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Suresh Kumar

Sant Baba Bhag Singh

University Jalandhar, Punjab,

India

## A comparative study on selected physical fitness components of Kabaddi players at different level of participation

Suresh Kumar

### Abstract

The aim of study was to compare physical fitness of district and state level Kabaddi players. Total 60 male players, 30 players each from district and state level were selected randomly during inter school competition, Jammu and their age ranged from 16-19 years. The subjects were regularly practicing and competing in their respective sports. All the subjects were informed about aim and methodology of the study and they volunteered to participate in this study. The subjects were tested on speed by 50yd dash, explosive strength by standing broad Jump, flexibility by sit and reach test, muscular strength endurance by one minute sit-ups test and cardio-vascular endurance by 12min. run/walk test. T-test was used to find the difference between both groups. To test the hypothesis, the level of significance was set at 0.05.

**Keywords:** Physical fitness, Kabaddi, district and state level

### Introduction

Today, there is an emerging accentuation on looking good physique, soothing feeling and living longer. Increasingly, empirical evidence tells us that one of the keys to achieving these ideals is fitness and exercises. Getting moving is difficult task because today physical exertion is less a part of our daily routine. We have become a mechanically mobile society, relying on gadgets rather than muscles to get around. Physical fitness is probably the most popular and frequently used term in sports and to develop physical fitness is the most important objective of coaches. According to Nixion and Cozens (1964), it was the desire to establish a scientific approach to development of physical fitness which formed the basis of the first meeting of sports coaches in 1885. The physical fitness varies from sports to sports and playing position of players. The United States President's Council on physical fitness and sports defined the terms physical fitness as "the ability to carry out daily tasks with vigor and alertness without undue fatigue, with ample energy to enjoy leisure time pursuits, and to meet unforeseen emergencies". Physical fitness is one's richest possession; it cannot be purchased but it has to be earned through a daily routine of physical exercises." Physical fitness leads to better sports performance, and continue training will usually develop physical fitness. Detailed investigation of the physical and physiological components of athletes shows that it is possible to make fairly reliable predictions of sports performance. Scores obtained by various fitness tests exhibit various degrees of correlation with the scores made in competition. Type of physique, strength and power, flexibility, and cardiovascular components are among the factors that determine performance. physical fitness is a vital part of our sports participation, and those of us who play organized sports, or participate in recreational athletic activities, use exercise in an organized manner to train our bodies to do better, or at least to better tolerate the demands we place them. Kabaddi require high level of fitness in order to succeed in competition.

### Methodology

For the purpose of present study, total sixty (60) players were selected. In which there were 30 district players and 30 state level players, randomly selected to serve as subjects of the study.

Corresponding Author:

Suresh Kumar

Sant Baba Bhag Singh

University Jalandhar, Punjab,

India

The subjects were selected from district level and state level competition held at Jammu. Age of the subjects ranged between 16-19 years. For data collection, the research scholar has gone through the various competition sites and administrates various tests.

**Selection of the Variables**

- a. Speed
- b. Explosive Strength
- c. Flexibility
- d. Muscular Strength
- e. Cardio-vascular Endurance

**Table 1:** Physical Fitness Components and Test

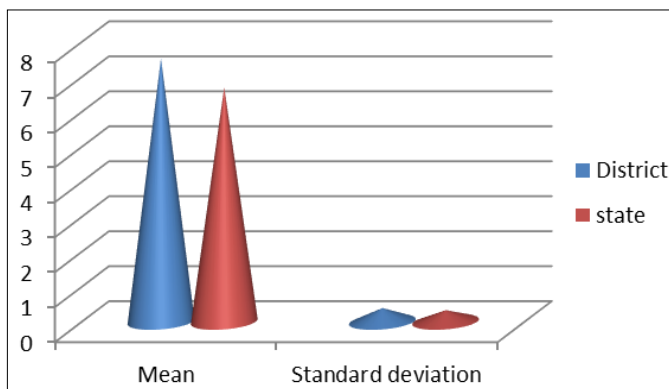
S. No	Physical fitness component	Test
1	Speed	50yd Dash
2	Explosive Strength	Standing Broad Jump
3	Flexibility	Sit And Reach Test
4	Muscular Strength endurance	One Minute Sit-Ups Test
5	Cardio-vascular Endurance	12min. Run/Walk Test

**Result and Discussion**

**Table 2:** Descriptive statistics of selected variables for district and state level players

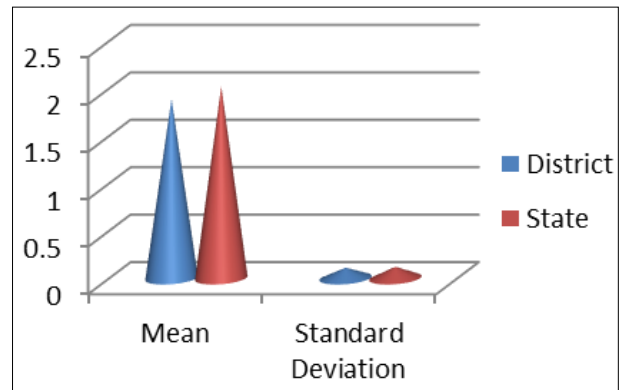
Variables	Mean		Standard Deviation		t'-value
	District	State	District	State	
speed	7.53	6.70	0.39	0.33	8.84*
Explosive Strength	1.89	2.02	0.11	0.12	1.25
Flexibility	17.33	20.63	3.41	1.88	3.89*
Muscular Strength	33.5	38.5	3.01	3.18	6.38*
Cardio-vascular Endurance	1670.9	2037.9	72.82	89.67	17.4*

