

# COMPARISON OF SELECTED ANTHROPOMETRIC VARIABLE AMONG THE KHO-KHO PLAYERS

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## *Abstract*

The purpose of the study was to determine the significant difference of selected anthropometric factor-upper leg length among male and female Kho-Kho players from different districts of Kerala. To realize the purpose of the study two hundreds male and female were selected. The subjects were state participated Kho-Kho players in the state of Kerala. Twenty players in each male and female category were selected from five districts of Kerala like Palakkad, Malappuram, Thiruvananthapuram, Thrissur and Kannur in with their age ranged between 10 – 13 years. The standard measuring tape was used for measuring anthropometric factor and was having ISI standards and manufactured by reputed companies and being used in research laboratories. The data collected from the male and female sub junior players in the state of Kerala on upper leg length were statistically analyzed to find out the significant difference if any, by One way Analysis of Variance (ANOVA). The LSD Post-hoc test was used for testing the significant difference if any; among the paired group means. To compare the male and female Kho-Kho players in the state of Kerala independent 't' test was used. The level of significant was set to 0.05. The present study was also to investigate the selected anthropometric factor of male and female Kho-Kho players from different districts of Kerala. Considering the anthropometric factor of the study in the male Kho-Kho players from selected districts of Kerala, it has been found that there is no significant difference. It has been also found that there is a significant difference in the upper leg length of female Kho-Kho players in the state of Kerala. In light of the study on anthropometric factors of male and female Kho-Kho players from the state of Kerala, it has been found that there is no significant difference in upper leg length on the selected samples.

**Key words:** Kho-Kho, Anthropometry ,Upper leg Length.

## **Introduction**

Teachers of physical education and coaches very frequently remark that “a good tall sports man is better than a good short sports man”. In most of the games and sports tall and strong sports men are preferred. For classifying the students into equal ability groups most of the experts have utilizes height and weight of the students because of the common belief that tall rugged persons possess better fitness and they will excel while participate in various sports and games. However, this shall be true depending upon the nature of the event for which such selection is made. Tall stature and long lower extremities have been noticed in all games and events such as Volleyball, Basketball, Athletics and Kho-Kho where lower extremities performances are important. The height and reach of the players make better performance in these games. Height is a vertical measurement from the heel to vertical of skull of the human body.

Thus the study of anthropometric variables is essential part of the research study to reveal the actual effects of these variables on performance. Under modern circumstances especially related to training sports and games or any event with a focus on superior performance, emphasis is given for physical structure and body build of each individual participant for each sports and games.

### **Statement of the problem**

The purpose of the study was to determine the significant difference of selected anthropometric factor-upperleg length among male and female Kho-Kho players from different districts of Kerala.

### **Significance of the study**

- ✓ The result of the study may enable the male and female Kho-Kho players to understand their anthropometric factors in their competition.
- ✓ The result of the study may enable to physical education teachers and coaches to know the anthropometric characteristics and weak points of players and then plan training session accordingly.
- ✓ The study will help to compare the selected anthropometric variables among male and female Kho-Kho players in the state of Kerala.
- ✓ The result of the study may significantly help the other scholars to take up research projects in other states and games in India.
- ✓ The selected anthropometric factors will help to identify the talents, selection and team preparation to achieve the top performance.

### **Methodology**

#### **Participants**

To realize the purpose of the study two hundreds male and female were selected. The subjects were state participated Kho-Kho players in the state of Kerala during the years 2010 to 2013. Twenty players in each male and female category were selected from five districts of Kerala like Palakkad, Malappuram, Thiruvananthapuram, Thrissur and Kannur in with their age ranged between 10 – 13 years.

#### **Variables and tests**

All the subjects were tested on the anthropometric variable **upper leg length**. The standard measuring tape, was used for measuring anthropometric factors, were all having ISI standards and manufactured by reputed companies and being used in research laboratories

## Statistical analysis

The data collected from the male and female sub junior players in the state of Kerala on anthropometric factor ;were statistically analyzed to find out the significant difference if any, by One way Analysis of Variance (ANOVA). The LSD Post-hoc test was used for testing the significant difference if any; among the paired group means. To compare the male and female Kho-Kho players in the state of Kerala independent ‘t’ test was used. The level of significant was set to 0.05

