

# Norms Construction for Physical Fitness Test Items of Circle Style Kabaddi Players of Punjabi University, Patiala

## Abstract

The purpose of this study was to construct norms for physical fitness test items of Circle Style Kabaddi players. For the purpose of the present study, seventy (N=70), male Circle Style Kabaddi players of Punjabi University, Patiala between the age group of 19-25 years (Mean  $\pm$  SD: Age 22.93 $\pm$ 1.53 years, Body Height 180.2 $\pm$ 6.684 centimeters, Body Mass 77.872 $\pm$ 6.195kilogram) volunteered to participate in the study. The Handgrip Strength Test was used to measure Muscular Strength, Vertical Jump Test was used to measure Muscular Power, and Chin up Test was used to measure Muscular Endurance. The data, which was collected by administering tests, was statistically treated to develop for all the test items. In order to construct the norms, Percentile Scale was used. Further, the scores were classified into five grades i.e., very good, good, average, poor and very poor.

**Keywords:** Circle Style Kabaddi, Norms, Strength and Power Abilities, Endurance, Basic Movement Patterns, Neuromuscular Abilities.

## Introduction

Punjabi Kabaddi is a contact sport that originated in the Punjab region. Circle style, also called Punjab Circle Style is played at state and international level and is governed by the Amateur Circle Kabaddi Federation of India.

Being physically fit has been defined as "the ability to carry out daily tasks with vigor and alertness, without undue fatigue and with ample energy to enjoy leisure-time pursuits and to meet unforeseen emergencies"<sup>1</sup>.

Operational definitions and methods of measuring components of physical fitness vary with the interests and needs of investigators and evaluators<sup>2,3 & 4</sup>. Regular physical activity, fitness, and exercise are critically important for the health and wellbeing of people of all, whether they participate in vigorous exercise or some type of moderate health-enhancing physical activity. Even among frail and very old adults, mobility and functioning can be improved through physical activity<sup>5</sup>. Exercise makes demands on the body systems over and above normal every day activities and as result the systems adapt anatomically and physiologically<sup>6</sup>.

There is a lack of standardized evaluative physical fitness tests in kabaddi for assessing the ability, grading and predicting the performance of kabaddi players. Hence it is important to have specific norms of physical fitness test items to assess the musculoskeletal and motor fitness of kabaddi players adequately.

## Material & Methods Subjects

For the purpose of the present study, seventy (N=70), male Circle Style Kabaddi players of Punjabi University, Patiala between the age group of 19-25 years volunteered to participate in the study. All the subjects were informed about the objective and protocol of the study. The details of subjects are presented in table-1 and exhibited in figure-1.

**Table-1: Details of Subjects**

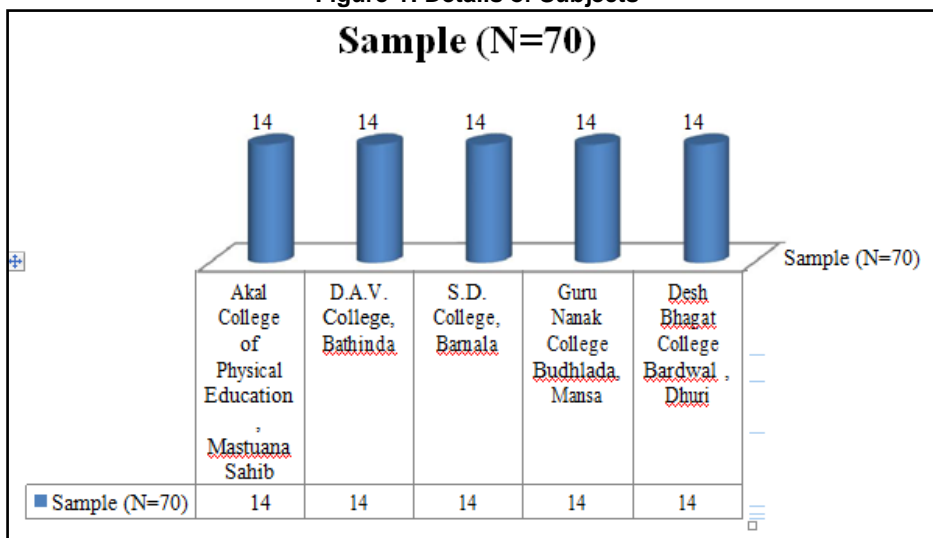
S. No.	College	Sample
1.	Akal College of Physical Education, Mastuana Sahib	14
2.	D.A.V. College, Bathinda	14
3.	S.D. College, Barnala	14
4.	Guru Nanak College Budhlada, Mansa	14
5.	Desh Bhagat College Bardwal, Dhuri	14



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Figure-1: Details of Subjects



