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KM Muthukumar
Ph.D. Research Scholar,
Department of Physical
Education, Bharathiar
University, Coimbatore,
Tamil Nadu, India

Dr. G Kumaresan
Associate Professor,
Departments of Physical
Education, Bharathiar
University, Coimbatore,
Tamil Nadu, India

A comparative study on agility and abdominal muscular endurance among various universities male kabaddi players in Tamilnadu

KM Muthukumar and Dr. G Kumaresan

Abstract

The purpose of the present study is to compare the selected physical fitness variables of agility and abdominal muscular endurance among the various universities' male Kabaddi players in Tamilnadu, India. To achieve this purpose, sixty inter university male Kabaddi players those participated in the State Level Open Inter University Tournament were selected. The age of the subjects ranged from 18-25 years. In the present dependent variables such as agility and abdominal muscular endurance are handpicked. The collected data are statistical Analysis of Variance (One-way ANOVA) is used by the researcher to find out the significant difference. The significant is set at 0.05 level of confidence. In case of significant F ratio obtained, LSD's post hoc test was applied to test the significant differences between the ordered paired means. The results of the study show that there is a significant difference among the various universities kabaddi players on Agility and abdominal muscular endurance. Subsequent the findings show that Bharathiar university kabddi players significantly have greater performance on agility than other universities and explicitly M.S University players significantly have greater performance on abdominal muscular endurance than other universities players.

Keywords: Kabaddi players, agility, abdominal muscular endurance, ANOVA

Introduction

More than anything, it has been observed that the performance of Indian Kabaddi team is very encouraging at the international level. This has become a challenge to Kabaddi coaches and they have to be constantly motivated to maintain a high ranking at the international standards. At present during selection of teams the emphasis is made only on skills and tactics without accounting much consideration for other important factors such as Motor fitness and henceforth. Hence the coaches and physical education teachers realize the importance of each factor for performance level as well as selecting a team. This is the aspect which motivated the researcher to undertake this study. Though few studies have already been done on Indian male Kabaddi a player, not a single study has been conducted on the state level inter university male kabaddi players.

Methodology

To achieve the purpose of the study, the researcher has selected sixty University Kabaddi players of Tamilnadu, India. who have participated in the 1st Tamilnadu state Inter University Championship organized by Kumaraguru College Technology, under the auspices of Tamilnadu State Kabaddi Association and Amateur Kabaddi Federation of India on 2nd to 4th February, 2019, representing their respective Universities such as SRM University, Alagappa University, Bharathiar University, Vinayaka Mission University and Manonmaniam Sundaranar University were selected. The age ranged from 18-25 years. The selected variables are such as agility and abdominal muscular endurance. The following variables were assessed by using standard test. Agility was assessed by using shuttle run and unit of measurement was 4x10 mts of seconds, abdominal muscular endurance was assessed by sit-ups and unit of measurement was count in one minute. The collected data are statistical Analysis of Variance (One-way ANOVA) is used by the researcher to find out the significant difference. The significant is set at 0.05 level of confidence.

Correspondence
KM Muthukumar
Ph.D. Research Scholar,
Department of Physical
Education, Bharathiar
University, Coimbatore,
Tamil Nadu, India

In case of significant F ratio obtained, LSD's post hoc test is applied to test the significant differences between the ordered paired means.

Table 1: Results of one –way anova scores of various university male kabaddi players in Tamilnadu

Variables	Groups	Sum of Squares	df	Mean Squares	F Value
Agility	Between Groups	20.142	4	5.035	4.90
	Within Groups	56.492	55	1.027	
Abdominal Muscular Endurance	Between Groups	717.833	4	179.458	4.13
	Within Groups	2391.167	55	43.476	

Table value at 0.05(df-4, 55) =2.52

The F-value obtained from the testing the adjusted means among the five universities on the criterion measures are shown in the table –1, the corresponding F- values need significance at 0.05 level of confidence is 2.52. The calculated F-values on Agility (4.90) and Abdominal Muscular Endurance (4.13). Since observed F- values of these are found greater than the required table value of 2.52 at 0.05 level of

confidence. The observed mean difference on agility and abdominal muscular endurance is statistically significant among the various universities kabaddi players. In order to find out which pairs of group has shown the significant difference when the scheffe post-hoc test was applied. The results of the same given in the table –2.