### Analysis of data and results of the study

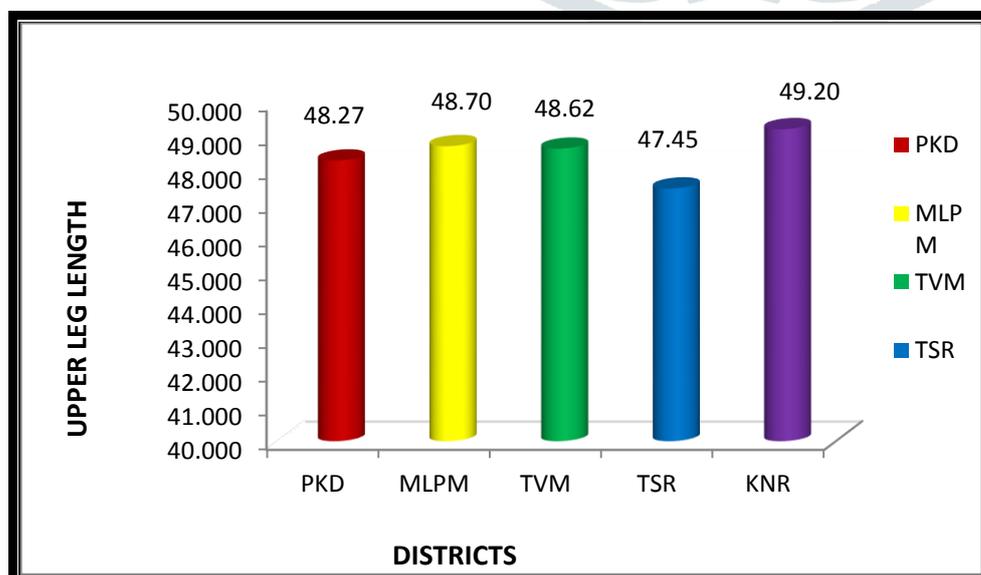
**Table 1**

**Analysis of variance for the comparison of upper leg length of male Kho-Kho players from five districts of Kerala**

Variable	SV	Sum of squares	DF	Mean square	F
Upper leg length	Between Groups	33.72	4	8.43	1.09
	Within Groups	733.52	95	7.72	
	Total	767.25	99		

F (4,95) at .05 level = 2.46

From the Table 1, it is clear that the result obtained for ANOVA on the basis for upper leg length reveals that F value is 1.09 which is lesser than the critical value of F at .05 level(2.46) of significance. This shows there is no significant differences exist in terms of upper leg length of male Kho-Kho players in different districts of Kerala among selected samples.The diagrammatic representation of comparison of upper leg length of male Kho-Kho players from selected districts is shown in figure 1



**Figure 1: Comparison of upper leg length of male Kho-Kho players from selected districts of Kerala**

**Table 2.1**

**Analysis of variance for the comparison of upper leg length of female kho-kho players from five districts of Kerala**

Variable	SV	Sum of squares	DF	Mean square	F
Upper leg length	Between Groups	146.28	4	36.57	5.45
	Within Groups	637.22	95	6.70	
	Total	783.51	99		

F (4, 95) at .05 level = 2.46.

From the Table 2.1 it is clear that the result obtained for ANOVA on the basis for upper leg length reveals that F value is 5.45 which is greater than the critical value of F at .05 level (2.46) of significance. This shows there is significant differences exists in upper leg length of female Kho-Kho players in the different districts of Kerala among selected samples. To find out which are the districts showed significant differences, the investigator used post hoc test .Details are given in Table 2.2.

