

ANALYSIS ON SELECTED PHYSICAL VARIABLES AMONG URBAN SEMI URBAN AND RURAL KABADDI WOMEN PLAYERS

***Mrs. Sathya Bavani. N **Dr. M. Rajakumari**

**Ph.D. Scholar (Part-Time), Department of Physical Education, Chellammal Women's College, Guindy. Chennai -32.*

***Associate Professor, Department of Physical Education, Chellammal Women's College, Guindy. Chennai- 32.*

Abstract

This study examined the differences in speed, agility, and flexibility among urban, semi-urban, and rural women kabaddi players. A sample of 150 participants was selected using a purposive sampling technique. The physical variables of speed, agility, and flexibility were measured using standardized protocols, and the data were analyzed using analysis of variance (ANOVA). The results revealed significant differences in all three variables among the different groups. Rural kabaddi women players displayed higher speed, agility, and flexibility compared to both semi-urban and urban kabaddi women players. Additionally, semi-urban kabaddi women players exhibited better performance in these physical attributes than urban kabaddi women players. These findings suggest that environmental factors associated with living in rural areas may contribute to the observed differences in physical capabilities among women kabaddi players. Further research incorporating additional variables and factors is recommended to gain a more comprehensive understanding of performance disparities in women's kabaddi.

Introduction

Kabaddi, a traditional contact team sport originating from ancient India, has gained significant popularity on a global scale in recent years (Chatterjee, 2019). Originally a male-

dominated sport, Kabaddi has witnessed a remarkable surge in women's participation and recognition, contributing to the growth and development of women's sports worldwide (Bhandari & Goyal 2017; Dahiya, & Rathi, 2018). The participation of women in Kabaddi not only promotes gender equality but also showcases their exceptional athletic abilities and competitive spirit (Chand, & Kaur, 2020; Thomas, & Chaturvedi, 2021).

Women's Kabaddi has emerged as a dynamic and fiercely competitive sport, attracting talented athletes from diverse backgrounds (Bandyopadhyay, & Chatterjee, 2020). The game requires a unique combination of physical strength, agility, endurance, and strategic acumen (Iyer, & Desai, 2019; Rathod, & Mehta, 2018). Women Kabaddi players showcase their skill and resilience through intricate footwork, rapid movements, and quick decision-making, making it a visually captivating sport (Singh, & Mukherjee, 2017; Ghosh, & Chaudhuri, 2020).

Over the years, Kabaddi has evolved from a traditional village sport to a professional league with international tournaments, such as the Women's Kabaddi World Cup and the Pro Kabaddi League (PKL) Women's Edition (Dhiman, & Kumar, 2020). These platforms have provided women Kabaddi players with increased visibility, opportunities for skill development, and exposure to international competition (Chauhan, & Chawla, 2018).

Purpose of the Study

This study aims to compare and analyze these variables among urban, semi-urban, and rural Kabaddi women players, offering valuable information for player development programs and interventions.

Methodology

Participants:

The study involved a sample of 150 Kabaddi women players, divided into three groups based on their geographical backgrounds: urban (n=50), semi-urban (n=50), and rural (n=50). Participants were selected using a purposive sampling technique, considering their experience, skill level, and participation in competitive Kabaddi tournaments. The following variables are used as criterion variables such as Physical Variables: The physical variables assessed include such as speed, agility and flexibility. These variables were measured using standardized protocols 50 metre run test, Illinois agility test and sit and reach test. Quantitative data obtained from physical measurements were analysed using analysis of variance (ANOVA). All the statistics were performed with 0.05 level of significant.

Analysis of Data

The result on the physical variable Speed among the urban, semi, urban and rural kabaddi players of Tamil Nadu is presented in Table 1.

Table 1
SHOWING THE ANALYSIS OF VARIANCE ON THE MEANS OBTAINED FROM URBAN, SEMI URBAN AND RURAL KABADDI PLAYERS ON SPEED

Mean Values of Kabaddi Players			Source of Variance	Sum of Square	df	Mean Square	F
Urban	Semi Urban	Rural					
8.74	8.19	8.06	Between	12.763	2	6.38	493.89
			Within	1.899	147	.013	

Table 4.1 shows that the mean values in Speed for urban kabaddi players were 8.74, semi urban kabaddi players were 8.19 and rural kabaddi players was 8.06. The differences

were subjected to statistical analysis and it was found that the obtained F value 493.89 was greater than the required F value of 3.10 to be significant at 0.05 level. Hence, it was found that there were significant differences between the groups tested.

