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Dr. Amandeep Singh
Assistant Professor, National
College of Physical Education,
Chupki, Samana, Punjab, India

A cross-sectional analysis of selected anthropometric variables of Judo and wrestling female players

Dr. Amandeep Singh

Abstract

The aim of the study was to find out the significant difference of selected anthropometric variables of Judo and wrestling female players. For the purpose of the study, fifteen (N=30), all India inter university level midlist of Judo and wrestling (15-15) female players selected as a subjects. The study was delimited in Upper Arm Length, Fore Arm Length and Leg Length variables. After data collection descriptive statistic and t test was applied, at 0.05 level of significance. The outcome of the study shows that significant differences of leg length parameter and insignificant results shows in Upper Arm Length & Fore Arm Length of Judo and wrestling female players.

Keywords: Upper arm length, fore arm length and leg length

Introduction

Anthropometry has a rich tradition in sports sciences and sports medicine. Though, in different times, different terms were used like dynamic anthropometry, sports anthropometry, biometry, physiological anthropometry, anthropometrical, Kinanthropometry etc. by scientists to establish some relationships between the body structure and the specialized functions required for various tasks (Koley, 2011) ^[5]. 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. There are two fundamental causes for this variation. One is the genes inherited from parents and the other is the infinity of environment which acts upon individuals from cradle to grave. Therefore, scientists have always been fascinated by the phenomenon of human variation. In the populations, the law of chance operates as a whole and people in general tend to fall along a curve of normal distribution on all traits (Koley & Sandhu, 2005) ^[4]. With the innumerable variety of human physique, it has become a generalized consideration that some sports events are more suitable to individuals with specific physique than others (Reco-Sanz, 1998; Keogh, 1999) ^[6, 3]. It has been well established that specific physical characteristics or anthropometric profiles indicate whether the player would be suitable for the competition at the highest level in a specific sport. These anthropometric and morphological parameters are the sensitive indicators of physical growth and nutritional status of the athletes for their maximal performances

Anthropometry is the measurement of body size and proportions. The measurements include body weight, height, circumference, skin fold thickness and bony widths and lengths (Heyward, 2006) ^[2]. Anthropometry is a branch of science concerned with comparative measurements of the human body, its parts, and its proportions and composition. It is the study of measurement of the human body in terms of the dimensions of bone, muscle and adipose tissue. Anthropometry has been used to assess gross structure and function. There are numerous factors which are responsible for the performance of a sportsman. The physique and body composition, including the size, shape and form are known to play a significant role in this regard. At present, sportsman for superior performance in any sports is selected on the basis of physical structure and body size.

Methods

For the purpose of the study, fifteen (N=30), all India inter university level midlist of Judo and wrestling (15-15) female players selected as a subjects.

Corresponding Author:
Dr. Amandeep Singh
Assistant Professor, National
College of Physical Education,
Chupki, Samana, Punjab, India

The study was delimited in Upper Arm Length, Fore Arm Length and Leg Length variables. After data collection t test was applied at 0.05 level of significance.

Results

	Group	Mean	S.d.	T value	P value
Upper Arm Length	Judo players	34.608	1.676	1.6392	0.10
	Wrestling players	33.820	1.723		
Fore Arm Length	Judo players	26.640	1.390	1.4069	0.16
	wrestling players	27.191	1.319		
Leg Length	Judo players	89.848	4.285	2.8972	0.00
	wrestling players	86.320	4.326		

* $t_{.05}(48) = 2.0106$

Table 1: shows the Mean and SD values of Upper Arm Length of Judo and wrestling female players were 34.608 ± 1.676 and 33.820 ± 1.723 respectively. The obtained "t" value 1.6392 (2.0106) was found statistically insignificant, ($P > .05$) .05 level of significance.

Table represent the Mean and SD values of Fore Arm Length of Judo and wrestling female players were 26.640 ± 1.390 and 27.191 ± 1.319 respectively. The obtained "t" value 1.4069 (2.0106) was found statistically insignificant, ($P > .05$) .05 level of significance.

Table illustrate that the Mean and SD values of Leg Length of Judo and wrestling female players were 89.848 ± 4.285 and 86.320 ± 4.326 respectively. The obtained "t" value 2.8972 (2.0106) was found statistically significant, ($P < .05$) .05 level of significance.

Discussion of the results

The result of the study informs that there was insignificant difference shows in Upper Arm Length and Fore Arm Length characteristic of Judo and wrestling players. It was found that there was significant difference in Leg Length parameter between Judo and wrestling player. In this characteristic Judo players demonstrate better leg length as compare to wrestling players. On the basis of analysis of the data, investigator found that the earlier study of Sahu (2015) [7], Bhardwaj and Bhadoria (2014) [1] supported the present study.

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