



ANTHROPOMETRIC CHARACTERISTICS OF PRE COACHING SKILL PERFORMANCE & POST COACHING GAME PERFORMANCE OF THE INTER-UNIVERSITY VOLLEYBALL PLAYERS

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ABSTRACT:

INTRODUCTION: Sports play a vital role in modern society, especially in young athletes. In modern 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 Anthropometric 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 Anthropometric Characteristics of the of Inter-University Volleyball players.

METHODOLOGY

The present study is to identify the significant and limited number of Anthropometric variables of Inter-University Volleyball players, total 60 subjects were selected for fulfill the aim of the study. The age group of the above players was between 19 to 25 years and players were selected from Dharwad, Koppal, & Gulbarga universities of Karnataka state .

RESULTS:

The mean score 133.03 & stand deviation 6.72 for Post coaching game performance during Invitational competitions, which was higher than mean score of Pre coaching skill performance. The T-value of 9.514* is significant at 0.05 level of confidence indicates that there was a significant difference in the Pre coaching skill performance & Post coaching game performance during Invitational competitions during invitational competitions of inter-university volleyball players.

CONCLUSION: In the Anthropometry Variables Pearson coefficient of correlation values between pre-coaching skill performance and morphological variables such as leg length, sub scapula skinfold, supraspinal skinfold, shoulder width), arm tense girth, waist girth, abdomen girth, ankle girth, Body mass index, body density and endomorphy in the inter-university volleyball players were greater than of table 'r' value (0.128) at 0.05 level of confidence and they were significantly correlated with the pre-coaching skill performance at 0.05 level of confidence.

Pearson's coefficient of correlation values between game performance and morphological variables such as Body mass index, height, Weight, arm span, Leg Length, Thigh Skinfold, Femur Width, Muscle Mass, Body mass index and Mesomorphy were significantly positively correlated with the post coaching game performance during invitational competitions during invitational competitions of the inter-university volleyball players.

Therefore, it was concluded that there was a significant impact of Anthropometric variables in the inter-university Volleyball players

Keywords: Anthropometry, Skills, Performance & Coaching



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INTRODUCTION

Sports play a vital role in modern society, especially in young athletes. In modern 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 Anthropometric 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 Anthropometric 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 (α), 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.

PURPOSE OF THE STUDY

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METHODOLOGY

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THE VARIABLES

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

Administration of Tests

Anthropometric 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		

RESULTS:

Mean, SD and T-value computed for Pre coaching skill performance & Post coaching game performance during Invitational competitions of inter-university volleyball players.

Variables	Mean	Standard deviation	t-value
Pre-coaching skill performance	115.96	6.26	9.514 *
Post coaching game performance	133.03	6.72	

* Significant at 0.05 level (3.659), df=29

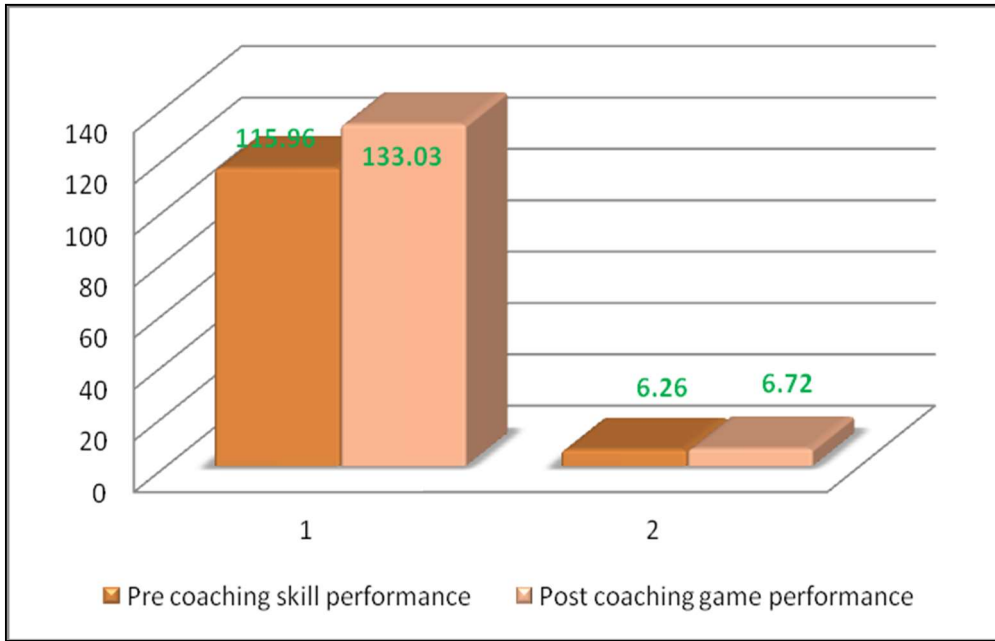
The below table shows that the mean score 133.03 & stand deviation 6.72 for Post coaching game performance during Invitational competitions, which was higher than mean score of Pre coaching skill performance. The T-value of 9.514* is significant at 0.05 level of confidence indicates that there was a significant difference in the Pre coaching skill performance



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& Post coaching game performance during Invitational competitions during invitational competitions of inter-university volleyball players.



