Study on Morphological Characteristics of Junior College State Level Volleyball Players

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Abstract

Introduction: Sports play a vital role in modern society, especially in young athletes. In modem era the sports performance are highlighted in the newspapers, news channels & they become national & international heroes. To achieve highest performance they train hard, the coach try to get maximum from the sportsman's. Thus the study of morphological characteristics in sports has become significant role, because the best structure & physique of athletes will have best outcome in the high competitive world of sports. Sport is a highly organized form of play and play is a general innate tendency. Sports has very important role in growth and development of a human body.

PURPOSE OF THE STUDY

The main Purpose of this study was to investigate, selected morphological Characteristics of the Junior College State Level Volleyball players.

METHODOLOGY

The present study is to identify the significant and limited number of morphological variables of Junior College State Level Volleyball players, total **100** subjects were selected for fulfill the aim of the study. The age group of the above players was between 16 to 18 years and players were selected from different Junior College from Mysuru, Bangalore & Tumukur district.

RESULT:

In the Factor analysis Junior College State Level Volleyball players, Among the Thirty six Morphological variables Ten (10) components were identified. The indentified Morphological Characteristics were found significant & limited.

CONCLUSION:

From this study it was concluded that there was a significant role Morphological Characteristics of Junior College State Level Volleyball players & the morphological variables will helps in the selection of Junior College State Level Volleyball players.

KEYWORDS: Morphology, Anthropometry, Inter-University & Volleyball Players

INTRODUCTION

Sports play a vital role in modern society, especially in young athletes. In modem era the sports performance are highlighted in the newspapers, news channels & they become national & international heroes. To achieve highest performance they train hard, the coach try to get maximum from the sportsman's. Same way in sports has the perfect morphological characteristics (structure & physique) has best skill performance. The skill execution depends on the body movements and body structure.

Eg: In Volleyball height of sportsman will have better shooting ability, dunking, rebound collection & defensive tactics. Thus Morphological Characteristics of Volleyball players have impact on their performance.

In performance sports, competition provides the means by which one can show one's worth by competing successfully. Consequently sports competitions have triggered off a vigorous competition in research on sports physiology, sports psychology, sports training, sports nutrition and sports medicine. Competitive sports have brought into sharp focus many methods for improvement and achieving high level performance. Everywhere efforts are on to set up research laboratories so that ways and means could be found out to access and accelerate human performance in sports.

Dr. Sukhwinder Singh (2016) investigation finds the relationship between selected Anthropometric variables and performance of university-level Volleyball Players. For the purpose of the study, thirty (N=30) volleyball players were selected as subjects from the North Zone Inter-University Volleyball Tournament. The selected Anthropometric measurements were taken with the help of vernier callipers and Lange's skinfold callipers. The performance of the subjects was measured in terms of Spiking ability of the players during the match. Product moment method for inter-correlation was applied for analysis of data. The body diameters i.e. bi-acromial, bicrystal and elbow diameters have been found to possess positive and significant (p0.05) correlation with the performance. The skinfold measurements i.e. subscapular and suprailiac have been found to possess positive and significant (p0.05) correlation with the performance. It can be concluded from the findings of the present study that body diameters bi-acromial, bicrystal, and elbow and; subscapular, suprailiac biceps, and calf skinfold measurements contribute significantly to Volleyball performance.

Sarachandra (March, 2014) studied on anthropometric dimensions of Volleyball and volleyball players. To find out the purpose of the study eighty men intercollegiate players, forty Volleyball players and forty volley ball players were selected as a sample for the study. The data in respect of anthropometric dimensions were collected as per the standard procedure. The collected data were analyzed by using 't' statistical technique with the help of 19th version of SPSS. The results of the study shows that, there exists significant mean difference between Volleyball and volleyball players in the selected anthropometric dimensions, viz., height, arm length, chest girth, thigh girth, calf girth, there were no significant difference leg length.

Mala et al. (2010) presented the profile and comparison of body composition of the female national volleyball team of the Slovak Republic (senior team – SNT, U19, and U17). The body composition was identified with the use of the multi-frequency bioimpedance method (BIA 2000M). The monitored parameters included the amount of lean body mass (LBM), intra-(BCM) and extracellular mass (ECM) and BCM proportion in LBM (CQ), fat mass (FM), the phase angle indicating cell quality (a), total body water (TBW) and its distribution into intra – (ICW) and extracellular liquid (EDW). The authors recorded the values of female volleyball players indicating their good training load and corresponding to the values characterizing high-performance sport even in the category U17 when this team significantly differed from the senior team (SNT) only in FM ($p<.05$). On the contrary, team U19 and SNT were significantly different in FM, TBW, α, BCM, EDM/BCM, ECM/BCM, ICW, ECW and CQ ($p<0.5$). We assume that body composition indicators of the team may relate not only to the state of training load (players' physical preparedness) but also to the success of the team at important events.

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SUBJECTS

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THE VARIABLES

In order to assess morphological characteristics selected anthropometric measurements were under taken.

