

An Anthropometric Study of Tribal and Non Tribal Hockey Players

Vijay Kumar Chaurasiya

Research Scholar SoS in Physical Education Pt. Ravishankar Shukla University,
Raipur C.G, India

Abstract

The present study was conducted to compare the anthropometric profile of tribal and non-tribal junior male hockey players. To conduct the study 36 tribal origin male hockey players (Average age 17.69 years) and 36 non-tribal origin male hockey players (Average age 18.11 years) were selected as sample during junior national hockey championship. The anthropometric measurements i.e. height, weight, triceps skinfold, subscapular skinfold, supraspinale skinfold, calf skinfold, humerus biepicondylar diameter, femur biepicondylar diameter, biceps girth and calf girth was measured with the help of standard technique. Results reveal that non-tribal male hockey players exhibited significantly higher skinfold measurements as compared to tribal junior male hockey players. It was concluded that non-tribal male hockey players carry extra fat as compared to tribal male hockey players.

KEYWORDS : Tribal, Non Tribal, Hockey, Anthropometry, Chhattisgarh

INTRODUCTION

Taking various measurements and observations on the living man and skeleton with the help of various scientific methods comes under anthropometry. Anthropometry represents the typical and traditional tool of Physical Anthropology.

At higher level of competition where equal training is given to all the individuals, able anthropometric characteristics are of fundamental importance. At higher level even though there are variety of players from anatomical standpoint, it is more likely that specific anthropometrical qualities are necessary for players to achieve success.

Field hockey has saw quite a few changes during its long history with introduction of synthetic turf the technical, tactical and especially anthropometrical requirements to perform on these turf has changed dramatically. It has also been widely accepted that performance in field hockey is affected by anthropometric characteristics. So it is worthwhile to compare anthropometric profile of tribal and non tribal junior male hockey players so that shortcomings in the form of anthropometric requirements in field hockey can be ascertained comparatively between tribal and non tribal hockey male hockey players. The study is also useful because earlier studies conducted by Bale (1983)¹, Trepanier (2000)², Asghar (2012)⁴, Sharma et al. (2012)⁵ and many more did not throw light on comparative anthropometric profile of tribal and non tribal junior male hockey players of India, hence the present study was planned.

Hypothesis:

The anthropometric profile of junior male hockey players will differ significantly on the basis of their tribal-non tribal belongingness.

Methodology:

To verify hypothesis, the investigator formulated following methodological steps.

Sample:

. To conduct the study 36 tribal origin male hockey players (Average age 17.69 years) and 36 non-tribal origin male hockey players (Average age 18.11 years) were selected as sample during junior national hockey championship. Purposive sampling was used for selection of subjects.

Tools:

- 10 selected anthropometric measurements i.e. height, weight, triceps skinfold, subscapular skinfold, supraspinale skinfold, calf skinfold, humerus biepicondylar diameter, femur biepicondylar diameter, biceps girth and calf girth were measured by standard anthropometric procedures.

Procedure:

- Anthropometric measurements were taken as per availability and convenience of the selected players.
- The measurements for all ten anthropometric parameters was tabulated according to their respective groups i.e. tribal and non-tribal male hockey players.
- To compare anthropometric profile of the tribal and non-tribal male hockey player, statistical method 't' test was used. Results are presented in table 1.

RESULTS

In table 1, comparison of anthropometric characteristics between tribal and non tribal male hockey players is presented along with its statistical significance.

Table 1
Comparison of selected anthropometric characteristics of tribal and non-tribal junior male hockey players

Variables	Tribal Junior Male Hockey Players (n=36)		Non tribal Junior Male Hockey Players (n=36)		't'
	Mean	S.D.	Mean	S.D.	
Height	168.42	4.94	173.73	8.04	3.37**
Weight	59.89	4.52	66.40	6.07	5.15**
Tricep skinfold	5.10	1.63	8.01	3.13	4.95**
Subscapular skinfold	7.64	1.52	8.99	2.35	2.89**
Supraspinale skinfold	6.35	2.12	8.93	3.93	3.46**
Humerus bi-epicondylar diameter	6.50	0.62	6.45	0.66	0.31(NS)
Femur bi-epicondylar diameter	8.71	0.71	9.05	0.53	2.28*
Mid upper arm circumference	29.96	3.02	30.73	3.51	0.99(NS)
calf circumference	30.55	1.53	32.46	3.06	2.65**

* Significant at .05 level; ** Significant at .01 level; NS - Not Significant

Analysing entries reported in table 1 following facts were discovered-

- Non tribal junior male hockey players were found to be taller and heavier as compared to tribal junior male hockey players at .01 level of statistical significance.
- Tricep, subscapular skinfold and supraspinale skinfold measures were found to be significantly higher in non tribal junior male hockey players as compared to junior tribal male hockey players.
- Measurements on humerus bi-epicondylar diameter of tribal and non-tribal junior male hockey players did not show any significant difference but femur diameter measurements of non tribal junior male players was significantly greater as compared to the tribal junior male hockey players.
- No significant difference was observed on mid upper arm circumference between tribal and non-tribal junior male hockey players ($t=1.87$, $p>.05$) while calf circumference of non tribal junior male hockey players was found to be significantly greater as compared to tribal junior male hockey players.

CONCLUSION

The result indicate significant impact of tribal, non-tribal belongingness on anthropometric profile of junior male hockey players with higher values of skinfold in non-tribal junior male hockey players as compared to tribal junior male hockey player as significant indicator. Hence it can be concluded that skinfold measurements of tribal junior male hockey players gives them advantage over non tribal junior male hockey players as far as anthropometrical considerations in hockey are concerned.

REFERENCES :

1. Bale P. and Davis P.M. (1983): The physiques, fitness and strength of top class women hockey players. J. sports medicine, Vol.-23, pp.80-88.
2. Trepanier, A. (2000). Physiological characteristics and performance of NHL entry draft players. Health Science and Recreation, pp.69, McGill University, Canada, Jun. 2000.
3. Asghar, E. (2012). A Comparative Study of Multidimensional Talent in Field Hockey at Development Stage between the Players of Germany and Pakistan. Dissertation Abstract Internationale, Universität Leipzig.
4. Sharma A, Tripathi V, Koley S. (2012). Correlations of anthropometric characteristics with physical fitness tests in Indian professional hockey players. J. Hum. Sport Exerc. Vol. 7, No. 3, pp. 698-705, 2012.