



DIFFERENCES OF KINANTHROPOMETRIC VARIABLES IN MALE HOCKEY PLAYERS IN RELATION TO FIELD HOCKEY PLAYING POSITION

Dharmendra Singh

Research Scholar, Mahatma Gandhi Chittrakoot Gramodaya Vishwavidyalay Chittrakoot - Satna (MP)

Dr. D.C.Lal

Professor, Department of Physical Education University of Allahabad (U.P.)

ABSTRACT The purpose of this study was to find out differences of Kinanthropometric variables body height & body weight in male hockey players in relation to playing position. The study delimited to body height & body weight Kinanthropometric variables only. Fifty male hockey players who participated in Inter- University from Allahabad University those ages between 18 to 28 years were selected as subjects for this study. The players were grouped as Goalkeeper, Right Fullback, Left Fullback, Left Half, Right Half, Center Half, Inside Right, Inside Left, Outside Right, Outside Left, Center forward. To determine differences between groups, the analysis of variance (ANOVA) was used. The level of significance was set at .05. It has been observed from the analysis of given data and interpretation of findings that no significant differences of body height & weight in relation to playing position was found among different male hockey players.

KEYWORDS : Kinanthropometric, Body height, Body weight, Playing Position, Field Hockey

Introduction:

Hockey is undoubtedly one of the most popular sports in the world. There are different levels of hockey tournaments in different countries. In India national level, state level, inter-university and district level hockey tournament are played. Research on performance of hockey usually focuses on players. Such studies attempt to understand those aspect related to the optimization of player' resources and to classify competition demands. Game situations allow coaches to identify some variables that can differentiate the best and worst teams and consequently lead to improve results. A game of field hockey is won by outscoring the opposition. The minimal equipment requirement and simple rule have aided its spread and growth in popularity.

Field Hockey is a popular recreational or competitive sport enjoyed by many people of all ages and skill levels. However, for the future growth and success of Field Hockey, it is of primary importance that a large number of young people are attracted to it. The interest in Field Hockey should be encouraged for several reasons. One of them is the nature of Field Hockey movements, which bring together a great number of children and young people and this sport can solve problems of physical development, of certain forms of behavior, and problems of spiritual and moral values. The next step is selection itself as optimal way of selecting health, constitutional and other characteristics of the young people adapted to the needs of Field Hockey. Formation of one Field Hockey player is a long and complex process that implies quantitative and qualitative learning. One of the processes of becoming a Field Hockey player involves Field Hockey camps, where a review and training are done of all that a player has learned and mastered by then. In the camp the young Field Hockey players about fitnesses of a sport they have up to that point practiced through individual work with coaches (Field Hockey specialization), they also practice specific Field Hockey skills and get directions to improve the performance of the general elements of Field Hockey. There are some differences in morphological characteristics and that effective realization of the elements of the game are directly and indirectly affected by many factors from the area of anthropological status of the Field Hockey players. The task of this study is to explore and determine how much are male Field Hockey players different in body height & weight, depending on their position in the team. Unfortunately, the body of research addressing issues of anthropological status of male and female Field Hockey players is not deep. Any scientific study always strives to every "why" getting its "because", and starting this study we are determined to find our "because".

Methodology:

Fifty male hockey players, who participated in Inter University from Allahabad University those age between 18 to 28 years, were selected as subject for this study. Players were grouped as Goalkeeper, Right Fullback, Left Fullback, Left Half, Right Half, Center Half, Inside Right, Inside Left, Outside Right, Outside Left, Center forward. The body weight taken with help of weighing machine in grams and the body height measured through the stadiometer in the gymnasium of

department of physical education university of Allahabad. Each test was interpreted in detail, and the subjects were familiar with the method, technique and conditions under which each is performed. Method of demonstration was used to help participants gain a general, visual idea of the actions that they need to do. To determine the body weight & height difference between the groups analysis of variance (ANOVA) test was used to compare the means of different groups. The level of significance was set at .05.

Results and Discussion:

The results were obtained based on the value of degrees of freedom $df_1 = 10$ and $df_2 = 44$ and the limit value of F-test. Those where (limit) value of F-test is greater or equal to 2.05 [10] at the significance level of $p = 0.05$ were confirmed as significant.