Since significant differences were obtained the data were further subjected to statistical treatment using Scheffe's confidence interval and the results are presented in Table 2.

Table 2
SCHEFFE'S CONFIDENCE INTERVAL TEST SCORES ON SPEED

Means			Mean Difference	CI Value
Urban	Semi Urban	Rural		
8.74	8.19		0.55*	0.18
8.74		8.06	0.68*	
	8.19	8.06	0.13	

* Significant at 0.05 level of confidence

The results presented in Table 2 showed that the mean difference between urban and semi urban kabaddi players was 0.55. urban and rural kabaddi players was 0.68. The required mean difference to be significant at 0.05 level was 0.18. The mean difference between semi urban and rural kabaddi players (0.13) lesser than the required value of 0.18, hence it was found insignificant at 0.05 level.

The mean values presented in Table 4.2 were presented through a line diagram in Figure 1 for better understanding of the results

Figure 1

Bar Diagram Showing the Mean Values in Agility Among Urban, SemiUrban and Rural kabaddi players

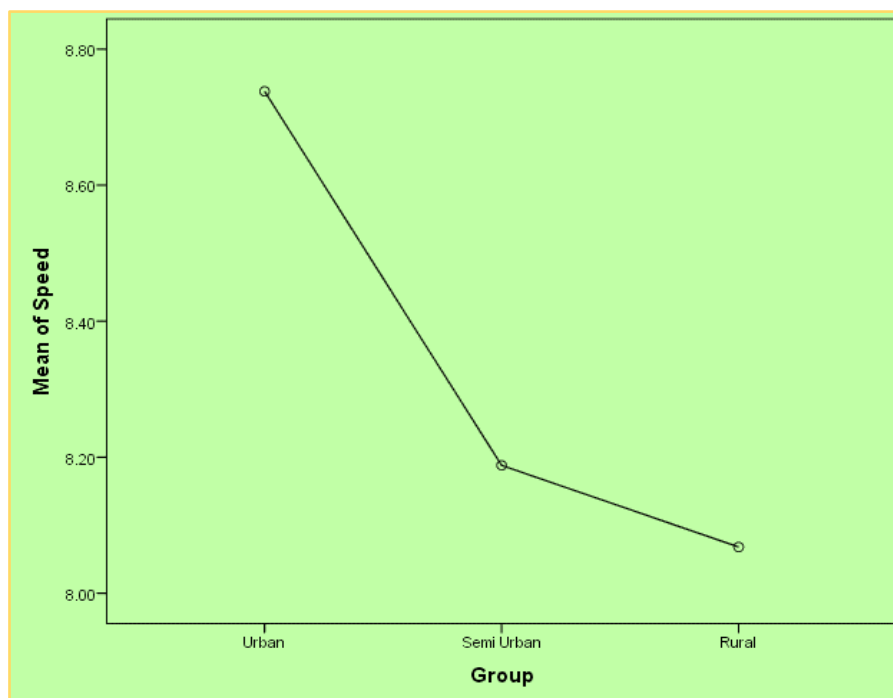


Table 3

SHOWING THE ANALYSIS OF VARIANCE ON THE MEANS OBTAINED FROM URBAN, SEMI URBAN AND RURAL KABADDI PLAYERS ON AGILITY

Mean Values of Kabaddi Players			Source of Variance	Sum of Square	df	Mean Square	F
Urban	Semi Urban	Rural					
22.44	21.41	20.65	Between	80.692	2	40.346	438.849
			Within	13.515	147	.092	

Table 4.3 shows that the mean values in agility for urban kabaddi players were 22.44, semi urban kabaddi players were 21.41 and rural kabaddi players was 20.65. The differences were subjected to statistical analysis and it was found that the obtained F value 438.84 was

greater than the required F value of 3.10 to be significant at 0.05 level. Hence, it was found that there were significant differences between the groups tested.