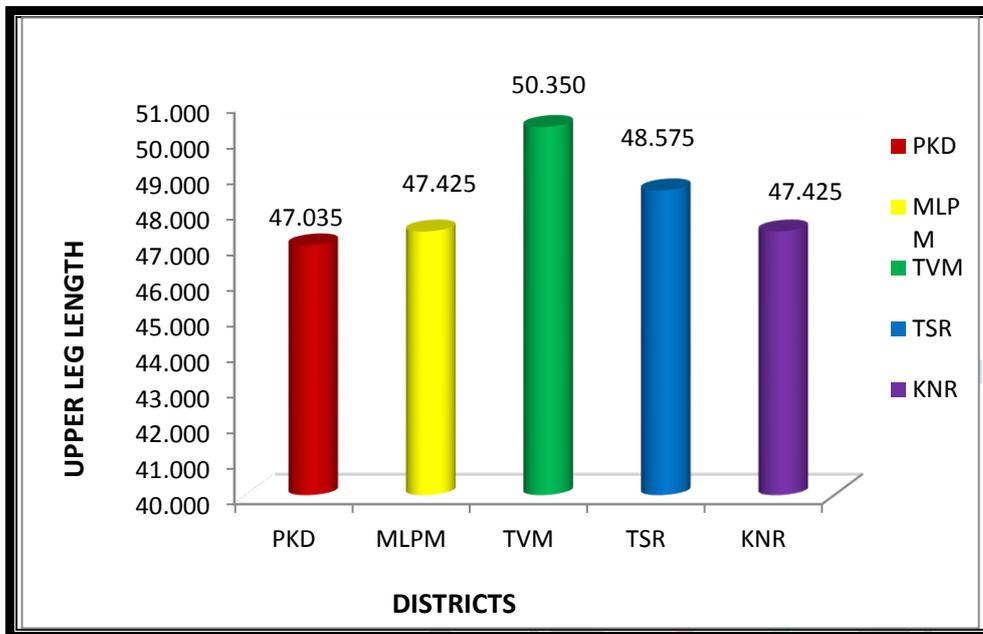
**Table 2.2**

**Post-hoc test for the comparison of upper leg length of female Kho-Kho players from five districts of Kerala**

PKD	MLPM	TVM	TSR	KNR	MD	Sig.
47.04	47.43				0.39	0.64
47.04		50.35			3.31*	0.00
47.04			48.57		1.53	0.06
47.04				47.42	0.38	0.64
	47.43	50.35			2.92*	0.00
	47.43		48.57		1.14	0.16
	47.43			47.42	0.01	0.99
		50.35	48.57		1.78*	0.03
		50.35		47.42	2.93*	0.00
			48.57	47.42	1.15	0.16

From the above Table 2.2, it is clear that the mean values on the upper leg length of female Kho-Kho players from five selected districts from Kerala is Palakkad (M=47.03), Malappuram (M=47.42), Thiruvananthapuram (M=50.35), Thrissur (M=48.57) and Kannur (M=47.42). From Table 2.2 it can be concluded that the players belonging to Thiruvananthapuram and Thrissur districts having the

longest upper leg length of 50.35 cm and 48.57cm respectively. The players belonging to Palakkad district having the shortest upper leg length of 47.03 among the selected samples of female Kho-Kho players from different districts of Kerala. The diagrammatic representation of comparison of upper leg length of female Kho-Kho players from selected districts is shown in figure 2.



**Figure 2: Comparison of upper leg length of female Kho-Kho players from selected districts of Kerala**

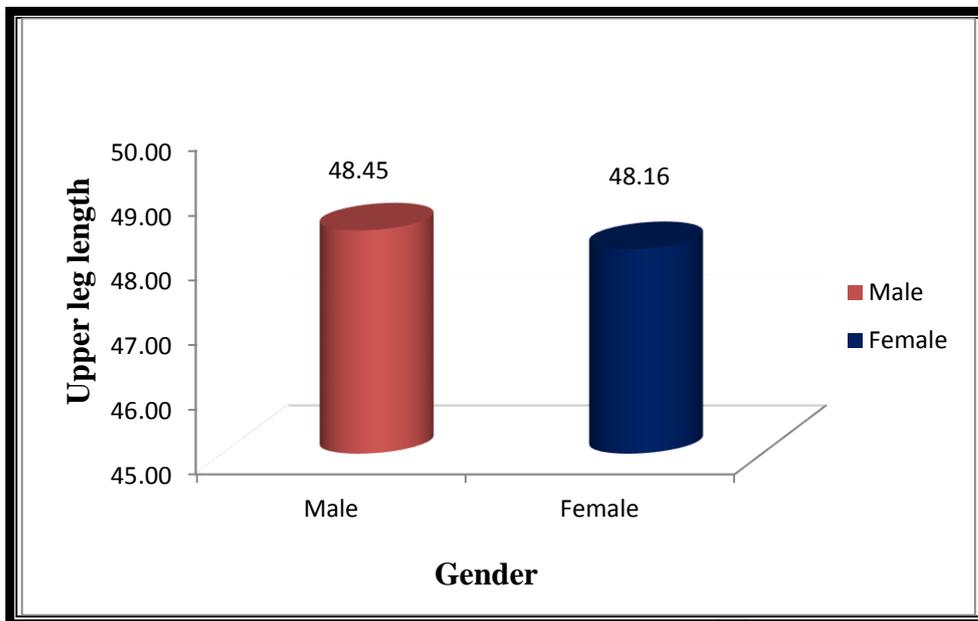
**Table 3**

**Independent t test for the comparison of upper leg length of male and female Kho-Kho players from the state of Kerala**

