



ISSN: 2456-0057

IJPNPE 2019; 4(1): 2506-2507

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www.journalofsports.com

Received: 25-11-2018

Accepted: 05-01-2019

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Assessment of body fat percentage of male Kabaddi players of Madhya Pradesh at different level of achievements

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Abstract

The purpose of this study was to compare the body Fat Percentage of the male Kabaddi players of Madhya Pradesh at different levels of achievements. The subjects for this study were 120 Kabaddi players from three levels of achievement, i.e. Junior National Level, Senior National Level and Inter University Level. Each group consists of 40 subjects. The age of the subjects ranged between 17-28 years. For calculation of Body Fat Percentage US Navy Method was used. This method requires Height, Waist Circumference and Neck Circumference. Descriptive statistics and ANOVA are applied to describe the characteristics of the group and to compare the Fat Percentage of Kabaddi Players between Junior National Level, Senior National Level and Inter University Level Players. No significant mean difference was found in Kabaddi Players at different level of achievements i.e. in Junior National Level, Senior Level National and Inter University Level Kabaddi players in Body Fat Percentage.

Keywords: Kabaddi, players, circumference, achievements

Introduction

Kabaddi is basically an outdoor game but now days it is played indoor on mats. It is mostly popular in tropical countries of Asia. This indigenous game of India was adopted by other countries in Asia as Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, Maldives, and Malaysia and more recently by Japan and China. The excitement and thrill provided by the game has made it very popular and Kabaddi is rightly called the 'Game of the masses' since spectators totally involve themselves and give the players a great deal of encouragement. The game requires no equipment whatsoever and the popularity of the game in rural areas, since rural youth in India can ill-afford the sophisticated equipment demanded by other sports. Kabaddi is perhaps the only combative sport in which attack is an individual attempt while defense is a group effort. As it is a body contact game strength and fitness is dominant for this game. The game known as Hu-Tu-Tu in western India, Ha-Do-Do in Eastern India & Bangladesh, Chedugudu in southern India and Kaunbada in Northern India, has undergone a change through the ages. In India, Kabaddi was primarily devised as a way to develop the physical strength and speed in young man. It was in 1950, that the All India Kabaddi Federation came into existence. Regular conduct of National level championship as per laid down rules and regulations began with effect from the year 1952. The game demands agility, muscular co-ordination, breath holding capacity, quick responses and a great deal of presence of mind. For an individual to face up to seven opponents and remain UN - caught require high level of fitness and also the weight but mainly the lean body mass not the fat mass. This concept motivated the scholar to find out the fat percentage of the Kabaddi players and to compare the fat percentage at different level of achievement. The purpose of the study was to compare the body fat percentage of Kabaddi player of Madhya Pradesh at different levels achievements.

Methodology

The analysis of fats accumulated on the overall number of subjects one hundred twenty (N=120) subjects, 40 subjects from Inter University level, 40 subjects from junior level (who have participated Junior Nationals) and 40 subjects from senior level (who have participated Senior Nationals) have been selected for this study.

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The age of the subjects ranged between 17-28 years. The subjects for this study were selected from various Kabaddi clubs of Indore and Manasa (Neemuch) of Madhya Pradesh. The variables measured were height, weight, neck circumference and waist circumference. Body fats percentage was calculated using The US Navy Body Fat Calculator. The U.S. Navy formula is able to get an estimated body fat percent. This formula needs the data of Height, Weight, Neck Circumference and Waist Circumference for men whereas Hip Circumference is additional measurement needed for females. The US Navy Method accuracy is pretty good. The

level of significance to check the comparison of means of the group was set at 0.05. Descriptive information, (mean, standard deviation, minimum and maximum scores) for each group were calculated and for the purpose of comparison ANOVA was used using SPSS- 21 software.

Findings

The descriptive statistics and ANOVA was used to describe and compare the body fat percentage of Kabaddi Players at different level of achievement.

Table 1: Descriptive Statistics of Fat Percentage (US Navy Method) of Male Kabaddi Players at Different Levels of Achievement

Variables	Groups/ Levels	Mean	Std. Deviation	Minimum	Maximum
Fat Percentage U.S. Navy Method	Inter University	18.14	3.84	6.2	26.5
	Junior National	19.26	2.03	15.5	23.3
	Senior National	18.02	2.15	13.2	21.9
	Overall	18.52	2.90	6.2	26.5

Table-1 clearly indicates that Junior National Level player are having highest fat percentage followed by Inter University Level player and then Senior National Level Kabaddi players of Madhya Pradesh. The value of mean and standard deviation of Fat Percentage at different levels is as follows: Inter University Level (18.14±3.84), Junior National Level (19.26±2.03) and senior National (18.02±2.15). For analyzing that these mean differences are significant or not the Analysis of Variance (ANOVA) was applied on data of Fat Percentage, which are presented in table – 2.

Table 2: Analysis of variance of fat percentage (u.s. navy method) of male kabaddi players at different levels of achievements

Source of Variance	Sum of Squares	df	Mean Square	F	Sig. p-value
Between Groups	37.443	2	18.722	2.391	.096
Within Groups	915.952	117	7.829		
Total	953.395	119			

*significant set at 0.5 level with df (2, 117) = 3.07

Table 2 reveals that analysis of variance (ANOVA) for Fat Percentage (U.S. Navy Method) for various groups i.e. Inter University, Junior National and Senior National of male Kabaddi players is not found significant as the calculated value of “F” (2.391) is smaller than the tabulated value of “F” (3.07). Also the p-value (.096) indicates that the calculated “F” is significant at .096 level which is greater than .05 level, so it can be concluded that there are no significant mean difference between groups at different level of achievements for body Fat Percentage. As the “F” value is not found significant the LSD post hoc test is not applied.

Conclusions

According to objectives of the study it is concluded that no significant difference was found between the groups of Kabaddi players at different level of achievements i.e. between inter University Level and Junior national male Kabaddi players of Madhya Pradesh.

The reason of these findings can be probably due to the nature of the game Kabaddi. Kabaddi is a strength dominant game and body mass is an indicator of strength. Weight of the body comprise the lean body mass and fat mass, so due to the nature of the game may be the Kabaddi players to maintain an optimum body weight so they can use their strength during the game.

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