Pearson's coefficient of correlation of selected morphological variables with pre-coaching skill performance of the inter-university volleyball players.

Si No	Variables	Pearson Correlation
1	Weight	0.116
2	Height	-0.117
3	Sitting Height	-0.385 ⁺
4	Leg Length	0.217*
5	Arm Span Length	-0.074
6	Arm Length	-0.058
7	Hand Length	0.001
8	Chest Skinfold	-0.178*
9	Triceps Skinfold	0.105
10	Biceps Skinfold	0.074
11	Sub Scapula Skinfold	0.155*



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12	Supra Spinal Skinfold	0.132*
13	Abdomen Skinfold	-0.334*
14	Thigh Skinfold	0.036
15	Mid Calf Skinfold	0.068
16	Humorous Width	-0.099
17	Femur Width	0.045
18	Shoulder Width	0.143*
19	Waist Width	-0.073
20	Arm Relax Girth	-0.071
21	Arm Tense Girth	0.241*
22	Forearm Girth	0.015
23	Wrist Girth	0.052
24	Chest Girth	-0.209*
25	Waist Girth	0.131*
26	Abdomen Girth	0.142*
27	Thigh Girth	-0.138*
28	Calf Girth	0.018
29	Ankle Girth	0.180*
30	Muscle Mass	0.122
31	Body mass index	0.174*
32	Percentage of fat	-0.005
33	Body Density	0.303*
34	Endomorphy	0.161*
35	Mesomorphy	-0.017
36	Ectomorphy	-0.141*

⁺ Correlation is significant at the 0.05 level.

⁺⁺ Correlation is significant at the 0.01 level



* Significant at 0.05 level (0.128) n=28, df=30

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Results

The above table shows that, Pearson coefficient of correlation values between pre-coaching skill performance and morphological variables such as leg length (0.217*), sub scapula skinfold (0.155*), supraspinal skinfold (0.132*), shoulder width (0.143*), arm tense girth (0.241*), waist girth (0.131*), abdomen girth (0.142*), ankle girth (0.180*), Body mass index (0.174*), body density (0.303*) and endomorphy (0.161*) in the inter-university volleyball players were greater than of table 'r' value (0.128) at 0.05 level of confidence and they were significantly correlated with the pre-coaching skill performance at 0.05 level of confidence.

Chest skinfold (-0.178*), abdomen skinfold (-0.334*), chest girth (-0.209*), thigh girth (-0.138*) and ectomorphy (-0.141*) of inter-university volleyball players were greater than of table 'r' value at 0.05 level of confidence and they were significantly negatively correlated with the Pre-Coaching skill performance at 0.05 level of confidence in the inter-university volleyball players.

Arm Tense Girth (0.407 +) is significantly positively correlated with the Pre-Coaching skill performance at 0.05 level of significance, in the inter-university volleyball players. Therefore, it was concluded that there was a significant relationship between Pre-Coaching skill performance and above morphological variables in the inter-university volleyball players.

Chest Skinfold (-0.641++), Biceps Skinfold (-0.568++), Sub Scapula Skinfold (-0.488++), Supra Spinal Skinfold (-0.620++), Abdomen Skinfold (-0.633++), Humorous Width (-0.512++), Femur Width (-0.631++), Percentage of fat (-0.639++), Endomorphy (-0.582++), Mesomorphy (-0.700**) are significantly negatively correlated with the Pre-Coaching skill performance at 0.01 level of significance in the inter-university Volleyball players. Therefore, it was concluded that there was a significant relationship between Pre-Coaching skill performance and above morphological variables in the inter-university Volleyball players

The remaining morphological variables such as weight, height, arm span, arm length, hand length, triceps skinfold, biceps skinfold, thigh skinfold, mid-calf skinfold, humorous width, femur width, waist width, arm relax girth, forearm girth, wrist girth, calf girth, muscle mass, percentage of fat and mesomorphy variables were less than that the table 'r' value (0.128) at 0.05 level of significance. It was concluded that there was no significant relationship between pre-coaching skill performance and morphological variables in Pre-Coaching skill performance of inter-university volleyball players.

Pearson's coefficient of correlation of selected morphological variables with post coaching game performance during invitational competitions during invitational competition of the inter-university volleyball players.

