0.054$  and  $P = 0.558 > 0.05$ , the test was not significant at 5% levels. That is, there was no significant correlation between the Performance and the Standing Broad Jump of the Kabaddi players at 5% levels.
- The correlation between Performance and Flexibility was positive  $r = 0.137$  and  $P = 0.137 > 0.05$ , the test was not significant at 5% levels. That is, there was no significant correlation between the Performance and the Flexibility of the Kabaddi players at 5% levels.
- The correlation between Performance and Pull ups was positive  $r = 0.137$  and  $P = 0.137 > 0.05$ , the test was not significant at 5% levels. That is, there was no significant correlation between the Performance and the Pull ups of the Kabaddi players at 5% levels.
- The correlation between Performance and Endurance was positive  $r = 0.460$  and  $P = 0.00 < 0.05$ , the test was significant at 5% levels. That is, there exists significant correlation between the Performance and the Endurance of the Kabaddi players at 5% levels.

To test H2, regression analysis were used and the computations made were tabulated in table 3 to table 6

**Table 3: Variables Entered/Removed**

Model	Variables Entered	Variables Removed	Method
1	Endurance <sup>b</sup>	.	Enter

a. Dependent Variable: Performance

b. All requested variables entered.

**Table 4: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.460 <sup>a</sup>	.212	.205	6.9337

a. Predictors: (Constant), En in sec

**Table 5: ANOVA**

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	1524.023	1	1524.023	31.700	.000 <sup>b</sup>
	Residual	5672.969	118	48.076		
	Total	7196.992	119			

a. Dependent Variable: Performance

b. Predictors: (Constant), En in sec

**Table 6: Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	24.550	2.919		8.411	.000
	Endurance	.059	.011	.460	5.630	.000

a. Dependent Variable: Performance

The estimated regression equation of Performance on the Physical variables was given by

$$\text{Performance} = 24.55 + 0.059 (\text{Endurance})$$

And the above regression equation was significant as indicated in ANOVA table with  $P = 0.00 < 0.05$  at 5% level of significance.

Hence, one unit change in Endurance indicates 0.059 unit change in Performance.

Findings:

- There was no significant correlation between the Performance and the Speed of the Kabaddi players
- There was no significant correlation between the Performance and the Agility of the Kabaddi players
- There was no significant correlation between the Performance and the Standing Broad Jump of the Kabaddi players
- There was no significant correlation between the Performance and the Flexibility of the Kabaddi players

- There was no significant correlation between the Performance and the Pull ups of the Kabaddi players
- There exists significant correlation between the Performance and the Endurance of the Kabaddi players
- The regression equation of Performance and the Anthropometrical variables were statistically significant with one unit change in Endurance indicates 0.059 unit change in Performance.

### **Conclusion**

Among the physical variables speed agility leg explosive, arm power, flexibility found statistically not significant, with kabaddi performance. Among the six physical variables only Endurance act on a dominate predator variables for the performance in kabaddi

### **Reference**

1. Yuvraj Singh Dasondhi, Ajay Karkare. Construction of Physical Fitness Test Norms for Under 19 Cricketers in Central Zone. Indian Journal of Applied Research, January. 2016; 6(1):645-648.
2. Prasad Rao E. The Complete Hand Book on Kabaddi (1<sup>st</sup> Edition, New Delhi: Jagadamba Publication, Stastical toos use (s p s s), Software, 2002, 176-177.
3. Prasad Rao E. Synopsis on Construction of Tests to Assess Kabaddi Playing Ability, H.V.P. Mandals Research and Department of Physical Education, Amaravathi, 1997.
4. Rex Hazeldine. Fitness for Sports Malborough: Crow Wood Press, 1987, 4.