



## A COMPARATIVE STUDY OF BODY COMPOSITION OF JUNIOR AND SENIOR LEVEL INDIAN BASKETBALL MALE PLAYERS

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### ABSTRACT :

**B**asketball is a discontinuous sport where countless exercises and circumstances are created. Plus, basketball is portrayed by speed and rehased alters in the course of exercises and development, particularly since when the tenets were adjusted. There is an enormous measure of articles investigating and concentrate the anthropometry of basketball players, the parameters of basketball, its physiological requests, and the fitness level of the teams. In this paper we think about the lesser and senior's body organization of male players,

**KEYWORDS :** Basketball , countless exercises and circumstances .

### INTRODUCTION

The sport of basketball requires particular aptitudes that can be finished under unique conditions, by and large while moving at a fast or while evolving headings. Thus, fruitful basketball

competitors have a tendency to have high quality, power and deftness while keeping up a genuinely lean body composition. While the greater part of the expertise work is performed at a high force, a specific level of continuance is essential to meet diversion demands all through the term of the challenge. While the demands and attributes of the competitors vary by position, they are not as radically unique as a sport like football.

Basketball joins an assortment of individual and aggregate abilities that are executed with regards to aggressive play. Perfect physical make-up and physiology are not adequate for greatness in basketball. However, understanding these parts and utilizing this learning to make preparing and sustenance designs can profit competitors of all expertise levels. While quality, power and deftness may foresee achievement in basketball, the sport has a perseverance part and the oxygen consuming and anaerobic frameworks add to the general vitality demands. Ultimately, diversion and vital contrasts in playing style could affect the physiological necessities of the basketball player and ought not to be marked down.

### BODY COMPOSITION

Body composition, or the measure of lean bulk when contrasted with fat mass, is typically a thought for most sports, and distinctive compositions may anticipate achievement in various sports. While stature, obviously, is controlled by hereditary qualities, changes in body composition can be accomplished through legitimate preparing and nourishment. For some basketball players, keeping up their weight and lean mass through the long aggressive season is regularly the greatest issue.

Most elite basketball competitors have a tendency to be generally tall and lean. A particular body composition may not be a basic factor for accomplishment in basketball as in different sports, in spite of the fact that it unequivocally decides a player's position. The monitor position is typically portrayed by a lower body mass, body fat rate, and tallness, while the forward and focus positions are normally taller, heavier, and have a higher percent of body fat. A solid

relationship exists between body composition, oxygen consuming fitness, anaerobic power, and positional parts in elite basketball.

Furthermore, the information of body composition and fitness level of the players and their development through the season is extremely accommodating for the Head Coach, and additionally for the Strength and Conditioning Coach. The two can utilize these qualities to mentor and prepare the team in connection to certain specific perspectives that should be enhanced all together for the team to accomplish the elite or a superior execution.

The size and capacities of the advanced Basketball players are found to contrast from that of the early years. An enormous change in the normal height of the players is seen. The short quick players have been supplanted by transcending six and half footers, who can hand the ball into the Basket all the more effortlessly, because of their unusual reach. The normal height of the present Basketball players, is more than, that of other more established sportsmen. The propensity towards, tall and physically fit players are as yet developing. the physical make-up and body composition of Indian Basketball players, playing at various level of rivalry. They found that the players taken an interest at the most elevated amount of rivalry, were taller, heavier with greater trunk, longer furthest points and more extensive shoulders, when contrasted with players of lower levels, however the distinction was not factually noteworthy. Basketball players have altogether higher height, a safe distance, leg length, thigh size and weight than those of the handball, swimming and table-tennis players. The best positioning Indian national Basketball players and recorded the huge relationship amongst height and execution in rivalries in this manner more noteworthy the height of Basketball players prompts better his execution. It was clearly positive conditions for shooters to be a tall and lean write was especially reasonable for provoke activity, So they had the most appropriate body. The relationship of quality and anthropometrics measures to different arm quality criteria for mesomorphy and meso-ectomorphic school men.

