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## **A Study On Role Of Anthropometrics On Attacking And Its Relationship With Physical Performance Defending Skill Of Volleyball Players Telangana**

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### **ABSTRACT**

The fundamental things which are important to keep a decent build are physical strength and mental strength. Physical strength assists with deciding an individual's physical capacities, adaptabilities and possibilities. Be that as it may, on the opposite mental qualities assists with deciding force of responses, neuromuscular co-appointment and a well-suited judgment. These physical and mental qualities assist the person with playing out a movement appropriately. The wellness is a state of mental and moral wellbeing just as physical energy. It results, not from practice alone, but rather from keen utilization of overwhelming development in showing the kid as a bound together or life form. All out wellness provides the ability to suffer difficulty or to live in solace without losing drive. Independence from infection implies wellness in residing, either in the home at the ground or at the front, Fitness gives us the necessary strength, speed, tolerance and skills to achieve different undertakings of everyday life and furthermore assists with changing mentally and emotionally as indicated by the age of every person .But there are a few restrictions moreover. The constraints not set in stone by heredity. These constraints help to work on the living acts of the individual or as such impact to stay fit. The in general anthropometric attributes of these volleyball players can be depicted as high stature; moderately longer lower arm, palm, calf and Achilles' tendon lengths yet a more limited sitting height; more extensive femur, biiliocrystal and biacromial breadths; bigger contrast among loose and strained arm girth, more modest wrist and lower leg girths, more modest lower leg girth/Achilles' tendon length record; and more modest skin folds. The outcomes additionally uncovered that the majority of the anthropometric factors were ineffectively correlated with the chosen physical performance measurements, then again, actually the biepicondylar femur expansiveness, calf girth and calf length records were essentially correlated with the running leap height.

**Keywords:** Anthropometrics, volleyball players

## **INTRODUCTION**

Volleyball is an irregular group ball sport expecting players to have all around created physical and physiological limits and huge body control and mental working. As an open ability sport, sport-explicit body activities are acted in a somewhat powerful and evolving climate, which recommends the contribution of high perceptual-mental requests during a volleyball match.

Ongoing surveys gave proof of unrivaled general mental capacities in master competitors of group activities over non-master peers. The significance of mental capacities in open expertise sports has been shown particularly in soccer, in which undeniable level players exhibited preferable mental capacities over their low-level partners. Also, better mental capacities were viewed as related with future execution accomplishment in youthful soccer players. Comparative outcomes were likewise found for volleyball, where world class players exhibited preferable mental capacities over non-competitor controls.

A new report in volleyball has taken on a multi-layered way to deal with examine possible contrasts between players of various cutthroat levels. Volleyball-explicit abilities, course adjustment (COD capacity), vertical leap, and general mental capacities (leader control and perceptual speed) were viewed as prevalent in players contending at a more significant level contrasted with their low-level companions. Presently a day Sports, Physical schooling Volleyball sport have acquired gigantic fame all around the globe. Spurred by this reality, in sports and Physical training a review is making on Physical Anthropometrical Psychological and Performance of Volleyball players in Universities of Telangana area, India. From prior examinations, for example, Bose M led a scientific investigation of physical and execution factors, of college and state men Hockey players, playing and different playing surfaces. Ocean side volleyball is a plainly organized game with two essential circumstances.

In a normal side out, one group gets the adversary's serve, passes the ball, and attempts to score with an assault (Koch and Tilp, 2009a). The assaulting player can typically pick either a hard-driving spike or a delicate shot, which is ideally played over the square to the open piece of the court. The serving group is in guard and attempts to safeguard the assault by hindering/burrowing the assault and to score itself. The victor of a meeting will be the close to serve, so that side out and safeguard switch persistently between the groups (FIVB, 2017). While the serving player should be substituted each time this happens, the player that gets the serve can be something very similar in each side out of a group.[1]

Late years have seen many investigations on ocean side volleyball covering various parts of the games. One inquiry, which has not been examined up to this point, is

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whether disappointment in a side out influences the conduct of players in the following side out. In first class ocean side volleyball, a group is bound to score from a side out circumstance than from a guard circumstance. The explanation is that gathering of a serve is a lot more straightforward and more controllable than shielding an assault in light of the fact that the ball is hit nearer to the net and response time is less.