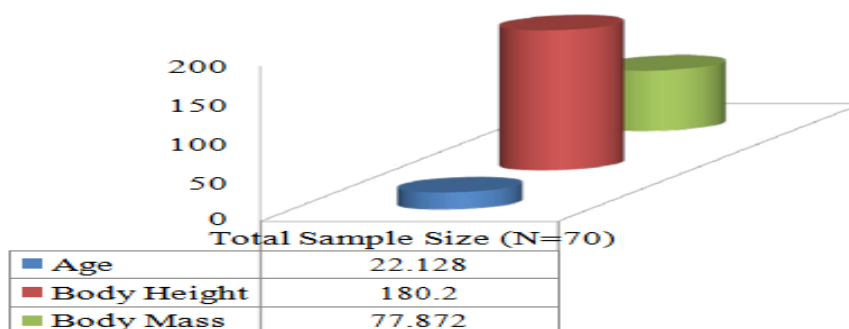
The subject's demographics of Circle Style Kabaddi Players of Punjabi University, Patiala (Mean ± SD: Age 22.93±1.53 years, Body Height 180.2±6.684 centimeters, Body Mass

77.872±6.195 kilogram) are presented in table-2 and exhibited in figure-2.

Table-2: Subject's Demographics of Circle Style Kabaddi Players of Punjabi University, Patiala (N=70).

Variables	Sample Size (N=70)	Akal College of Physical Education, Mastuana Sahib (N <sub>1</sub> =14)	D.A.V. College, Bathinda (N <sub>2</sub> =14)	S.D. College, Barnala (N <sub>3</sub> =14)	Guru Nanak College Budhlada, Mansa (N <sub>4</sub> =14)	Desh Bhagat College Bardwal, Dhuri (N <sub>5</sub> =14)
Age	22.128±1.317	22.214±1.311	22.142±1.231	22.214±1.423	21.714±1.683	22.357±9.287
Body Height	180.2±6.684	179.5±6.676	180.642±6.732	179.142±7.346	180.142±7.440	181.571±5.827
Body Mass	77.872±6.195	76.864±5.867	78.478±6.244	76.664±6.267	78.028±6.410	79.328±6.678

Figure-2: Subject's Demographics of Circle Style Kabaddi Players of Punjabi University, Patiala (N=70).



**Procedure**

The Handgrip Strength Test was used to measure Muscular Strength, Vertical Jump Test was used to measure Muscular Power and Chin up Test was used to measure Muscular Endurance.

**Data Analysis**

The data, which was collected by administering tests, was statistically treated to develop for all the test items. In order to construct the norms, Percentile Scale was used. Further, the scores were classified into five grades i.e., very good, good, average, poor and very poor.

**Results**

For each of the chosen variable, the result pertaining to Descriptive Statistics (Mean & Standard Deviation) and Percentile Plot (Hi & Low) of Physical

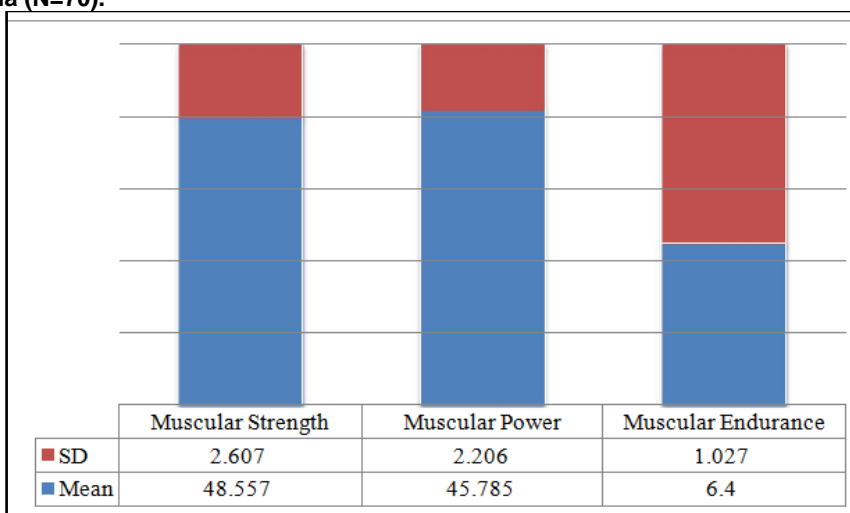
Fitness Test Items of Circle Style Kabaddi Players (N=70) of Punjabi University, Patiala are presented in the following tables:

**Table--3: Descriptive Statistics (Mean & Standard Deviation) and Percentile Plot (Hi & Low) of Circle Style Kabaddi Players of Punjabi University, Patiala (N=70)**

S. No.	Test Items	Mean ± Standard Deviation		Hi	Low
		Mean	Standard Deviation		
1.	Muscular Strength	Mean	48.557	55.00	42.00
		SD	2.607		
2.	Muscular Power	Mean	45.785	49.00	40.00
		S.D	2.206		
3.	Muscular Endurance	Mean	6.4	8.000	4.000
		SD	1.027		

Table-3 shows that in Muscular Strength, the mean score was 48.557 and standard deviation score was 2.607. In Muscular Power, the mean score was 45.785 and standard deviation score was 2.206. In Muscular Endurance, the mean score was 6.4 and standard deviation score was 1.027.

