



Evaluation of Height and Weight Among University Male Handball Players

KEYWORDS

Height, weight, stadiometer, weighing scale, players, handball

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ABSTRACT *The purpose of the study is to evaluate the height and weight among university male handball players. One hundred and forty four (144) male handball players, selected from south west zone inter university handball tournament for the year 2010- 2011, organized by S.R.T.M. University, Nanded, Maharashtra. In this study data was collected from teams who reached quarterfinals and Annamalai university team. These selected subjects, who practice handball regularly and take part in competition and their age range between 18 to 28 years. The criterion variables selected in the present study were height and weight which were measured using stadiometer and weighing scale. The result of the study showed that height ($F = 3.358, p = .002$) and weight ($F = 2.850, p < .007$) differ significantly among handball teams. It is concluded that RU handball players found to be taller than the other team players. They showed significant difference with SRTU and ANU on height. However, RU handball players found to be heavier than the other team players. They showed significant difference with MU, ANU, OS and AU on weight.*

Introduction

Earlier studies has reported that body structure and morphological characteristics are important determinants of performance in many sports and certain physical impressions such as body composition (body fat, body mass, muscle mass) and physique (somatotype) can significantly influence athletic performance (Carter 1970; Duquet and Carter 2001). Handball is one of the Olympic Games team sports which require a high standard of preparation in order to complete 60 min of competitive play and to achieve success. In this game movement patterns are characterised as intermittent and change continuously in response to different offensive and defensive situations. Anthropometric factors and morphological characteristics can influence the effectiveness of such responses, as has been observed in other sports (Deng, Lin, Xia, Cheng 1990). Therefore, anthropometric profiles may contribute to understanding the suitability of players for the sport of handball, particularly at a high standard of play.

Standardized anthropometric methods make part of functional anthropology, which studies the relatedness between morphological and functional variability. The anthropometric data provide quantitative information on individual body segments and morphophenotypes of players may to certain degree help to predict their physical fitness. Top level handball players must be endowed with an appropriate body build. Somatotype and proportionality of individual body segments considerably affect the movement quality of players. However, there is absence of anthropometric measurements and data and coaches tend to use basic somatic parameters (body height, body mass and BMI), which are insufficient for careful selection of players and determination of options for the development of their physical fitness. High-quality selection and assigning the player with specific functions requires more than elementary diagnostics of basic anthropometric parameters due to decrease in objectivity and quality of talents selection for handball (Urban, Kandrác, Táborský 2011). The purpose of the study is to evaluate the height and weight among university male handball players.

Method

Subjects

One hundred and forty four (144) male handball players, selected from south west zone inter university handball tournament for the year 2010- 2011, organized by S.R.T.M. University, Nanded, Maharashtra. In this study data was collected from teams who reached quarterfinals and Annamalai university team. These selected subjects, who practice handball regularly and take part in competition and their age range between 18 to 28 years. The volunteered subjects signed a separate consent form. The following tea that took part in the study is listed below in Table 1.

Table 1
Teams selected for the study

Sl. No	Teams	N
1	Swami Ramanand Teerth Marathwada University	16
2	Mumbai University	16
3	University of Kerala	16
4	Rajasthan University	16
5	LNUPE, Gwalior	16
6	Acharya Nagarjuna University	16
7	Osmania University	16
8	RDVV Jabalpur University	16
9	Annamalai University	16

Variables and test

a) Height

The subject is standing straight, against an upright wall with a stadiometer or against an anthropometer, touching the wall or the anthropometer with back, buttocks and both heels. The head is oriented in the Frankfort Plane (i.e. the lower border of the eye socket and the upper border of the ear opening should be on a horizontal line). The subject is instructed to stretch upward and take and hold a full breath. The measurer should lower the Broca plane or the ruler until it touches the vertex firmly, but without exerting extreme pressure.

b) Weight

The subject, in minimal clothing, stands in the centre of the scale platform. Body mass should be recorded to the nearest tenth of a kilogram, if possible. A correction is made for clothing so that nude weight is used in subsequent calculations. Avoid measuring body mass shortly after a meal.

Statistical technique

The height and weight were statistically examined by applying analysis of variance (ANOVA). When F ratio was found significant, Tukey HSD post hoc test was applied. This statistical work was done with help of SPSS 11.5 and outputs reproduced as it is.

Results**Height**

The height of the south zone inter university handball players differ significantly $F = 3.358$, $p < .002$. Tukey HSD post hoc test revealed significant differences on height between SRTU and RU ($p < .032$), RU and ANU ($p < .008$). Remaining comparisons showed no significant difference on height.

Weight

The weight of the south zone inter university handball players differ significantly $F = 2.805$, $p < .007$. Tukey HSD post hoc test revealed significant differences on weight between MU and RU ($p < .028$), RU and ANU ($p < .003$), RU and OS ($p < .005$), RU and AU ($p < .040$). Remaining comparisons showed no significant difference on weight.

Discussion

Handball is one of the Olympic Games team sports. It requires a high standard of physical endurance in order to compete 60 minutes of highly competitive play and to excel the performance. In handball, movement patterns are characterized as intermittent and change continuously in response to different playing situations. Anthropometric and morphological characteristics can obviously influence the effectiveness of such responses (Srhoj et al., 2002; Skoufas et al., 2003; Hasan et al., 2007; Zaportidis et al., 2009). In our study it was reported that among nine teams they differ significantly in height and weight. Earlier studies reported that body height, body mass, palm span and palm length were important for the performance enhancement of athletes and were considered as basic criterion for their selection in various playing positions (Srhoj, 2002; Taborsky, 2007).

Conclusion

RU handball players found to be taller than the other team players. They showed significant difference with SRTU and ANU on height.

RU handball players found to be heavier than the other team players. They showed significant difference with MU, ANU, OS and AU on weight.

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