Basketball players have fundamentally higher height, a safe distance, leg length, thigh circumference and weight than those of the handball, swimming and table-tennis players. The best positioning Indian national Basketball players and recorded the huge connection amongst height and execution in rivalries consequently more noteworthy the height of Basketball players prompts better his execution. Basketball players who normal 189.4 cm in height 84.3 kg in weight He expressed that it was a clearly great conditions for shooters to be a tall and lean write was especially appropriate for incite activity, so they had the most appropriate body. Further, the relationship of quality and anthropometrics measures to different arm quality criteria for senior and junior

## REVIEW OF LITERATURE

Hence, numerous past examinations have assessed perfect anthropometric profile of fruitful basketball also senior player (Apostolidis, Nassis, Bolatoglou, and Geladas, 2003; Gualdi-Russo and Zaccagni, 2001; Gabbett, 2008; Marques and Marinho, 2009; Sallet, Perrier, Ferret, Vitelli, and Baverel, 2005; Pelin, Kurkcuoglu, Ozener, and Yazici, 2009) that give bits of knowledge into the prerequisites for contending at top level specifically sports. Additionally, as far as anyone is concerned, there were no contemplate has thought about this execution between basketball and senior and junior at rivalry level. Consequently, the reason for this examination was to depict anthropometric attributes and body composition of junior and senior players and to recognize conceivable contrasts in connection to rivalry level.

(Gaurav, Singh, and Singh, 2010) and in addition the players from different sports This implies height is extraordinary favorable position in these sports, ideal from the reason that these sports require from their players dealing with a ball over their heads. Despite the fact that, these sports have a few comparative necessities, junior and senior are two sports with various specialized aptitudes and unique preparing and playing strategies and the creators trusted it is sensible to analyze the anthropometrical attributes and body composition of these athletic to check if there any contrasts among them. Consequently, this examination can confirm the conceivable contrasts that can help in the determination procedure and conceivable exchanging youthful players starting with one sports train then onto the next one amid the growing up period. It is likewise essential to specify that there is the majority of clear information concerning qualities of junior and senior players from America and Western Europe, despite the fact that there is an absence of information from our

area. Thus, this investigation expects to check if this is valid for on part of Dinaric Alps nations, the place where experience the general population with the greatest outright measure

Investigations of body composition in specific sports demonstrated that the competitors who were exceptionally lean however substantial in light of an all around created musculature were prevalent in execution in certain aggressive sports, for example, football, weight lifting and the shot put (Bullen, 1971). Then again competitors who have generous measure of fat tissue have wrinkled vitality demands attributable to the dormant weight of fat, along these lines rendering the work more hard to perform in continuance exercises, while the body needs to move longer with more prominent weight, Ledges 1953.

**RESEARCH METHODOLOGY**

Forty two male basketball players who took an interest in the North-East Zone Inter-University competition between the age gatherings of 18 to 25 years, in the sessions 2005-06 constituted the subjects of the examination. The information of the subjects was gathered by utilizing the anthropometric pole; vernier calipers, steel tape and skin-overlap calipers, as per the guidelines. Body composition factors i.e., body thickness, fat rate; fat weight and lean body mass separately, though quality measures factors i.e., Arm Strength and leg quality were estimated from 6Lbs Medicine ball Put and Standing wide hop test, individually. To get aggregate score of quality measures the score of arm quality and the score of leg quality were combined. The information were investigated by applying the Pearson Product Moment strategy for connection and Warry Do Equation for expectation of quality measures of basketball players with the assistance of SPSS (11.5) PC programming.

**RESULT AND DISCUSSION**

**Table 1 Correlations of body composition of junior male players**

Sr. No.	Variables correlated with strength measures	Mean	Std. Deviation	Co-efficient of correlation 'r'
	Arm Strength(cm)	1052.74	88.65	
	Leg strength(cm)	208.31	17.53	
	Cumulative Score of Strength measures(cm)	1245.05	99.18	
1	Body Weight (Kg.)	68.82	6.98	.765**
2	Standing Height(cm)	180.13	7.23	.770**
3	Sitting Height (cm)	88.27	4.55	.431**
4	Trunk Length(cm)	58.88	4.98	.422**
5	Total Arm Length(cm)	76.23	4.20	.697**
6	Leg Length(cm)	95.47	4.55	.760**
7	Hand Length(cm)	18.13	0.85	.471**
8	Hand Breath(cm)	8.72	0.45	.225