**Figure-3: Descriptive Statistics (Mean & Standard Deviation) of selected Physical Fitness Test Items (i.e., a. Muscular Strength, b. Muscular Power, c. Muscular Endurance of Circle Style Kabaddi Players of Punjabi University, Patiala (N=70).**



**Distribution of Grades under Normal Distribution**

For each of selected Physical Fitness Test Items of Circle Style Kabaddi Players of Punjabi University, Patiala (N=70) five types of classification/grades i.e., Very Poor, Poor, Average, Good & Very Good have also been prepared under Normal Distribution. Grades have been presented in table-4.

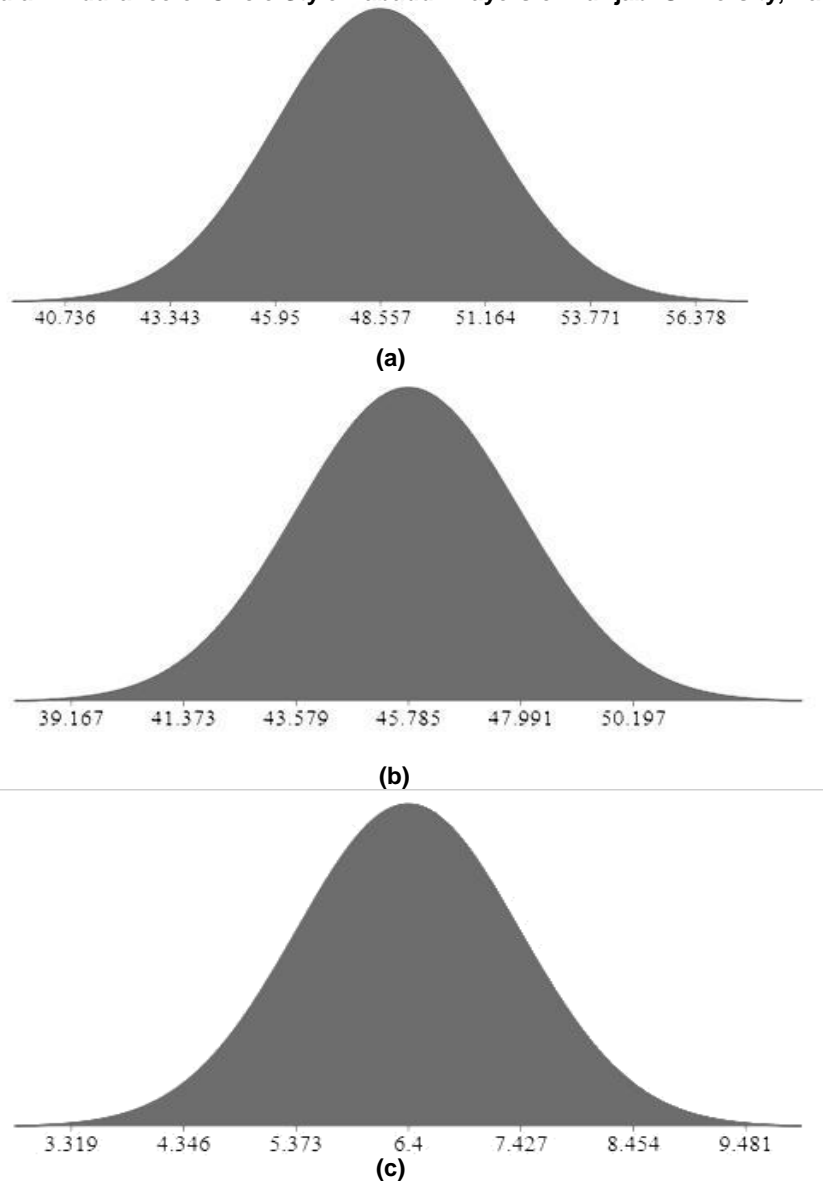
**Table--4: Grading for Circle Style Kabaddi Players of Punjabi University, Patiala (N=70) for the Physical Fitness Test Item.**

Test Items	Very Poor	Poor	Average	Good	Very Good
Muscular Strength	Less than (<) 43.343	45.95-43.343	45.95-51.164	51.164-53.771	Greater than (>)53.771
Muscular Power	Less than (<)41.373	43.579-41.373	43.579-47.991	47.991-50.197	Greater than (>)50.197
Muscular Endurance	Less than (<) 4.346	5.373-4.346	5.373-7.427	7.427-8.454	Greater than (>)8.454

Table-4 shows that in Muscular Strength, the scores below 43.343 are considered very poor, from about 45.95-43.343 is considered poor, 45.95-51.164 is considered average, 51.164-53.771 is considered good and the scores above 53.771 are considered very good. In Muscular Power, the scores below 41.373 are considered very poor, from about 43.579-41.373 is considered poor, 43.579-47.991 is

considered average, 47.991-50.197 is considered good and the scores above 50.197 are considered very good. In Muscular Endurance, the scores below 50.197 are considered very poor, from about 5.373-4.346 is considered poor, 5.373-7.427 is considered average, 7.427-8.454 is considered good and the scores above 8.454 are considered very good.

Figure-4: : Normal distribution of selected Physical Fitness Test Items (i.e., a. Muscular Strength, b. Muscular Power, c. Muscular Endurance of Circle Style Kabaddi Players of Punjabi University, Patiala (N=70).



#### Acknowledgements

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