A meeting won by the serving group is in this manner called a "break," which is in contradistinction to numerous different games (e.g., tennis). At the point when a player doesn't score from side out, there is an expanded need and might be a psychological strain to change over the following side out. Since there are just two players for every group in ocean side volleyball and replacements are not permitted, the obligation of every player is higher than other group activities like volleyball. Thus, numerous competitors and mentors accept that players settle on various strategic choices after side out disappointments when contrasted with fruitful ones. [2]

The advancement of preparing in volleyball has been reflected in the expanded homogeneity of significant level competitors' qualities. Top groups are comparative in normal body tallness, and in physical and specialized exhibitions thus, matches between the best groups are regularly exceptionally adjusted. Seeing how the expertise execution markers connect with scoring of focuses is valuable for competitors and mentors in all group activities. As the vast majority of these groups, on the off chance that not all, are liable to exceptionally concentrated management in a few fields like clinical assessment, physical planning, psychological help, diet control and strategic direction, it is vital to know which abilities in volleyball contribute most to triumph. While inspecting the various abilities execution in plain view in a volleyball match (serving, hindering, assaulting, gathering, setting, and safeguard), it appears to be sensible that the group that makes the least blunders ought to be the one that is probably going to succeed. The outcomes saw and uncovered a critical impact of serve and assault viability (those that outcome in direct point) on the match result. Assaults, squares, and serves, because of the chance of scoring an immediate point, are viewed as Scoring Skills.

Then again, the safeguard, setting, and gathering methods are named Non Scoring Skills and accordingly ought to, from the beginning, offer less to a success. Regardless of this order, it is essential to recognize those abilities that generally separate for triumph. In addition, these examinations have been for the most part founded on the connection among adequacy and achievement. Nonetheless, in certain investigations, it has been demonstrated that in tip top groups, blunder in certain abilities might show a more significant level of dangers taken rather than specialized issues.

While perceiving the meaning of data from past exploration on this theme, we could see an absence of studies in volleyball that attention on the investigation of execution factors recognizing winning groups from losing ones. Hence, the point of the current review was to recognize the abilities that segregate for triumph. It appears to be proper

to lead this examination to further develop preparing approaches and execution in contest, giving valuable pointers to mentors, players and their groups. Each game has procedures so normal that they are applied consequently.[3]

These normal types of play are utilized because of different repeating athletic circumstances. Like different sports, volleyball has specific procedures which, when appropriately executed, work on the adequacy of a group's down and builds the opportunities for progress. Volleyball's essential systems should be visible obviously as far as the game's six fundamental abilities - digging, setting, spiking, obstructing, serving and getting the serve. Consequently, the point of the current review was to explore the relationship of fundamental mental capacities (straightforward response time, chief control, and perceptual speed) with sport-explicit physical execution, including volleyball-explicit abilities (exactness of setting, passing, and serving) and body abilities (COD, vertical leap, and equilibrium) in youth volleyball players. These factors were picked as a past examination showed their significance in separating volleyball players of various serious levels.

### **Anthropometric Measurements**

Anthropometry is the review structure, elements of the human body estimation for use in anthropological examination and furthermore order .The utilization of, for example, such information, skull aspects and body extents in the endeavor to arrange human creatures into - ethnic, racial remaining parts and public gatherings has been generally disparaged. Yet, anthropometric procedures are as yet utilized in pale humanities, and physical human sciences, not just that particularly to concentrate on developmental change in fossil primate. Anthropometric is something, that implies is of or relating with anthropometry. That is the investigation of the estimation of human heights, weight and so on the review perceives the motivations behind figuring human constitution qualification and various endeavors to co-related psychological conduct and physical with racial. Anthropometry includes making exact, exceptionally estimations of different body parts. So that size and shape could be depicted precisely and equitably. Essential anthropometric estimations incorporate those for body mass (wt) height (stature) and skin crease thickness.[4]

### **Anthropometric Variables**

1. Height..
2. Weight..
3. Foot Length..
4. Leg Length.
5. Thigh Length.
6. Hand Length.
7. Calf Girth

8. Thigh Girth
9. Chest Girth
10. Shoulder width

### **Explanations:**

#### **Height**

Tallness Stature is taken as the most extreme separation from the guide vertex on the head toward the ground. Height is the individual when standing erect on a horizontal outside with head and face in Frankfurt horizontal plane subject is uncovered footed.