\*Significant at 0.05 level, Degree of freedom= 58



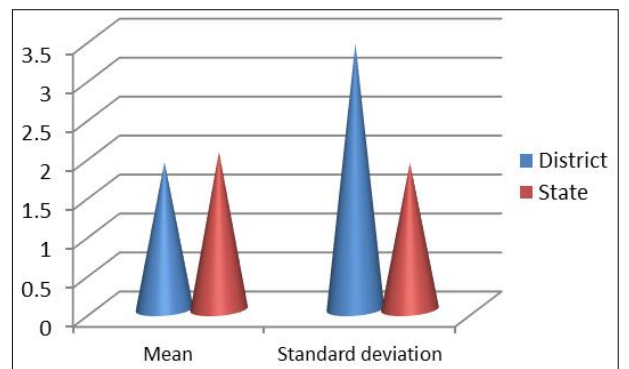
**Graph 1:** Speed

Graph- 1 shows that the mean of the speed of district and state level Players is 7.53 and 6.70 respectively. Whereas standard deviation of the speed of district and state level Players are 0.39 and 0.33 respectively, 't' value is 8.84. The result reveals a statistically significant difference in speed between district and state level players. State players were found better in speed as compare to district level players.



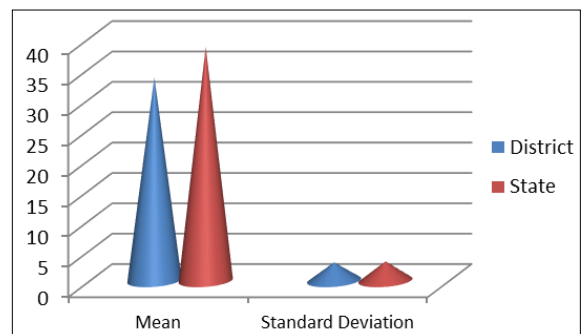
**Graph 2:** Explosive strength

Graph -2 indicates that the mean of the explosive strength of district and state level players is 1.89 and 2.02 respectively. Whereas standard deviation of the explosive strength of district and state level Players is 0.11 and 0.12 respectively, 't' value is 1.25. The result reveals that no statistically significant difference in explosive strength between district and state level players.



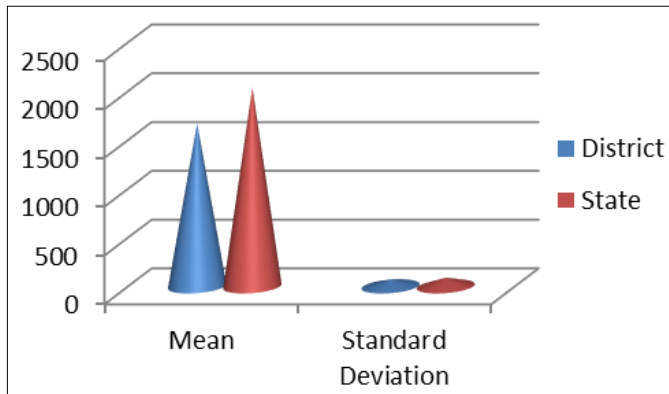
**Graph 3:** Flexibility

Graph-3 shows that the mean of the flexibility of district and state level players is 1670.9 and 20.63 respectively. Whereas standard deviation of the flexibility of district and state level players is 3.41 and 1.88 respectively, 't' value is 3.89. The result reveals a statistically significant difference in flexibility between district and state level players. State level players were found better in flexibility as compare to district level players.



**Graph 4:** Muscular strength

Graph-4 shows that the mean of the muscular strength of district and state level players is 33.4 and 38.5 respectively. Whereas standard deviation of the district and state level Players is 3.01 and 3.18 respectively, 't' value is 6.38. The result reveals a statistically significant difference in muscular strength between district and state level players. State players were found better in muscular strength as compare to district level players.



**Graph 5:** Cardio-vascular endurance

Graph-5 shows that the mean of the cardio-vascular endurance of district and state level players is 1670.9 and 2037.9 respectively. Whereas standard deviation of the cardio-vascular endurance of Kabaddi and Kho-Kho Players is 72.82 and 89.67 respectively, 't' value is 17.4. The result reveals a statistically significant difference in cardio-vascular endurance between district and state level players. State level players were found better in cardio-vascular endurance as compare to district level players.

### Conclusion

The researcher analyzed the collected data as per the purpose of study. The statistical analysis of physical fitness components revealed that in the parameters such as speed, Flexibility, Muscular Strength and Cardio-vascular Endurance there were significant difference between district and state level players and there was no significant difference in the component of explosive strength between district and state level players. The study also revealed that the state level players are better in speed, flexibility, muscular strength and cardio-vascular endurance as compare to district level players. Similar results were founded in the study carried out by Haldar, D. (2015) <sup>[5]</sup>, Kumar, A. (2019) <sup>[6]</sup>. A Comparative Study on Selected Physical Fitness Components of muscular strength Players of West Bengal state. Significant difference was founded for Speed, Cardio vascular endurance, Agility. The results are also in conformity with the study carried out by Sunil Kumar (2011) <sup>[2]</sup> A Comparative Study on Selected Psycho-Physical Fitness Components of between district and state level Players of Delhi Schools. Significant difference was founded for speed, flexibility, cardio-vascular endurance. The differences in physical fitness parameters between district and state level players may be due to difference in skills, practice, experience and movement's pattern etc.

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