Gender	Number	Mean	S.D	t
Male	100	48.45	2.78	.72
Female	100	48.16	2.81	

Table value of 't' at 0.05 level is 1.96

From the Table 3 it is clear that the result obtained for 't' test on the basis for upper leg length, reveals that t value is .72 which is lesser than the critical value of 't' at .05 level(1.96) of significance. This shows there is no significant differences exist in terms of upper leg length between the male and female Kho-Kho players in the state of Kerala among selected samples. The diagrammatic representation of comparison of upper leg length of male and female Kho-Kho players from the state of Kerala is shown in figure 3.



**Figure 3: Comparison of upper leg length of male and female Kho-Kho players from state of Kerala**

### Discussion on Findings

The present study was to investigate the anthropometric variable upper leg length of male and female Kho-Kho players in the state of Kerala. In district wise comparison, male Kho-Kho players from selected districts of Kerala, it has been found that there is no significant difference in upper leg length. In Indian population, on the same age group, increase in these variables with advancement of age was observed by Sidhu (2005). The study findings were similar to findings of other researcher like Mukherjee (1970) and Bhandari (1972). It has been also found that there is a significant difference in the upper leg length of female Kho-Kho players the state of Kerala. In the case of upper leg length Trivandrum district Kho-Kho players have more and Palakkad players have less upper leg length. In light of the study on upper leg length of male and female Kho-Kho players from the state of Kerala, it has been found that there is no significant difference on the selected samples. Researchers like Corlett (1988), Malina (2003) and Little (2006) observed that height, weight, upper leg length and foot leg length boys of later childhood were the same that of same age group of boys and girls.

### Conclusion

The results of the study permit the following conclusion that the anthropometric variable upper leg length of the study shows no significant difference among the male and female Kho-Kho players in the state of Kerala.

### References

Bhandari, B. et al. (1972). Nutritional anthropometry of rural school children of Udaipur district. Indian Journal of Pediatrics, 39 (1), 11.

- Corlett, J.T. (1988). Growth patterns of rural children in the kgalagadi region of 187 Botswana. *Journal of Physical Education*, 15(2),153-159.
- Little, T., & Williams, A.G.(2005). Specificity of acceleration, maximum speed, and agility in professional soccer players. *Journal of Strength and Conditioning Research*, 19 (1), 76- 81.
- Little, B.B., Buschang, P.H., Pena, R.M.E., Kheng, T.S., & Malina, R.M. (2006). Craniofacial dimensions in children in rural Oaxaca, Southern Mexico. Secular change 1968-2000. *American Journal of Physical Anthropology*, 131, 127136.
- Malina, R. M., Pena, R., & Tan, W. K. (2003). Urban-rural contrasts in the physical fitness of school children in Oaxaca, Mexico. *American Journal of Physical Anthropology*, 54, 327-336.
- Malina, R.M.et al. (2005). Growth of rural and urban children in the valley of Oaxaca, Mexico. *American Journal of Physical Anthropology*, 54 (3),327-336.
- Maj, R., Mukherjee, Lt. Col. S. Chaturvedi. Col. R.Bhalwar(2008).Determinants of nutritional status of school children. *Medical Journal Armed Forces India*, 64,227- 231.
- Mukherjee, B., & Kaul, K. K. (1970). Anthropometric observations- urban school children. *Indian Journal of Medical Research*, 58,1257.
- Mukesh Kumar Verma, Department of Physical Education, Dr. Ram Manohar Lohia Avadh University, Faizabad, International journal of physical education, Volume 10 | Issue 1&2 | April & October, 2017 | 28-30, e ISSN-0976-7924 Visit us : [www.researchjournal.co.in](http://www.researchjournal.co.in)
- Sidhu, S. (2005). Growth pattern of affluent school student of Amritsor. *Anthropologist*, 9(4), 261-264.

