

Relative Importance of Anthropometric Measurement Among Women Volleyball Players



Physical Education

KEYWORDS : Spikes, Setters, All-rounder's, Standing Height and body weight

M. UMAMAHESWARI

Ph.D Scholar, Department of Physical Education, H.H. The Rajah's College (Auto) Pudukkottai, Tamilnadu, India.

Dr. A.S. NAGESWARAN

Associate Professor, Department of Physical Education, H.H. The Rajah's College (Auto) Pudukkottai, Tamilnadu, India.

ABSTRACT

The purpose of the study was to analysis the relative importance of anthropometric measurement among women Volleyball players. To achieve this purpose of the study one hundred and twenty (N=120) women Volleyball were selected. Among them, forty Spikes (n=40), Setters (n=40) and All-rounder's women Volleyball from Tamilnadu Universities who had participated in the Inter-collegiate Volleyball tournament during the year 2014-2015 were selected as subjects. The age of the subjects were ranged from 18 to 24 years. Among the Anthropometric measurements only Standing Height and body weight were selected as criterion variables. Standing Height was measured by Stadiometer and Body weight was assessed by Electronic weighing machine. The data collected from the three groups was statistically analyzed by using Analysis of variance (ANOVA). Scheffe's post hoc test was applied to determine the significant difference between the paired means. In all the cases 0.05 level of confidence was fixed significance was fixed. The results of the study showed that there was a significant difference among Spikes, Setters and All-rounder's.

INTRODUCTION

Sports are universal appeal has led to sport gaining recognition as a simple, low cost and effective medium for achieving key developmental goals. Sport form is an inspirable part of the system of physical education. Physical education offers opportunities in competitive situations for physical, social, emotional and moral developments. Sports and Games are the best ways to earn social recognition and acquire a status in the modern society. Sports and games in the modern era occupy a very prominent and important place in the life of people and also in every sphere of life. Sport consists of physical activity carried out with a purpose for competition, for self-enjoyment, to attain excellence, for the development of a skill, or more often, some combination of these. Sports differ in their dependence upon a set of individuals or team skills, as well as in the ways in which they have their participants compete. As fitness and sports go hand in glove there is a need to develop the ability in an individual to play the game with good skill and perform consistently well.

The aim of physical education is the wholesome development of human personality or complete living. Physical education should aim to provide skilled leadership, adequate facilities and ample time for the individual and the groups to participate in activities that are physically wholesome, mentally stimulating and socially sound (Kamlesh, 2011).

Volleyball is played by millions of people around the world. In many countries, it has been ranked as top-level competitive sports. It is a fascinating game, which everybody will accept. It is a well-known fact that volleyball is a thrilling game. It is one of the recreational games with in a small area. It is a game where not only the hands are engaged in receiving and spiking the ball, but the whole body and mind are engaged in this game. Volleyball is probably the leading ball game in the world as far as action and accuracy are concerned. Regarding the result of this game anything may happen at any time (Lumpkin,1986).

Anthropometric properties of athletes represent important prerequisite for successful presence at the same sport, effecting athlete's performance and are necessary in order to gain excellent performance of sports skills. The term motor ability is used synonymously with general athletic ability. There are many factors that contribute to successful performance in athletic skill. In most of the advanced and developed countries, the awareness for motor learning and skill developed among volleyball players is very much scientific and prolonged which perhaps helped

them to level of general fitness with motor abilities like power, speed, agility, balance, reaction time etc. are essential qualities required to be developed in the players (Gualdi, 1993).

METHODOLOGY

To achieve this purpose of the study one hundred and twenty (N=120) women volleyball players were selected. Among them, forty Spikes (n=40), Setters (n=40) and All-rounder's(n=40) women Volleyball from Tamilnadu Universities who had participated in the Inter-collegiate Volleyball tournament during the year 2014-2015 were selected as subjects. The age of the subjects were ranged from 18 to 24 years. Among the Anthropometric measurements only Standing Height and body weight were selected as criterion variables. Standing Height was measured by Stadiometer and Body weight was assessed by Electronic weighing machine.

ANALYSIS OF THE DATA

The data collected from the Spikes, Setters and All-rounder's on selected Criterion variables were statistically examined by analysis of variance (ANOVA) was used to determine differences, if any among the means on selected criterion variables separately. Whenever they obtained f-ratio value was significant the Scheffe's test was applied as post hoc test to determine the paired mean differences, if any. In all the cases 0.05 level of confidence was fixed significance was fixed.

The Analysis of variance (ANOVA) selected Anthropometric measurements such as Standing Height and body weight have been analyzed and presented in Table -1.

