

A Comparative Study on Selected Anthropometric Variables Among Volleyball Players of Different Universities in Rajasthan

VIKRAM SINGH SHEKHAWAT¹, SACHIN SHEKHAWAT², BRIJ KUMAR³, DR. ARUN MATHUR⁴, DR VIJAY SINGH⁵

¹PhD scholar, Department of sports Suresh Gyan Vihar university

²Physical education Teacher Govt. of Rajasthan

³Lecturer, Delhi Public School

⁴Director of Sports Suresh Gyan Vihar University Jaipur

⁵Director of Sports University of Kota

Abstract— The purpose of the study is to assess and compare the anthropometric and variables of Volleyball players of different Universities of Rajasthan and find the relation of the variables with the team's performance in inter-university tournament To propose a framework to players as well as coaches estimating the area of anthropometric measurements. The research findings will lead to the analysis of other psychosocial variables which affect the playing performance To measure the anthropometric and psychosocial variables among players, 72 students from 6 universities were selected and tested on selected anthropometrical and psychosocial variables from six selected universities in Rajasthan state. 12 Players of age ranged from 17 to 25 years from each team were selected as subjects having past playing experience of at least three years in volleyball and represented their respective university teams in West-zone Inter-university tournament. the research scholar gleaned through the scientific literature on a related topic from different sources and different journals for the study. The inter - relationship among the selected anthropometrical variables with volleyball playing ability were computed by using descriptive statistics and subjective evaluation.

Index Terms- Volleyball players, Anthropometric component, Biacromial width

I. INTRODUCTION

Volleyball is one of the leading sports and played by millions of people around the world. In present time, this game is more competitive than the usual recreational game. Competitive volleyball is tactical sports. To, achieve the Top level performance in the game of volleyball, it essential that the proper selection may be made by the coaches/physical

education teachers in the initial stages. Coaches/physical education teachers must have adequate knowledge of scientific principal while selecting players and achieve top level performance after Necessary training. In the present time, volleyball requires a high level of development of physical, physiological and Anthropometrical factors to give the best possible performance. A player should have appropriate physical structure and body size suitable for this game. The Game demands quick and alert, well-coordinated players with great stamina to master its complex skill and playing situations. Performance of the Human motor is a composite of various variables one of which is body structure, the measurement specifications of the length of limbs, the circumference of chest, and build indices. All these can reveal the relationship between anthropometry and motor fitness of the athlete (Lidor *et al.*, 2005).

1.1 Objective of the study:

1. To acquire in-depth knowledge of the psychosocial variables and anthropometric component measurements of volleyball players at selected universities in Rajasthan.
2. To estimate the differences in significant parameters such as anthropometric measurements, and psychosocial variables among selected west zone Inter-University volleyball teams in Rajasthan.
3. To determine the relation of anthropometric and psychosocial variables with the performance of selected university teams in west-zone inter-university tournament.

4. To propose a framework to players as well as coaches estimating the area of anthropometric measurements, and psychosocial variables that influence the game performance.

1.2 Delimitation The study was delimited to 72 players of 6 west zone inter-university male volleyball teams of Rajasthan.

- The study was delimited to the age limit of 17-25 years.
- The study was delimited to emotional intelligence as the psychosocial variable.

II. METHODOLOGY

2.1 Tools & Technique:

Table-1

Sr. no.	Tool	Assured by
1.	Standard anthropometry tools	IRSPS
2.	SPSS (v.24)	IBM

2.2 Scoring: The methods of data collected from the inter-collegiate volleyball players on selected anthropometrical and psychosocial variables were explained below in detail. After obtaining permission from coaches and tournament committee directors, respective team members were contacted and informed about the purpose of the study. Upon receiving consent, administration dates and times were decided upon. A consent form was attached to

the questionnaire packets in order.

The following precautionary measures were taken to ensure the safety of each subject and investigators:

1. Review of medical history and fitness certificates of the subjects produced during the medical examination.
2. Subjects read and signed the attached informed consent letter.
3. Testing procedures were completely explained prior to testing. Testing could be terminated by the subject or the investigator at any time during the experiment.
4. Emergency numbers were posted at the testing site.
5. Biohazard precautions included: all testing personnel were required to wear latex gloves during testing and changed for each subject.
6. All information and materials pertaining to each subject was coded and locked in a file for confidentiality.
7. After the test, the biohazard materials were properly disposed to obtain consent from athletes.