Administration of Tests

Morphological variables			
Length	**Skinfold**	**Width**	**Girth**
Body weight in Kgs.	Chest	Bi-epicondylar Humorous	Tensed Arm
Stature in Cms	Triceps	Bi-epicondylar Femur	Arm Relaxed
Sitting height	Biceps	Bi-acrominal width	Forearm
Leg length	Sub Scapular	Bi-iliocrystal width	Chest
Arm span	Supra Spinale		Waist
Hand Length	Abdomen		Thigh
	Thigh		Medial Calf
	Calf		

Varimax (Kaisers) rotated factor matrixes of Junior College State Level Volleyball players

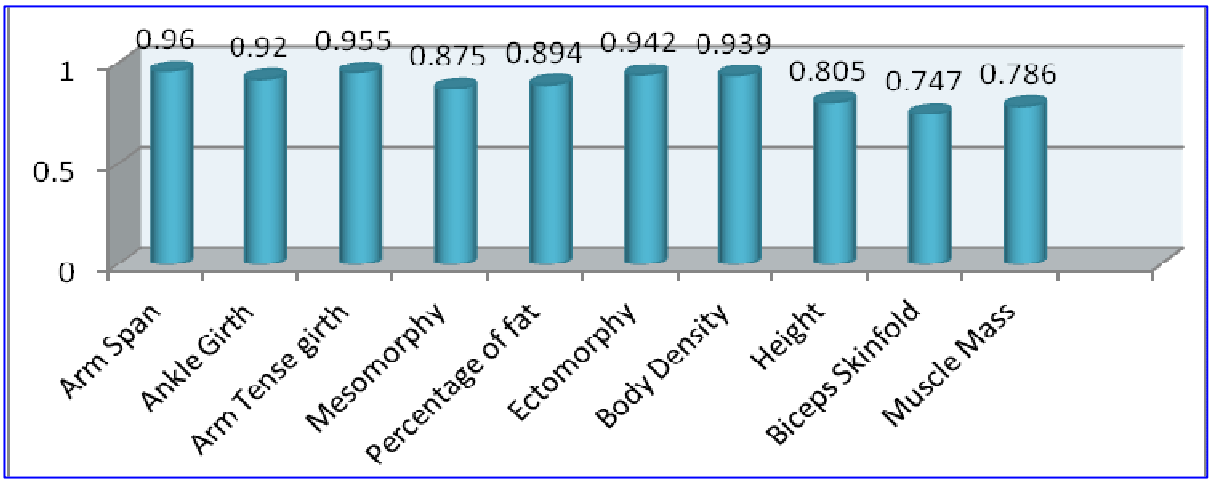
Variables	Component									
	1	2	3	4	5	6	7	8	9	10
Arm Span	**.960**									
Sitting Height	.951									
Arm Length	.948									
Leg Length	.948									
Shoulder Width	.938									
Chest Girth	.938									
Waist Width	.678	.401		-.381						
Ankle Girth		**.920**								
Calf Girth		.920								
Thigh Girth	.466	.704		-.324						
Abdomen Girth	.423	.683		-.341						
Waist Girth	.604	.651								
Mid Calf Skinfold		.459		.359		.301		.321		.348
Arm Tense Girth			**.955**							

Forearm Girth			.946							
Arm Relax Girth			.851							
Wrist Girth			.815							
Mesomorphy	-.301			**.875**						
Humorous Width				.825						
Femur Width				.776						
Percentage of fat					**.894**					
Endomorphy		-.424			.724					
Supra Spinal Skinfold					.722					.402
Chest Skinfold		-.303			-.528		-.472		-.317	
Abdomen Skinfold	-.381				.502		-.423			
Ectomorphy						**.942**				
Body Mass Index						-.939				
Body Density							**.939**			
Thigh Skinfold							-.631			
Triceps Skinfold		-.372			.378		.552			
Height								**.805**		
Hand Length	.472							-.611		
Sub Scapula Skinfold					.323	-.349		.478		
Biceps Skinfold									**.747**	
Weight									-.670	
Muscle Mass										**.786**
Extraction Method: Principal Component Analysis percent. Rotation Method: Varimax with Kaiser Normalization.										
Rotation converged in 10 iterations.										

Results

By the examination of the factor loading in the table, the eleven components extracted earlier represent arm span (0.96), ankle girth(0.92) , arms tense girth(0.955), mesomorphy(0.875) percentage of fat(0.894), ectomorphy(0.942, body density(0.39), height(0.805), biceps skinfold(0.747) and muscle mass(0.786) based on the high factor loading of related variables.

Figure 4.39 significant morphological variables of Junior College State Level Volleyball players



CONCLUSION:

The different factors loading of variables in Morphological characteristics of Junior College State Level Volleyball players, it was found that arm span (0.960) was maximum, while in muscle mass (0.786) was found to be minimum. From this research papers we came to conclusion, we found a significant role Morphological Characteristics of Inter university level Volleyball male Players & the morphological variables will helps in the selection of Junior College State Level Volleyball players.

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