#### **Weight**

Weight is a composite proportion of total body size. Weight of the minimum covered individual carcass with unfilled bowels and even these piece of clothing are later separately is realized right body weight.

#### **Foot length**

It is distance between the foot most back mark of the heel and the tip of the longest toe marked subject remove shoes and sock. Leg length It taken as is length between the tallness of iliospinal and the sole of the foot .It is the in an orderly fashion stature of the person exposed footed.

#### **Thigh length**

The Thigh length is circuit of the thigh on a middle place of femur length. It is the edge of the thigh with the subject standing erect.

#### **Hand length**

The distance estimated from the finish of the small wrist bone at the foundation of the thumb to the tip of the middle finger of the right hand, palm turned up, with the finger expanded and together.

#### **Calf girth**

Calf girth is the maximal periphery of the lower leg on over the calf muscle. It is the border of the calf with the individual standing erect, leg slightly separated with the body weight equally circulated on the two feet.

#### **Thigh girth**

Thigh girth is the periphery of thigh on a mid place of femur length. It is the border of the thigh with the subject standing erect, remained with weight equally conveyed on the two feet. Steel tape placed round the thigh horizontally.

### **Chest girth**

Chest girth is the normal boundary of chest at the level of the both nipple in front sub scapular rear end estimated of the normal expiration. The edge of the chest is taken from the horizontal level of the stamped mesosternale.

### **Shoulder width**

The border of the shoulder the subject remained with shoulder relaxed. Within edge of the proper arm, the armorial course of the shoulder blade inside edge of the moving arm laid on external edge of airmail interaction of the other shoulder blade.

### **Anthropometric and Physical Fitness Component Tests**

Anthropometric and physical fitness qualities gives significant data about normality of body size, health condition, and body shape. Human body extents give us data about the development of each body fragment. The goal of most investigations has been to recognize the level of physical fitness attributes at various ages; to evaluate anthropometric qualities for talent ID or for the level of body development; to calculate the proportional proportions in anticipating a few infections; or to evaluate the amicability of the body. All are vital to evaluating for health hazards, especially for metabolic and cardiovascular illnesses (Additionally, physical movement is a significant means to lessen and control weight and different health hazard factors). It is intriguing to concentrate on a portion of these qualities in the understudies of the faculty of Physical Education and Sports, as they will be the up and coming age of instructors who will teach the more youthful age about having a functioning life style and great health.[5]

Flexibility is the ability of an individual to move the body and its parts through as wide a scope of movement as possible without unnecessary strain to the articulations and muscle connections. An undeniable level of flexibility helps in saving energy during overwhelming development in light of the full scope of snapshot of the joint and muscles, the individual might be less inclined to injury. Flexibility is the scope of movement around a joint, high flexibility helps in lowering the wounds in all phases of life (Uppal, 2004). It is a vital part of sports execution that can be significantly improved whenever drawn closer correctly. Muscular strength is the ability of the muscle to apply power during action, and is vital for power lifters and weight lifters to further develop their presentation. Bodybuilders also work on greatest muscular strength in slow time of year program to accomplish more mass and solidarity to re-shape the muscles in on-season preparing program. Muscular perseverance is also plays a significant role in the presentation of individuals in different sports and games. Muscular perseverance is a significant fitness part and helps individuals in performing elite execution. Muscular perseverance is the ability of the muscles to keep on performing without exhaustion.