2.2 Statistical Technique Used For analysis of relation of anthropometric and psychosocial variables with the performance in game and results in West Zone inter-university was calculated using Descriptive statistics using SPSS 24 software.

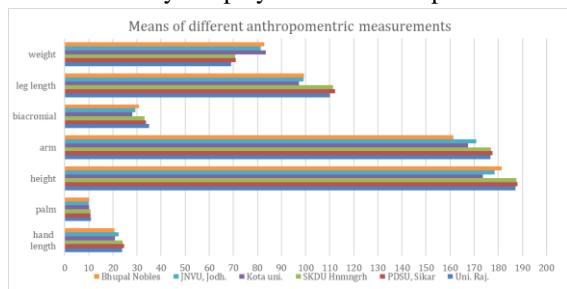
III. RESULTS AND DISCUSSIONS

Table - 3. One-way analysis of variance for total mental toughness score of west-zone interuniversity male volleyball players playing at different positions

	Uniiversity of Rajasthan.	PDSU, Sikar	SKDU, Hanumangarh	Kota university	JNVU, Jodhpur	Bhupal Nobles, Udaipur
Hand length	23.88	24.67	23.98	20.96	22.3	20.65
Palm length	10.88	10.705	10.77	9.98	9.92	10.03
Height	187.05	187.9	187.6	173.65	178.45	181.5
Arm span	176.83	177.67	177.065	167.415	170.76	161.35
Biacromial width	35.13	33.85	33.09	28.03	29.3	30.7

leg length	110.1	112.35	111.45	97.3	99.05	99.25
weight	69.19	70.9	70.75	83.5	81.4	82.8

Figure 1: Graphical representation of total mental toughness score of west-zone interuniversity level male volleyball players at different positions



CONCLUSION

Anthropometric characteristics of the players are referred to as the significant precondition for the accomplishment of the availability in the same sport, influencing the performance of the player as well as are essential for achieving the best performance of volleyball. The motor ability represents the general athletic potential of the players. In volleyball, several teams play against each other by maintaining the ball above the head. In such a kind of sport, height is the most significant physical characteristic. In volleyball and other anthropometrics variables have a significant role in achieving a magnificent level of playing. individual physical performance, anthropometric traits, tactical skills and technical knowledge are the most substantial attributes that contribute to the team’s success during competitions. The volleyball performance has the advantage in terms of optimal physique. Only if a volleyball team is fully loaded with the complete necessary anthropometric traits can surely win the game with great performance. 120 Depending on the outcomes of this research work, it can be concluded that having a body weight between 69kg-71kg, standing height between 185cm to 190cm, arm span between 175cm to 180cm, leg length between 110-113cm, hand length between 23 inch to 25 inch, palm length between 10.5 inch to 11 inch, biacromial breadth between 33 cm to 36 cm.

REFERENCES

- [1] *Text Book of Coaches Manual IV*, (1981), 1st edition, Ottoewa Inc: National Printers, pp. 192-215.
- [2] *Text book for coaches Digest, Level II* (1996), Lausanne: FIVB, pp. 172-201.
- [3] Weinberg R. S. & Gould D. (Eds). (2003). *Foundation of Sport and Exercise Psychology*. (3rd ed). Champaign, IL: Human Kinetics, pp. 213-218.
- [4] *Text Book of Rules of the Game, FIVB Official Volleyball Rules*. 2009-2012, (2009), Chennai, FIVB DC, p. 11.
- [5] Weinberg Robert S and Gould Denial (1995), *Foundations of Sport and Exercise Psychology*, Third Edition, Champaign: Human Kinetics, pp. 176-198.
- [6] Widmeyer, W. N., Brawley, L. R., & Carron, A. V, (1985). *The measurement of cohesion in sports teams: The Group Environment Questionnaire*. London, Ontario: Sports Dynamics, pp. 120-128.
- [7] Anizu, M, Kumaraswamy, N and M. Rush (2002), "Mental Toughness profiles as one of psychological predictors of injuries among Malaysian Professional Football Players", *Journal of sports science and medicine*. Vol. 3, p. 128-138.