Table-1

Analysis of variance of differences of body height in male hockey players in relation to playing position

Source of variability	Df	SS	MS	F-Ratio
Between groups	10	413.78	41.37	1.469
Within the groups	44	1239.06	28.16	
Total	54	1652.84		

$df_1 = 10; df_2 = 44; f = 2.05; p = 0.05$

Legend: SS – Sum of Squares; MS – Means Squares; df – Degree of Freedom; F – F test;

P-value – the significance level;

Table 1, in which body height variable was analyzed shows that the value of F-test is 1.469, which is lower than the calculated limit. On this basis, it can be concluded that the differences between the groups for body height variable do not exist that are not statistically significant at tabulated F value (2.05) at (10, 44) degree of freedom and .05 level of significance.

Table-2

Analysis of variance of differences of body weight in male hockey players in relation to playing position

Source of variability	Df	SS	MS	F-Ratio
Between groups	10	64.61648	6.461	1.202
Within the groups	44	236.4879	5.374	
Total	54	301.1044		

Table 2, in which body weight was analyzed, shows that the value of F-test is 1.202 and that it is lower than the calculated limit. On this basis it can be concluded that the differences between the groups in terms of body weight do not exist and that are not statistically significant at tabulated F value (2.05) at (10, 44) degree of freedom and .05 level of significance.

Conclusion:

The analysis of the data revealed that body height difference does not exist between the groups it is necessary, first, to talk about specific

positions on hockey field. It has already been mentioned that modern hockey requires extremely physically fit and technically sound in all positions. This is not particularly desirable in the game at the field, and differences not found in relation to body height of male hockey players. In addition to the longitudinal dimension of the skeleton and body height as its biggest representation in the anthropometric characteristics, it is important to also emphasize body weight, girth measurements and body fat and body weight. Differences between the groups in terms of body weight do not exist because hockey is considered as the speed endurance game which required fast movement of the body so that players control their body weight for performing sudden body movement. Hockey players is not a weight categories competition and overweight restrict players to perform free skills because of this hockey players control body weight in proportion to height so that no significant differences is found in body weight of hockey players in relation to playing position.

References:

1. Bajrić, O., Šmigajlović, M., Ismet Bašinae, I. & Bajrić, S. (2012). Globalne kvantitativne promjene bazičnih i situaciono-motoričkih sposobnosti pod uticajem programa odbojke [Global Quantitative Changes of Basic and Situational-Motor Abilities Under the Influence of Programmed Volleyball Practice]. *Sports science and health*, Vol. 2 Issue 1. 22-29.
2. Bala, G. (1986). *Logičke osnove za analizu podataka iz istraživanja u fizičkoj kulturi*. Novi Sad: samostalno izdanje autora.
3. Đurković, T. (2009). Razlike među skupinama odbojkaša u morfološkim, motoričkim i funkcionalnim obilježjima s obzirom na kvalitetu, ekipni status i uloge u igri. [Differences in morphologic, motoric and functional characteristics between the groups of volleyball players of different quality level, team status and playing role.] *Doktorska disertacija*. Zagreb: Kineziološki fakultet.
4. Iashvili, A. (1982). Active and Passive Flexibility in Athletes Specialising in Different Sports. *Teoriya i Praktika Fizicheskoi Kultury* 7: 51-52.
5. Ivanić, S. (1988). Kriterijumi za procenu fizičkog razvoja i fizičkih sposobnosti dece i omladine uzrasta od 7 – 19 godina (normativi) [Criteria for evaluation of physical development and physical abilities of children and adolescents aged 7 - 19 years (norms)]. Belgrade, RS: Gradska samoupravna interesna zajednica fizičke kulture Beograda.
6. Janković, V., Đurković, T. & Rešetar, T. (2009). Uvod u specijalizaciju igračkih uloga u odbojci. *Priručnik*. Zagreb: Autorska naklada.
7. Janković, V., Janković, G. & Đurković, T. (2003). Specifična fizička priprema vrhunskih odbojkaša. *Zbornik radova. Međunarodni znanstveno stručni skup. "Kondicijska priprema sportaša"*. 442-450.
8. Jurko, D., Grgantov, Z. & Čular, D. (2008). Razlike u visini tijela, te visini dohvata za smeč i blok kod vrhunskih juniorskih odbojkašica različite situacijske uspješnosti. U: Maleš B. (Ur.). *Zbornik radova međunarodnog znanstvenog kongresa "Suvremena kineziologija"* Mostar. 127-131.
9. Karalić, T. (2010). Preciznost kao faktor uspješnosti u tehničko-taktičkim strukturama odbojke. *Doktorska disertacija*. Istočno Sarajevo: FFVIS.
10. Karalić, T. Marelić, N. & Vujmilović, A. (2012). Struktura izolovanih faktora preciznosti odbojkaša. *SportLogia*, 8(1), 65–73.
11. Kurz, T. (1991). *Stretching scientifically: guide to flexibility training*. Independent publisher Group.