**Table 1: Mean, Standard Deviation And Correlation Value Of Weight And Linear Measurements To Strength Measure Of Basketball Players.**

\*\*Significant At .01 Level Of Significance = .393

\* Significant At .05 Level Of Significance = .304

**Table 2 Correlations of body composition of senior male players**

Sr. No.	Variables correlated with strength measures	Mean	Std. Deviation	Co-efficient of correlation 'r'
	Arm Strength(cm)	1053.74	89.65	
	Leg strength(cm)	204.31	15.53	
	Cumulative Score of Strength measures(cm)	1260.05	16.18	
1	Body Weight (Kg.)	68.82	7.53	.762**
2	Standing Height(cm)	179.13	5.23	.755**
3	Sitting Height (cm)	90.27	5.43	.428**
4	Trunk Length(cm)	60.88	5.98	.426**
5	Total Arm Length(cm)	70.23	2.20	.699**
6	Leg Length(cm)	95.47	4.55	.760**
7	Hand Length(cm)	20.13	1.02	.467**
8	Hand Breath(cm)	7.70	0.44	.228

**Table 2: Mean, Standard Deviation And Correlation Value Of Weight And Linear Measurements To Strength Measure Of Basketball Players. (N=42)**

\*\*Significant At .01 Level Of Significance = .394

\* Significant At .05 Level Of Significance = .304

The mean and standard of body composition of senior players are high in comparison with junior.

**Table 3 Descriptive data and ANOVA**

Variables	Junior	Senior	Control	ANOVA
	<b>Mean ± Standard Deviation</b>			
Height (cm)	198.50±7.37	199.53±3.89	183.72±7.60	0.00*
Weight (kg)	95.57±11.60	98.64±7.85	87.74±14.68	0.01*
BMI (kg/m <sup>2</sup> )	28.94±1.40	30.52±2.14	26.61±3.49	0.08^
Muscle content of body (%)	55.26±1.99	58.22±2.13	49.32±3.27	0.00*
Bone content of body (%)	10.22±0.77	15.46±0.82	15.78±1.78	0.01*
Fat content of body (%)	14±1.97	16.57±2.52	19.51±5.89	0.00*

The significant differences of anthropometric qualities among specific sports are appeared in Table 2. The LSD Post Hoc test shows that junior and senior players were significantly taller than the subjects of control assemble were, while there was no difference between the height of junior and senior players. This test likewise shows that senior's players were significantly athletes. Then again, the bone substance in the body of the subjects in charge amass was significantly lower than that of basketball players while there was no any difference in different cases. Finally, the fat substance in the body of the subjects in charge bunch was significantly higher than that of every single other subject, while there was no difference amongst junior and senior players.

## CONCLUSION

By the examination of information got in the investigation we can see that the body weight, standing height, sitting height, trunk length, a safe distance, leg length and hand length have very positive and huge

connections with quality measures of basketball players. It suggests that a player having ideal body weight relating to the standing height, give security to keep up body adjust while executing toss. While the straight estimations i.e., sitting height, trunk length, standing height, a safe distance and leg length give proficient use; with the goal that the ball can be tossed commandingly and precisely. Basketball game includes a ball gathering, ball tossing, distinctive hostile and cautious activities, covering the court in least advances, taking lay ups and dunks, bouncing back, jumping activities and so forth., which can be more effective with longer appendages and length of various body portions like a safe distance, leg length and hand length and so forth. .The consequences of the present investigation unmistakably underline this relationship.

The weight and direct estimations, i.e., body weight, standing height, sitting height, trunk length, add up to a safe distance, leg length and hand length; body breadths, i.e., elbow, hip and knee widths; body bigness, i.e., shoulder and hip circumferences; skin-overlap estimations, i.e., biceps, sub-scapular, thigh and calf skin-creases and body composition factors i.e., fat percent, fat weight and lean body mass have noteworthy relationships with quality measures of basketball players.

The different connection ( $R=.872$ ) of weight, height, a safe distance, leg length, knee breadth and lean body mass with quality measures of basketball players has noteworthy at .01 level of certainty. Besides, the estimation of different coefficient of determinant ( $R^2= .760$ ) recommends that 76.00 percent of change of quality measures of basketball players can be anticipated based on a relapse condition created by these six factors.

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