Si No	Variables	Pearson Correlation
1	Weight	0.294*
2	Height	0.276*
3	Sitting Height	-0.072
4	Leg Length	0.135*
5	Arm Span Length	0.396 *



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6	Arm Length	0.078
7	Hand Length	-0.281*
8	Chest Skinfold	0.103
9	Triceps Skinfold	0.028
10	Biceps Skinfold	0.119
11	Sub Scapula Skinfold	-0.017
12	Supra Spinal Skinfold	-0.163*
13	Abdomen Skinfold	-0.305*
14	Thigh Skinfold	0.235*
15	Mid Calf Skinfold	0.029
16	Humorous Width	0.107
17	Femur Width	0.169*
18	Shoulder Width	-0.064
19	Waist Width	-0.370 ⁺
20	Arm Relax Girth	0.019
21	Arm Tense Girth	-0.230*
22	Forearm Girth	0.117
23	Wrist Girth	0.096
24	Chest Girth	0.023
25	Waist Girth	-0.118
26	Abdomen Girth	-0.047
27	Thigh Girth	-0.065
28	Calf Girth	0.090
29	Ankle Girth	0.078
30	Muscle Mass	0.199*
31	Body mass index	0.263*



32	Percentage of fat	-0.164*
33	Body Density	0.102
34	Endomorphy	-0.214*
35	Mesomorphy	0.153 *
36	Ectomorphy	-0.084

⁺ Correlation is significant at the 0.05 level.

⁺⁺ Correlation is significant at the 0.01 level.

* Significant at 0.05 level (0.128) n=28, df=30

Results

The above table shows that Pearson's coefficient of correlation values between game performance and morphological variables such as Body mass index (0.263*), height (0.276*), Weight(0.294 *), arm span (0.396 *), Leg Length (0.135 *), Thigh Skinfold (0.235*), Femur Width (0.169*), Muscle Mass (0.199*), Body mass index (0.263*) and Mesomorphy (0.153*) were greater than the table 'r' value (0.128) at 0.05 level of confidence and they were significantly positively correlated with the post coaching game performance during invitational competitions during invitational competitions of the inter-university volleyball players.

Hand Length (-0.281*), Supra Spinal Skinfold (-0.163*), Abdomen Skinfold (-0.305*), Arm Tense Girth(-0.230*), Percentage of fat (-0.164*) and ectomorphy(-0.214*) of inter-university volleyball players were greater than the table 'r' value at 0.05 level of confidence and they were significantly negatively correlated with the post-coaching game performance during invitational competitions during invitational competitions at 0.05 level in the inter-university volleyball players.

Waist Width (-0.370⁺) is significantly negatively correlated with the post-coaching game performance during invitational competitions game performance at 0.05 level of significance in the inter-university Volleyball players. Therefore, it was concluded that there was a significant relationship between the post-coaching game performance during invitational competitions and above morphological variables in the inter-university Volleyball players.

The remaining variables such as sitting height, arm length, chest skinfold, triceps skinfold, biceps skinfold, sub scapula skinfold, mid-calf skinfold, humerus width, shoulder width, arm relax girth, wrist girth, forearm girth, chest girth, waist girth, abdomen girth, thigh girth, calf girth, ankle girth, body density and endomorphy morphological variables were less than that the table 'r' value (0.128) at 0.05 level of significance. It was concluded that there was no significant relationship between post coaching game performance during invitational competitions s during invitational competitions with morphological variables in the inter-university volleyball players.

CONCLUSION:

In the Anthropometry Variables Pearson coefficient of correlation values between pre-coaching skill performance and morphological variables such as leg length (0.217*), sub scapula skinfold (0.155*), supraspinal skinfold (0.132*), shoulder width(0.143*), arm tense girth (0.241*), waist girth (0.131*), abdomen girth (0.142*), ankle girth (0.180*), Body mass index (0.174*), body density(0.303*) and endomorphy (0.161*) in the inter-university volleyball players were greater than of table 'r' value (0.128) at 0.05 level of confidence and they were significantly correlated with the pre-coaching skill performance at 0.05 level of confidence.



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Pearson's coefficient of correlation values between game performance and morphological variables such as Body mass index (0.263*), height (0.276*), Weight(0.294 *), arm span (0.396 *), Leg Length (0.135 *), Thigh Skinfold (0.235*), Femur Width (0.169*), Muscle Mass (0.199*), Body mass index (0.263*) and Mesomorphy (0.153*) were greater than the table 'r' value (0.128) at 0.05 level of confidence and they were significantly positively correlated with the post coaching game performance during invitational competitions during invitational competitions of the inter-university volleyball players.

Therefore, it was concluded that there was a significant impact of Anthropometric variables in the inter-university Volleyball players

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