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Correlation between playing ability and anthropometric profile of Sri Lankan Male Cricketers

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Abstract
The present investigation aims to find out the correlation between playing ability and the anthropometric profile of Sri Lanka male crickets.The players participated from nine province (Central, Eastern, North Central, Northern, North Western, Sabaragamuwa, Southern, Uva and Western) for national sports competition (2015) in Cricket (135 players) were identified as subjects for this study. The age of the subjects ranged between 18 and 28 years as per the eligibility proforma of the individual. The Cricket playing ability was selected as dependent variable the same was assessed by subjective rating. The Height, Weight, Upper Arm Relaxed Girth. Fore Arm Girth, Chest Girth, Wrist Girth, Waist Girth, Thigh Girth, Calf Girth, Angle Girth, Acromiale Raiale Length, Raialesylion Dactylion, Midstylion Dactylion Length, Foot Length and Leg Length,. Were selected as independent variables and tested by standardized procedure. The data were collected for playing ability and other selected independent variables. In order to examine the association between playing ability and selected independent variables simple correlation was calculated (P>.05).The result of present study shows significant association with cricket playing ability and the selected criterion variables among Sri Lankan Cricketers. Further, it shows Waist Girth has negatively correlated with performance and weight has insignificant with playing ability.

Keywords: anthropometric, correlation, playing ability, cricket

Introduction

Anthropometry has a rich tradition in sports sciences and sports medicine. In different times, different terms were used like dynamic anthropometry, sports anthropometry, biometry, physiological anthropometry, anthropometrica, kinanthropometry etc, by scientists to establish some relationships between the body structure and the specialized functions required for various tasks (Koley, 2006). In fact, it is well established that each individual is unique. The extent of human variability is so enormous that no two individuals can ever be exactly the same. Anthropometric and morphological parameters are the sensitive indicators of physical growth and nutritional status of the athletes for their maximal performances (Wilmore & Costill, 1999; Chatterjee *et al*., 2006) [5].

Cricket is a field-based popular team game in most Commonwealth Countries. Especially at Sri Lanka, it is very famous in the past and present; it was played solely within a specific season (winter in Asian countries and summer in western countries). But the game has gained so much popularity in the last few decades that it is now played throughout the year. Cricketers are therefore exposed to more demanding schedules, with longer periods of training and practicing. The increased workload may be one of the contributing factors to the increased incidence of injuries (Davies *et al*., 2008) [7]. To select a Cricketer the procedures adapted by the selector is their current performance, physical fitness and medical fitness but there is no specific system to identify the cricketers at an early stage for training and it is difficult to identify the players at an early stage. Hence, that research has made an attempt to identify the most correlated anthropometric quality with playing ability of Sri Lankan male Cricketers.

Methodology

The players participated from nine province (Central, Eastern, North Central, Northern, North Western, Sabaragamuwa, Southern, Uva and Western) for 41st national sports competition (2015) in Cricket (135 players) were identified as subjects for this study. The age of the subjects ranged between 18 and 28 years as per the eligibility proforma of the individual.

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The Cricket playing ability was selected as dependent variable and assessed by subjective rating. The Height, Weight, Upper Arm Relaxed Girth. Fore Arm Girth, Chest Girth, Wrist Girth, Waist Girth, Thigh Girth, Calf Girth, Angle Girth, Acromiale Raiale Length, Raialesylion Dactylion, Midstylion Dactylion Length, Foot Length and Leg Length,. Were selected as independent variables and tested by standardized procedure. The data were collected for playing ability and other selected independent variables. In order to examine the association between playing ability and selected independent variables simple, correlation have been calculated (P>.05).

Results

Table 1: mean, standard deviation and correlation between performance and selected predictor variables among cricket players

S. No	Variables	Mean	Stranded deviation	'r' value	Sig
1.	Perfom.	6.59	1.06	1.000	.
2.	HT	1.67	.03	.210	.007
3.	WT	62.16	4.16	.002	.489
4.	UAR	23.37	1.71	.300	.000
5.	FA	26.08	1.38	.288	.000
6.	CHE	74.74	2.18	.320	.000
7.	WRI	15.84	.72	.220	.005
8.	WAI	70.02	2.10	-.227	.004
9.	THI	44.81	2.18	.337	.000
10.	CAL	28.84	1.78	.379	.000
11.	ANG	16.57	.99	.330	.000
12.	UAL	27.68	2.61	.265	.001
13.	FAL	29.67	2.25	.234	.003
14.	HAN	17.24	1.06	.219	.005
15.	FOOT	27.60	1.74	.304	.000
16.	LL	84.14	3.28	.200	.010

From the table it is clear that except Body Mass (Weight), all the selected (Standing Height, Upper Arm Relaxed Girth, Forearm Girth, Chest Girth, Wrist Girth, Waist Girth, Thigh Girth, Calf Girth, Ankle Girth, Upper Arm Length, Forearm Length, Hand Length, Foot length and Leg Length) independent variables are having significant correlation with playing ability at 0.05 level of confidence in which Waist Girth is having negative 'r' value.

Discussion

The result of present study shows, most of the anthropometric variables have positive relation with playing ability, and Waist Girth has negative correlated with performance. Previous results are in-connection with the present result of the study Shyamal Koley S.A (2011) [15] studies the anthropometric profile of Indian inter university male cricketers. For the purpose twelve anthropometric characters were taken on purposively selected 98 Indian inter university male cricketers aged 16 -25 years participated the finding of the present study statistically significant difference in weight, thigh, length, total length, calf and hip circumference. Again, studying the physical fitness profile of South African university cricketers, Stretch & Buys (1991) [16] reported that although the cricketers were superior to sedentary subjects in the aspect of physical fitness, with the exception of flexibility, no significant differences existed between the batsmen, bowlers, all-rounder and wicket-keepers. Furthermore, no significant differences existed between the provincial and non-provincial cricketers. Stuelcken et al. (2007) [17] studied the anthropometric characteristics of elite cricket fast bowlers of Australia considering 7 skin folds, 7 lengths, 6 breadths and 11 girths measurements and concluded that the male

bowlers had larger length, breadth, and girth measurements than their female counterparts. Balwinder kaur, et al., (2010) [4] determined relationship of the selected anthropometric variables contributing to success to cricket viz.

Conclusion

The conclusion drawn based on the result of the present study is that there was no significant relation between weight and cricket playing ability. The result also shows that the waist girth has negative correlated with performance. Except the variable mentioned above, all other anthropometric variables were positively correlated with playing ability.

Implications

It is advocated that, talent identification and development programme should be dynamic and interconnected taking into consideration maturity status and the potential to develop rather than to exclude children at an early age. The multi–dimensional test battery may be effective method to assess talents in specific sports. The study provides the large and updated database on anthropometric variables among national level cricket players. These types of reference will be essential for clubs and federations to assist talent selection and promotion.

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