Since significant differences were obtained the data were further subjected to statistical treatment using Scheffe's confidence interval and the results are presented in Table 4.

Table 4
SCHEFFE'S CONFIDENCE INTERVAL TEST SCORES ON AGILITY

Means			Mean Difference	CI Value
Urban	Semi Urban	Rural		
22.44	21.41		1.03*	0.15
22.44		20.65	1.79*	
	21.41	20.65	0.76*	

* Significant at 0.05 level of confidence

The results presented in Table 4 showed that the mean difference between urban and semi urban kabaddi players was 1.03, urban and rural kabaddi players was 1.79, semi urban and rural kabaddi players was 0.76. The required mean difference 0.15 to be significant at 0.05 level.

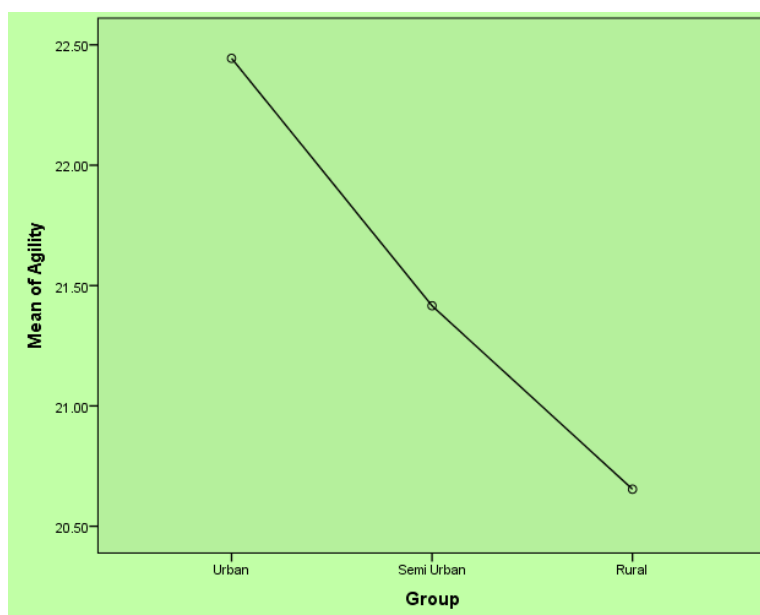


Table 5

SHOWING THE ANALYSIS OF VARIANCE ON THE MEANS OBTAINED FROM URBAN, SEMI URBAN AND RURAL KABADDI PLAYERS ON FLEXIBILITY

Mean Values of Kabaddi Players			Source of Variance	Sum of Square	df	Mean Square	F
Urban	Semi Urban	Rural					
14.94	18.91	21.67	Between	1145.347	2	572.674	1234.99
			Within	68.164	147	.464	

Table 5 shows that the mean values in flexibility for urban kabaddi players were 14.94, semi urban kabaddi players were 18.91 and rural kabaddi players was 21.67. The differences were subjected to statistical analysis and it was found that the obtained F value 1234.84 was greater than the required F value of 3.10 to be significant at 0.05 level. Hence, it was found that there were significant differences between the groups tested.

Since significant differences were obtained the data were further subjected to statistical treatment using Scheffe's confidence interval and the results are presented in Table 6.