### **Application of Anthropometric Measurements**

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Anthropometry is the measurement of body size and extents. The measurements include body weight, stature, perimeter, skin fold thickness and hand widths and lengths measurements are widely used to evaluate and anticipate execution in different sports. Anthropometric measurements and morphological attributes play a significant role in deciding the accomplishment of a sportsperson Volleyball belongs to don exercises in which anthropometric qualities of its members influence the level of game execution. It was established that volleyball players contrasted with most different athletes have particular anthrop-morphological qualities An athlete's anthropometric attributes address significant requirements for successful cooperation in some random game Body stature, being the most trademark characteristic of volleyball players is significantly molded genetically Numerous past examinations have evaluated anthropometric profile of volleyball player Subsequently, the motivation behind this study was to look at the anthropometric qualities of volleyball players at various level of contest (for example between college level and between school level).[6]

### **OBJECTIVES OF THE STUDY**

1. To investigate the natural ability recognizable proof for the Volleyball game.
2. To see the connection between Anthropometric estimations and Physical Fitness factors among the various levels of Volleyball players in Telangana state.

### **Research Methodology**

Assessment of related works had provided us appropriate guidance in accepting a true strategy for assessing the connection boat of anthropometrical physiognomies with the physical wellness of recognizable proof ability of hand athletes. In this section the determination of subjects, basis measures, tools and strategies utilized in gathering information and statistical strategy applied for its investigation are portrayed.

Furthermore in this section likewise discusses the procedure and sums up how the exploration had done by the researcher. The clarification of various heads through; Selection of subject, Selection of factors, Procedure of recording anthropometric measurements (weight, height, midriff and hip circumference) or factors and Collection of physical wellness information, Reliability of information, Administration of test things and the statistical methods utilized for investigation for the information are definitively in this part.

To accurately reflect wellness status, measurements and aspects should be taken carefully utilizing normalized methods. The outcomes should be chronicled precisely and likened with the fitting references. Measurements don't should be done two times, in the event that the one measurement is done accurately, utilizing appropriate gear and strategy. Assuming there is any uncertainty about the accuracy of a measurement, it ought to be rehashed.

## Sample Size

The vital information on this chose Anthropometric and Physical wellness factors were gathered through 50 volleyball players from various level and various regions School, Coaching Canter, Training Canter, Volleyball and various grounds of Telangana state. All the test and measurement were directed during training meeting in evening segment.[7]

## DATA ANALYSIS AND RESULTS

The statistical examination of information has been introduced in this for going part. The information gathered for fifty (50) girls National, State, District and Subdivision level volleyball players from the territory of Telangana from among the age gathering of 12 years to 14 years, with individual chose boundaries can be assembled into two classes, specifically anthropometric variables and physical variables. These boundaries in particular anthropometric variables are as per the following - Standing Height, Weight, Foot Length, Leg Length, Hand Length, Thigh Length, Thigh Girth, Calf Girth, Chest Girth and Shoulder Width and physical variables are to be specific Speed, Strength, Power, Agility and Endurance, likewise volleyball performance variables is introduced in this section. For every player 7 unique boundaries were measured. [8]

### Description of Statistical Tables And Histogram

#### Anthropometric Variables Of Individual Parameter-Wise Analysis Parameter - 1: Age

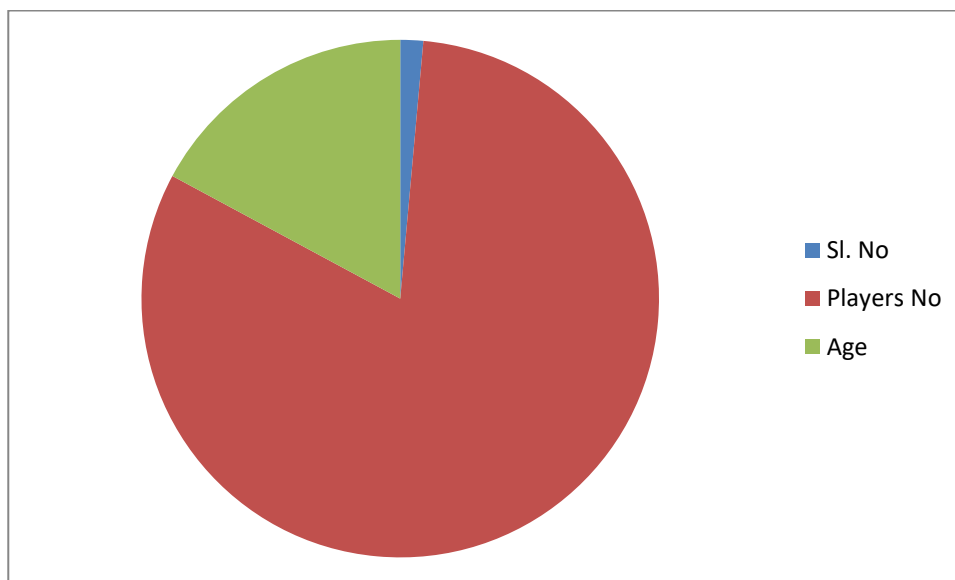
We first track down the appropriation of various girls volleyball players as per their age.[9] The accompanying outline (Figure 2) shows the age appropriation of various players. Among the volleyball players, there are 57 players with 12 years, 58 players are old enough 13 years and 85 players are have a place with 14 years old. Along these lines, the greater part of the players is at higher age bunch.

