A COMPARATIVE STUDY OF SELECTED ANTHROPOMETRIC VARIABLES BETWEEN UNIVERSITY LEVEL HOCKEY AND CRICKET PLAYERS

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Abstract

The purpose of the study was to compare selected anthropometric variables between university level Hockey and Cricket male players. The subjects for this study were (N=32) male were 16 each from Hockey and Cricket players and age ranged from 21 to 25 were purposive selected from Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.). The selected anthropometric measurements like biceps skin fold width, triceps skin fold width, sub scapular width, suprailiac skin fold width, thigh skin fold width, calf skin fold width, chest skin fold width, abdominal skin fold width. The statistical technique employed for this study was independent 't' test at 0.05 level of significance. As per the statistical analysis insignificant difference was found between Hockey and Cricket players in respected to selected anthropometric variables biceps skin fold width, triceps skin fold width, sub scapular width, suprailiac skin fold width, thigh skin fold width, calf skin fold width, chest skin fold width, abdominal skin fold width at (p < 0.05).

Keywords: Anthropometric, skin fold, hockey and Cricket.

Introduction

Anthropometry is the branch of anthropology that is concerned with the measurement of human body. Anthropometry involves the measurement of external part of the body, including body diameters, body circumferences somato types. Hockey and Cricket is a popular team game in most Commonwealth countries and worldwide. In past it was played solely in a specific season (in Asian countries it was winter and in western countries it was summer). But its popularity has gained tremendous momentum since last three decades and now it is played throughout the year. Hockey is an intermittent endurance sport involving short sprinting as well as movement with and without ball (Manna et al. 2009). Successful performance in Hockey is influenced by morphological and anthropometric characteristics such as body size and composition, functional parameters (physical capacity) (Withers and Roberts 1981; Bale et al. 1986). To excel in a physically competitive sport, the player must possess such dimensions of body characteristics are known to be of fundamental importance for individual development to achieve Olympic level performance in a sport. Measurements of body include such descriptive information as height, weight and surface area, while measure of body proportion describes the relation between the height and weight among length, widths and circumference of various body segments. It has been found that the top athletes in some sports tend to have those proportions that biomechanically aid the

particular performance required (Zeigler, 1982). As a result, physique which includes the evaluation of size, shape and form of an individual is of prime importance as to know how far an individual can succeed in becoming a top athlete. Studies have also shown that champion's of different sports require different qualities with respect to their events. Morphological parameters are an essential part of the evaluation and selection of sports persons for diverse fields of sports, standard data on such parameters are still lacking in the Indian context. Therefore, observing the felt requirement, we consider it necessary to attempt a compare selected anthropometric variables between Cricket and Cricket players. Keeping in mind the purpose of the study it was hypothesized that there might be insignificant differences between Hockey and Cricket players in respected to selected anthropometric variables.

Methodology

The subjects in this study were (N=32) male Hockey and Cricket players belongs from Guru Ghasidas University, Bilaspur (C.G.). To compare selected anthropometric variables between Hockey and Cricket players, t- test was applied at the significance level of 0.05. All anthropometric measurements are based on standard methodology adopted from Harpendon, Lange and Layaffatte. The equipment used for measuring selected skin fold by Harpendon skin fold calipers (British indicators Ltd., West Sussex, UK), to the nearest 0.1 mm at a standard pressure of 10 gm/mm square on the skin fold.

Results and Findings

The minimum and maximum ages were similar in both the groups and the mean age of the Hockey player was 22.6 and for Cricket player was 21.7. The means and standard deviation of the anthropometric variables of the two groups along with the significance of difference by way of 't' test has been presented in table no.-01.

TABLE NO.01
SIGNIFICANCE DIFFERENCE OF MEAN OF ANTHROPOMETRIC VARIABLES BETWEEN HOCKEY AND CRICKET PLAYERS

Anthropometric Variables	Hockey Players (N=16)		Cricket Players (N=16)		't' Value
	Mean	S.D.	Mean	S.D.	
Biceps skin fold width	7.00	2.80	5.75	1.23	1.63
Triceps skin fold width	11.09	2.75	12.43	3.05	1.30
Sub scapular skin fold width	12.53	2.90	13.00	1.67	0.558
Suprailiac skin fold width	12.00	2.28	13.93	3.29	1.93
Calfskin fold width	9.62	2.06	9.37	1.31	0.409
Thigh skin fold width	15.12	3.17	14.43	2.80	.656
Chest skin fold width	6.31	1.19	7.43	2.09	1.86
Abdominal skin fold width	14.62	2.44	15.43	2.09	1.00

*Significant at 0.05 level of significance t $_{(0.05)(30)}$ = (2.045)

Table No.01 describes the statistical attributes of anthropometric data of Players (21-25 years) of Hockey and Cricket players. From the results of the distribution of 't' value of the eight-anthropometric measurements, insignificant differences were noted in the biceps skin fold width (1.63), triceps skin fold (1.30), sub scapular skin fold width (.558), suprailiac skin fold width (1.93), thigh skin fold width (.656), calf skin fold width (.409), chest skin fold width (1.86), and abdominal skin fold (1.00) width at level ($p < 0.05$) between the Hockey and the Cricket players were found.

Discussion of Findings

Hockey and Cricket players require potential stamina to excel the performance. The game is gaining tremendous popularity worldwide. Although every player of the team is required to give better performance during the match, generally, each player possesses specific skills that defines their role and contributes to overall performance of the game (Stuelcken et al., 2007).

The results of the study indicate that there was insignificant difference in anthropometric variables of Hockey and Cricket players in respected to (biceps, triceps, sub scapular, suprailiac, thigh calf, chest and abdominal skin fold). Mean of respected anthropometric variables of Hockey and Cricket players' minor difference, which indicate that nature of training, physical appearance and physiological demand are some were same which reflect in the anthropometric variables. It may be due to the training effect the Cricket and Hockey players developed these variables equally. Physical characteristics and body composition have been known to be fundamental to excellence in athlete's performance and it has relationship with the anthropometric characteristic of body (Mathur & Salokun, 1985). It has been found that the athletes with lower body fat percentage had higher maximum oxygen uptake (VO2max). In other words, the athletes with lower body fat percentage seemed to utilize oxygen most efficiently (Heck, 1980), while the excess of body fat was reported to be a deterrent to physical performance. Further result also estimates that body fat percentage has no difference because selected variables are found insignificant which the marker of body fat is.

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