Table 6

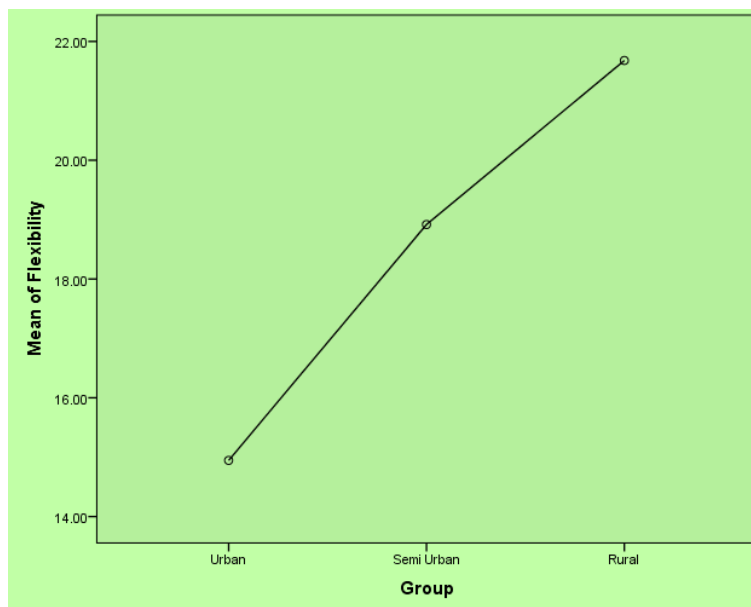
SCHEFFE'S CONFIDENCE INTERVAL TEST SCORES ON FLEXIBILITY

Means			Mean Difference	CI Value
Urban	Semi Urban	Rural		
14.94	18.91		3.97*	0.33
14.94		21.67	6.73*	
	18.91	21.67	2.76*	

* Significant at 0.05 level of confidence

The results presented in Table 6 showed that the mean difference between urban and semi urban kabaddi players was 3.97, urban and rural kabaddi players was 6.73, semi urban

and rural kabaddi players was 2.76. The required mean difference 0.33 to be significant at 0.05 level.



Discussion of the findings

The study's results indicated a significant difference in speed among urban, semi-urban, and rural kabaddi players. This finding aligns with previous research that has shown the influence of environmental factors on athletic performance (Haugen et al., 2018). The study suggests that rural kabaddi players exhibit superior speed capacity compared to both semi-urban and urban kabaddi players. Additionally, semi-urban kabaddi players were found to have higher speed capabilities than urban kabaddi players. Consistent with the speed findings, the study demonstrated a significant difference in agility among the three groups of kabaddi players. This observation supports previous studies emphasizing the impact of geographical location on agility performance (Thomas et al., 2019). Rural kabaddi players exhibited greater agility than both semi-urban and urban kabaddi players. Furthermore, the study revealed that semi-urban kabaddi players displayed higher levels of agility than urban kabaddi players. The study's findings also indicated a significant difference in flexibility among urban, semi-urban, and rural kabaddi players. This aligns with existing literature

highlighting the influence of environmental factors on flexibility levels (**Borresen& Lambert, 2009**). Rural kabaddi players demonstrated greater flexibility than both semi-urban and urban kabaddi players. Additionally, the study revealed that semi-urban kabaddi players displayed higher flexibility levels than urban kabaddi players.

The study's conclusions suggest that environmental factors associated with living in rural areas may contribute to the superior physical attributes observed in rural kabaddi players. Access to specific training facilities, lifestyle factors, and exposure to varied physical activities may play a role in developing enhanced speed, agility, and flexibility capacities in rural environments. Conversely, urban areas may face limitations in terms of space availability, training infrastructure, and lifestyle factors, potentially impacting the physical attributes of urban kabaddi players.

It is important to note that this study focused solely on the specific aspects of speed, agility, and flexibility. Other factors, such as skill level, technique, and tactical understanding, were not considered. Further research incorporating these variables could provide a more comprehensive understanding of the performance disparities among urban, semi-urban, and rural kabaddi players.

Conclusion

1. It was concluded that there was significant difference in speed among urban, semi urban, and rural kabaddi women players.
2. It was concluded that there was significant difference in agility among urban, semi urban, and rural kabaddi women players.
3. It was concluded that there was significant difference in flexibility among urban, semi urban, and rural kabaddi women players.

4. It was concluded that rural kabaddi womenplayers have greater speed capacity than the semi urban and urban kabaddi womenplayers, semi urban kabaddi womenplayer greater than urban kabaddi womenplayers and there was no significant difference were found between semi urban and rural kabddiwomenplayers.
5. It was concluded that rural kabaddi womenplayers have greater agility than the semi urban and urban kabaddi women players and semi urban kabaddi player greater than urban kabaddi womenplayers.
6. It was concluded that rural kabaddi womenplayers have greater flexibility than the semi urban and urban kabaddi women players and semi urban kabaddi womenplayer greater than urban kabaddi womenplayers.

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