Table 2: Post hoc test for the mean difference in relation to agility and abdominal muscular endurance of various university male kabaddi players in Tamilnadu

Variables	Various University in Tamilnadu					Mean Difference (MD)	CI value
	Bharathiar university	SRM University	MS University	Vinayaka Mission University	Alagappa University		
Agility	12.24	13.85	-	-	-	1.61*	0.83
	12.24	-	13.51	-	-	1.27 *	
	12.24	-	-	13.47	-	1.23 *	
	12.24	-	-	-	13.75	1.51 *	
	-	13.85	13.51	-	-	0.34	
	-	13.85	-	13.47	-	0.38	
	-	13.85	-	-	13.75	0.10	
	-	-	13.51	13.47	-	0.04	
	-	-	13.51	-	13.75	0.24	
Abdominal muscular endurance	54.33	62.41	-	-	-	8.08*	0.68
	54.33	-	64.42	-	-	10.09*	
	54.33	-	-	61.83	-	7.50*	
	54.33	-	-	-	59.50	5.17 *	
	-	62.41	64.42	-	-	2.01*	
	-	62.41	-	61.83	-	0.58	
	-	62.41	-	-	59.50	2.91*	
	-	-	64.42	61.83	-	2.59*	
	-	-	64.42	-	59.50	4.92*	
-	-	-	61.83	59.50	2.33*		

As per the results of the table-1 since the mean difference on agility between Bharathiar university and SRM University, Bharathiar university and MS University, Bharathiar university and Vinayaka Mission University and Bharathiar university and Alagappa University were 1.61,1.27,1.23 and 1.51 respectively are higher than the CI value of 0.83. The mean difference on abdominal muscular endurance between Bharathiar university and SRM University, Bharathiar university and MS University, Bharathiar university and Vinayaka Mission University and Bharathiar university and

Alagappa University, SRM University and M.S University, SRM University and Alagappa University, Vinayaka Mission University and Alagappa University were 8.08, 10.09, 7.50, 5.17, 2.01, 2.91, 2.59, 4.92 and 2.33 respectively are higher than the CI value of 0.68. It was been concluded that the observed adjusted mean difference is statistically significant. The rest of the comparison among the universities with the obtained mean difference is lesser than the CI values. It is concluded that the observed adjusted mean difference is statistically not significant.

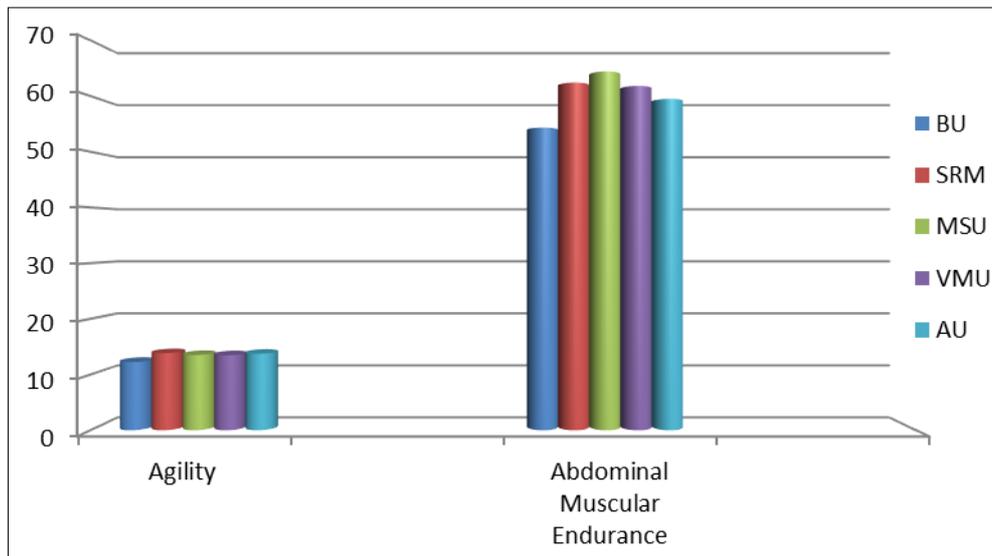


Fig 1: Diagram showing the mean values of Bharathiar University, SRM University, MS University, Vinayaka Mission University and Alagappa University on agility and abdominal muscular Endurance.

Discussion on findings

The results of analysis of covariance on comparative results revealed that the mean difference existing between Bharathiar university and SRM University, Bharathiar university and MS University, Bharathiar university and Vinayaka Mission University and Bharathiar university and Alagappa University on agility and abdominal muscular Endurance.

The mean difference existing between SRM University and M.S University, SRM University and Alagappa University, Vinayaka Mission University and Alagappa University is on abdominal muscular Endurance only.

Conclusion

Based on the results of the study it is concluded that BU has better performance than other universities on agility and next best is VMU, MSU, AU and SRMU respectively on agility.

Further it is concluded that MSU has better performance than other universities and next best is SRMU, VMU, AU and BU respectively on abdominal muscular Endurance.

Recommendations

1. Based on the results similar studies may be conducted for correlation of fitness and defensive and offensive skills.
2. The result of this study was of great interest to physical educators, coaches and to the players, as they would be able to assess the morphological characteristics and motor abilities for efficient game performance.
3. The results also helped physical educators to set the norms for selection of Kabaddi players.
4. Similar studies may be conducted on different age group.
5. It may be recommended to carry out similar studies with national/international players.
6. The study may be repeated with greater number of subjects.
7. A similar study may be carried out with other components, not used in this study.
8. Similar type of studies can be conducted with female players as subjects and it is recommended for future investigator for further research.

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