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The relationship of selected morphological variables to performance of sub-junior national male Kabaddi Players

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Abstract

To meet the criteria for any level performance, morphological measurements demands on Kabaddi are continuously increased. No prediction study of Kabaddi playing ability in morphological variables among sub junior National Kabaddi players was conducted. The purpose of the study was to predict the performance of Kabaddi players from selected morphological variables.

Objectives: a) To assess the relationship between selected morphological variables and performance among Kabaddi players and b) To know which morphological variables majorly predict game performance among Kabaddi players.

Methodology: To achieve this purpose, 60 sub junior Kabaddi players who have participated in the Sub-Junior National Championship representing their respective States such as Andhra Pradesh, Karnataka, Kerala, Pondicherry and Tamil Nadu were selected randomly. The age of the subjects ranged from 15-16 years. In the present study morphological variables Standing Height, Body weight, fat percentage, elbow Diameter, Calf Girth, Arm Length, Leg Length were selected.

The data collected has been tabulated and analyzed with the help of statistical techniques viz., mean, standard deviation, coefficient of correlation, multiple correlation and regression equation to develop the prediction equations for assessing the performance of Kabaddi players.

Results: Among Morphological variables, Elbow Diameter, Calf Girth, Arm Length and Leg Length were positively and significantly related to performance. Only two Morphological variables-Leg Length and Calf Girth were best predictors of Game Performance to an extent of 46.3%. The researcher also found the significant differences in the selected variables among Kabaddi players with different state players.

Keywords: Sub-junior, National male, Kabaddi Players

1. Introduction

Kabaddi is a traditional game played with minor variations in all regions of India. It requires tremendous physical stamina, agility, individual proficiency, neuromuscular coordination, lung capacity, quick reflexes, intelligence and presence of mind on the part of both attackers and defenders. Morphological characteristics are very important in realization of motor structures in which they are the real biomechanical basis, either as the facilitating factors, or the ones that make the performance harder. To meet the criteria for any level performance, morphological measurements demands on Kabaddi are continuously increased. No prediction study of Kabaddi playing ability in morphological variables among sub junior National Kabaddi players was conducted. The purpose of the study was to predict the performance of Kabaddi players from selected morphological variables.

Objectives

1. To assess the relationship between selected morphological variables and performance among Kabaddi players
2. To know which morphological variables majorly predict game performance among Kabaddi players

Hypothesis

H1: There will be significant relationship between selected Morphological variables and Game Performance among Kabaddi players.

H2: Only few Morphological variables majorly predict Game Performance among Kabaddi players.

Methodology

To achieve this purpose, 60 sub junior Kabaddi players who have participated in the Sub-Junior National Championship representing their respective States such as Andhra Pradesh, Karnataka, Kerala, Pondicherry and Tamil Nadu were selected randomly. The age of the subjects ranged from 15-16

years. In the present study morphological variables Standing Height, Body weight, fat percentage, elbow Diameter, Calf Girth, Arm Length, Leg Length were selected.

The data collected has been tabulated and analyzed with the help of statistical techniques viz., mean, standard deviation, coefficient of correlation, multiple correlation and regression equation to develop the prediction equations for assessing the performance of Kabaddi players.

Table 1: Relationship of selected Morphological Variables with Kabaddi Game Performance of Sub-Junior National Male Kabaddi players

Sl. No.	Variable 1	Variable 2	Coefficient correlation 'r' value	Sig. Level
1.	Standing Height	Performance	0.055	Not Significant
2.	Body Weight	Performance	0.159	Not Significant
3.	Elbow Diameter	Performance	0.409**	Sig. at 0.01 level
4.	Calf Girth	Performance	0.548**	Sig. at 0.01 level
5.	Arm Length	Performance	0.550**	Sig. at 0.01 level
6.	Leg Length	Performance	0.599**	Sig. at 0.01 level

*Significant at 0.01 level with df 58 is 0.174

Note: Negative significance is due to the fact that the variable correlated involved in percentage

Result

Among Morphological variables, Elbow Diameter, Calf Girth,

Arm Length and Leg Length were positively and significantly related to performance.

Table 2: Variables entered in stepwise multiple regression taking Game Performance as dependent variables and Morphological variables as Independent variables

Model	Variables entered	Variables removed	R	R Square	Adjusted R Square
1	Leg length	.	.599	.359	.348
2	Calf girth	.	.694	.481	.463

Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

Results

Only two Morphological variables-Leg Length and Calf Girth were best predictors of Game Performance to an extent of 46.3%.

The researcher also found the significant differences in the selected variables among Kabaddi players with different state players.

Discussion

H1: There will be significant relationship between selected Morphological variables and Game Performance among Kabaddi players.

Hypothesis formulated for Morphological variables and Game Performance is accepted as the result shows that, among Morphological variables, elbow diameters, calf girth, arm length and leg length were positively and significantly related to performance.

A study conducted by Singh; Kannan and Singh (2014) [1], revealed that, there were moderate correlations exist between playing ability versus leg length, Weight, and very low correlation for height with playing ability in Kabaddi.

A study conducted by Devaraju and Needhiraja (2013) [3], revealed that there was a correlation exists between the playing ability versus leg length and arm length.

The result of the present study was in corroborated with the findings of previous studies. Many studies have revealed that Kabaddi game requires many essential morphological components. To touch an opponent a player need long arms and legs, and also need and to gain more force in raiding and escaping from holds Kabaddi players need weight and heavy girth bones. So the present study result is in agree with the above said facts.

H2: Only few Morphological variables majorly predict Game Performance among Kabaddi players.

Hypothesis formulated for Morphological variables and Game Performance is partially accepted as the analysis revealed that, only two Morphological variables- Leg Length and Calf Girth were best predictors of Game Performance to an extent of 46.3%.

A study conducted by Devaraju and Kalidasan (2012) revealed that an inter-relationship exists significantly between the anthropometrical, physical and performance variables among male inter-collegiate Kabaddi players. The results also revealed that weight and flexibility become the common characteristics which can predict the playing ability in Kabaddi players.

The result of the present study is contradictory with the findings of previous studies. In the present study only leg length and calf girth emerged as best predictors of the game performance, and in previous study only weight was the best predictor. The result of the both the studies may be accepted as leg length, calf girth and weight are closely related to kabaddi game performance. Since the study was on sub-junior male kabaddi players, the influence of weight may not be there on game performance.

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