**Table 1: the Descriptive Statistics of distribution Volleyball Players by Age**

Sl. No	Players No	Age
1.	57	12
2.	58	13



3.	85	14
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**Graph 1: Distribution Of Volley ball Players By Their Age**

**Table 2 Description Statistics of volleyball players of 12-14 years age category in relation to performance Anthropometrical and physical fitness Analysis**

	Minimum	1st Quartile	Median	Mode	Mean	3rd Quartile	Maximum	Range	Variance	S.D	Standard Error of Mean
Age	12.00	12.00	13.00	14	13.14	14.00	14.00	2	0.694	.83299	0.0589
Standing Height	130.00	147.40	151.80	152	150.6	154.90	167.0	122	99.533	9.97663	0.70545
Weight	22.00	36.00	40.00	38.00	39.51	43.00	54.00	32	33.944	5.82611	0.41197
Foot Length	18.00	22.00	23.00	23	22.66	23.50	25.00	7	1.51	1.22901	0.0869
Leg Length	75.00	86.00	90.00	93	89.59	90.00	102.00	912	4051.087	63.64815	4.5006
Hand Length	12.00	15.80	16.00	16	16.02	17.00	26.00	14	1.278	1.13041	0.07993
Thigh	40.00	46.00	50.00	51	49.0	50.00	59.00	19	15.339	3.91650	0.2769

length					9						4
Thigh Girth	31.00	36.00	38.10	36	38.97	42.00	49.00	18	15.965	3.99557	0.28253
Calf Girth	14.00	26.80	28.00	27	28.37	30.00	35.20	21	8.101	2.84616	0.20125
Chest Girth	56.00	64.00	71.00	72	70.89	76.00	90.60	34.6	62.643	7.91475	0.55966
Shoulder Width	27.00	31.00	32.00	32	32.23	34.00	38.70	9	3.662	1.91368	0.13532
Speed	7.45	8.20	8.90	8.15	8.79	9.16	10.80	3.35	0.426	.65297	0.04617
Strength	123.00	162.00	172.00	163.00	172.60	182.30	209.0	205.91	416.294	20.40327	1.44273
Power	5.89	9.41	11.55	16	11.86	14.10	17.20	11.31	8.473	2.91076	0.20582
Agility	9.97	10.50	11.12	11.12	11.10	11.45	15.20	1203.9	3.77E+04	194.19292	1.37E+01
Endurance	1792	1908	1998	1905.00a	1994	2029	2320	7209	2.57E+05	506.48337	35.81378
Performance	3	13	15	17		17	17	14			

## RESULTS

### Discussion and Result Of 12-14 Years Of Age Group Volleyball Players

The statistical investigation of information result has been introduced in this section. The Anthropometric Measurements and Physical fitness information were gathered on 200 National, State, Districts, and sub-division level of various performance for ID of ability and Volleyball players with between 12-14 years age bunch.

#### Discussion

Research Scholar had taken this review with a thought that Anthropometric and Physical variables may have predominant and determinant job performance on Volleyball. On the off chance that the exact variable could be distinguished and which have most determinant extrapolative power for volleyball performance, it very well may be of gigantic training suggestion just as game mechanism for ability ID. The statistical examination play shown predominant part of the discoveries, chose variables for the scope old enough class in states of performance in volleyball. Research researcher is of the view that the discoveries have more than legitimized the purpose for which the review was for the most part get.