Table - 1

Values of Analysis of Variance on the Means obtained in form of Spikes, Setters and All-rounder's of Volleyball players on selected Anthropometric measurements

Certain Variables	Volleyball Players			Source of Variance	Sum of Squares	df	Mean Squares	F' Ratio
	Spikers	Setters	All-Rounder's					
Standing Height	159.00	154.65	163.28	Between With in	1487.85 1337.08	2 117	743.93 11.77	63.21*
Body Weight	55.65	57.08	62.20	Between With in	949.32 580.23	2 117	474.66 4.96	95.70*

*** Significant at .05 level of confidence**
 (The table value required for Significance at 0.05 level with df 2 and 117 is 3.05)

Table-1 shows that the mean value of Standing Height and Body Weight for Volleyball Spikers, Setters and All Rounder's were 159.00, 154.65, 163.28, 55.65, 57.08 and 62.20 respectively. The obtained F values 63.21 and 95.70 for the mean is more than the table value 3.05 for df 2 and 117 required for significance at 0.05 level of confidence. The results of the study indicate that there is a significant difference among the means values of Volleyball Spikers, Setters and All Rounder's on the Standing Height and Body Weight.

To determine which of the paired means had a significant differences, Scheffe's test was applied as Post hoc test and the results are presented in Table-2.

Table - 2
Ordered Scheffe's Post Hoc on Standing Height and Body Weight among Volleyball players

Certain Variables	Volleyball Players			Mean Difference	Confidence Interval
	Spikers	Setters	All-Rounder's		
Standing Height	159.00	154.65		4.35*	0.74
	159.00		163.28	4.28*	0.74
		154.65	163.28	8.63*	0.74
Body Weight	55.65	57.08		1.43*	0.48
	55.65		62.20	6.55*	0.48
		57.08	62.20	5.12*	0.48

*** Significant at .05 level of confidence**

Table-2 shows that the mean for differences on Spikers and Setters, Spikers and All Rounder's and Setters and All Rounder's on Standing Height were 4.35, 4.28 and 8.63 respectively. The values are greater than the confidence interval value 0.74, which shows significant differences at .05 level of confidence.

The mean for differences on Spikers and Setters, Spikers and All Rounder's and Setters and All Rounder's on Body Weight were 1.43, 6.55 and 5.12 respectively. The values are greater than the confidence interval value 0.48, which shows significant differences at .05 level of confidence.

The means values of Spikers, Setters and All Rounder's on Standing Height was graphically represented in the Figure -1.

The means values of Spikers, Setters and All Rounder's on Body Weight was graphically represented in the Figure -2.

Figure 1
Means Values of Spikers, Setters and All Rounder's on Standing Height

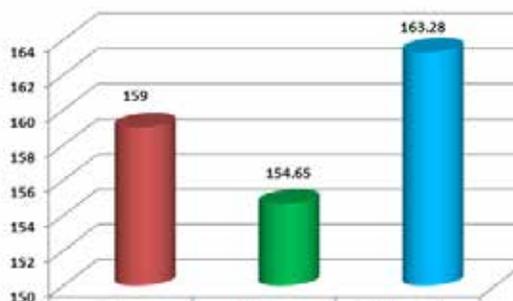
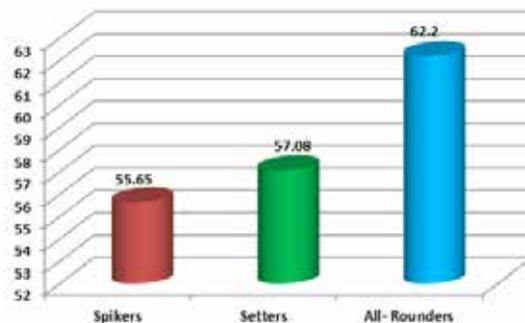


Figure-2
Means Values of Spikers, Setters and All Rounder's on Body Weight



CONCLUSION

Based on the results of the study the following conclusions were drawn.

1. There was a significant difference among women Volleyball Spikers, Setters and All Rounder's on Standing Height and Body Weight.
2. Volleyball All rounder's were found to be better than the Spikers and Setters in Standing Height and Body Weight.

REFERENCES

1. Gualdi-Russo, E. & Graziani, I. (1993). Anthropometric somatotype of Italian sport participants. *J Sports Med Phys Fitness*. 33(3):282-91.
2. Kamlesh, M.L. (2011). *Fundamental Elements of Physical Education*. Paperback; New Delhi
3. Lumpkin Angela (1986), "Physical Education: A Contemporary Introduction", Saint Louis: Times Mirror/Mosby College Publishing, pp.51-52.