The statistical investigation of information on anthropometric and physical significant old enough 12 - 14 years girls uncovered there is significant affiliation enrolls in the middle of Intercept (- 10.545\*), Weight (0.017), height (0.008), calf girth (0.076) and thigh girth (0.164\*) and shoulder width (0.053\*\*), physical important of speed (- 0.477\*\*), strength (0.053\*\*\*), power (0.346\*\*\*) to the volleyball performance.

Signif Codes: \*\*\* =>1%, \*\*=>5%, \*=>10%. Here, the volleyball players Performance is = - 10.545 +0.008 (Standing Height) +0.017(Weight) +0.052(Foot Length) -2.56e-005(Leg Length) -0.164(Hand Length) - 0.072(Thigh Length) +0.164(Thigh Girth) +0.076(Calf Girth) -0.075(Chest Girth) +0.434(Shoulder Width) -0.477(Speed) +0.053(Strength) +0.346(Power) -0.001(Agility) +0.001(Endurance) 12 to 14 years categorise.

The chose variables as essential indicator of volleyball performance for various age classes of volleyball players are as per the following:-

Age 12 - 14 years: - performance indicator anthropometric and physical.

Thigh Girth, Shoulder Width, Speed, Strength, and Power.

Relapse condition discoveries as displayed above have fundamentally recognized Thigh girth and Shoulder width from anthropometric components. From physical boundaries Speed, Strength and Power recognized as having force of performance deciding in volleyball.

Further Thigh Girth variables were viewed as the essential assurance of volleyball performance. Thigh girth in various mix on the strength of various body parts in mix for example leg strength were viewed as essential assurance of volleyball performance in greater part of the 12-14 years classes. Better leg strength gives some additional energy. Thigh girth is straightforwardly proportionate to the strength. Consequently dangerous strength is a resource for a volleyball player which empowers him to make an intense drive bringing about speed. The speed development of legs and arms additionally worked with in volleyball performance. Consequently, the thigh girth might be treated as restricting variables in volleyball performance.

Further anthropometrical variables additionally uncover that shoulder width is essentially connected with performance in volleyball match-up. Shoulder width development are made conceivable by the capacity of the muscles to conquer the outer or interior opposition and furthermore articulation of solidarity capacity in various structures under various conditions. A volleyball player needs to lift his own body against gravity on every development and subsequently shoulder strength assumes significant part. Most extreme shoulder strength assumes a part while performing on the passing the ball to the colleagues are sure development, which are known as shoulder girth strength parts or strength components and execution, which drugs unadulterated strength.

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The anthropometric variables height is fundamentally connected with performance in volleyball and such might be utilized for expectation of volleyball performance. Physical of one more element for achieving discretionary performance. The necessity of physique I. e. height is different in various game and sports. Maximized execution height in different games and sports is different where as the normal height of the volleyball players is around 152 cms. Benefits morphological attributes of volleyball players work with the effective functioning the muscular and natural characteristics needed for the important dynamic and strong developments of brief term.

## CONCLUSION

Performance in Volleyball is altogether relationship was found in Weight, Height, calf girth and thigh girth in 12-14 years age bunch and as such these anthropometric variables and physical fitness variables might be utilized for ID of ability in Volleyball consequently might be treated as elements restricting performance in Volleyball.[10] The anthropometric variables in particular age, Standing Height, Weight, Foot Length, Leg Length, Hand Length, Thigh Girth, Calf Girth, and Shoulder width were found as great indicator of Volleyball performance as they are viewed as essentially connected with performance in Volleyball. In India many states took an interest in national competitions and expert teams vanquished the others. The principle reasons of control are absence of logical choice of game, instructing project, training and furthermore standard framework. Telangana state numerous girls teams take an interest at Block level to National level championship. If we such history of Telangana volleyball past recorded are requesting, yet long experience as player the researcher saw choice influence the team performance of volleyball players. The performance status of volleyball players of Telangana in this game is by all accounts risky at the national level.[11]

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