Vol.01,Issue02,Dec.2012

INTERNATIONAL JOURNAL OF RESEARCH PEDAGOGY AND TECHNOLOGY IN EDUCATION AND MOVEMENT SCIENCES (IJEMS)

ISSN: 2319-3050

A COMPARATIVE STUDY OF ANTHROPOMETRIC MEASUREMENTS BETWEEN HANDBALL AND VOLLEYBALL PLAYERS

[1]Mr. Arun Singh Rathore [2]Mr. Dharmendra Narwaria [3]Dr. S. Mukherjee

[1&2]Research Scholar LNUPE Gwalior,M.P, India

[3]Controller of Examination, LNUPE Gwalior,M.P, India

[1,2&3]arun.rathore88@gmail.com

ABSTRACT

The purpose of this study was to compare anthropometric measurements between handball and volleyball players at college level. A total of thirty (N=30) subjects were selected from St. Joseph College of Physical Education, Moolamattom. In each group Fifteen subjects were selected from volleyball and handball group. The age of subjects ranged from 17 to 25 years. For this study, the selected variables were body weight, standing height and chest circumference. Data was obtained with the help of electronic weighing machine, stadiometer and non-stretchable measurement tape. The researcher followed Standard procedures during collection of data. For the analysis of data, independent't' test was employed with level of significance 0.05. The result of the study shown insignificant differences in body weight and chest circumference. However, in case of standing height, significant differences were found between volleyball and handball players.

Keywords: handball, volleyball, body weight, standing height and chest circumference.

INTRODUCTION:

Anthropometry is derived from two Greek words anthropos ("man") and metron ("measure"), therefore, "measurement of man" refers to the measurement of the human individual. An early tool of physical anthropology, it has been used for identification, for the purposes of understanding human physical variation, in paleoanthropology and in various attempts to correlate physical with racial and psychological traits (David_Hurst).

Today, anthropometry plays an important role in industrial design, clothing design, ergonomics and architecture where statistical data about the distribution of body dimensions in

the population are used to optimize products. Changes in life styles, nutrition and ethnic composition of populations lead to changes in the distribution of body dimensions and require regular updating of anthropometric data collections (Josiah).

The specificity about the anthropometrics aspects seems to turn different when observed in different modalities and, even in different geographical areas, could have an implementation, not only about the training planning, as well as of the process of athletes' selection, when there is knowledge of those specific aspects form, for position. The importance is observed in some of the anthropometrics aspects for the choice and, for consequence, gets better the athlete's performance when is in a game, as it was emphasized by Queiroga et al. (2005) in anthropometrics analyses done in indoor soccer players, in the different positions of the game. The purpose of the study here was to compare the anthropometric characteristics between handball and volleyball players, so as to discriminate the players.

METHODOLOGY:

For the purpose of the study, a total of 30 male subjects were randomly selected from the Handball and Volleyball teams at college level. Their age ranges between 17-25 years. Body weight, standing height and chest circumference selected as variables for the study. The data collected by researcher through administering the tests of body weight (electronic weighing machine), standing height (stadiometer) and chest circumference (non- stretchable measurment tape). During collection of data standard procedure were followed. To find out whether there were any significant difference between groups, the independent't' test was employed at 0.05 level of significance.

FINDINGS:

TABLE1 Mean score difference in body weight between handball and volleyball players is presented in table 1

Body weight	N	Mean	sd	*df*	t- value
Handball players	15	68.46	7.434	14	0.801
Volleyball players	**15**	**71.13**	**7.414**	14	

*Significant at $t_{0.05}$ (14) = 2.145

The mean and standard deviation of Handball players N=15 were 68.46 and 7.54 respectively and the mean and standard deviation volleyball players N=15 were 71.13 and 7.414. Further, mean scores of body weight were found insignificant because tabulated value of t (0.801) was greater than calculated t value (2.105).

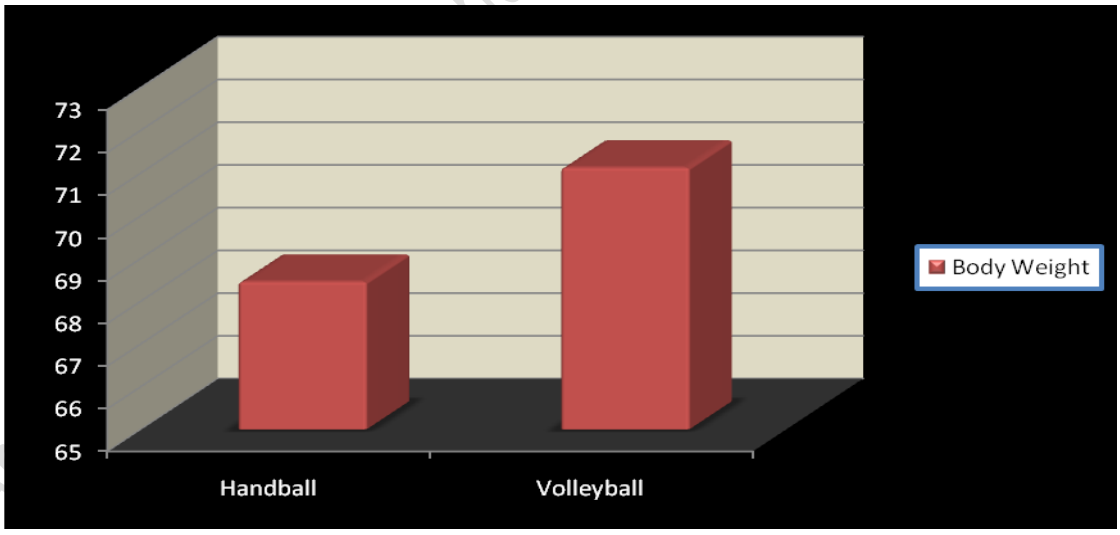

Figure 1

Fig. 1 revels that the mean scores of body weight in volleyball players and handball players were different but, the significant difference was not found. So, it may be concluded that the weight of a volleyball player may be the same of a handball player.

TABLE 2

Mean score difference in standing height between handball and volleyball players is presented in table 2

Standing height	N	Mean	Sd	*df*	t
Handball players	15	172.67	6.84	14	3.108
Volleyball players	15	177.60	5.22	14	

*Significant at $t_{0.05}$ (14) = 2.145

Table 2 revels that the mean and standard deviation of Handball players (N=15) were 172.67 and 6.84 respectively. The mean and standard deviation Volleyball players (N=15) were 177.60 and 5.22 respectively. Further, means scores of standing height were found significantly different because calculated t value (3.108) was found greater than the tabulated t value (2.145).

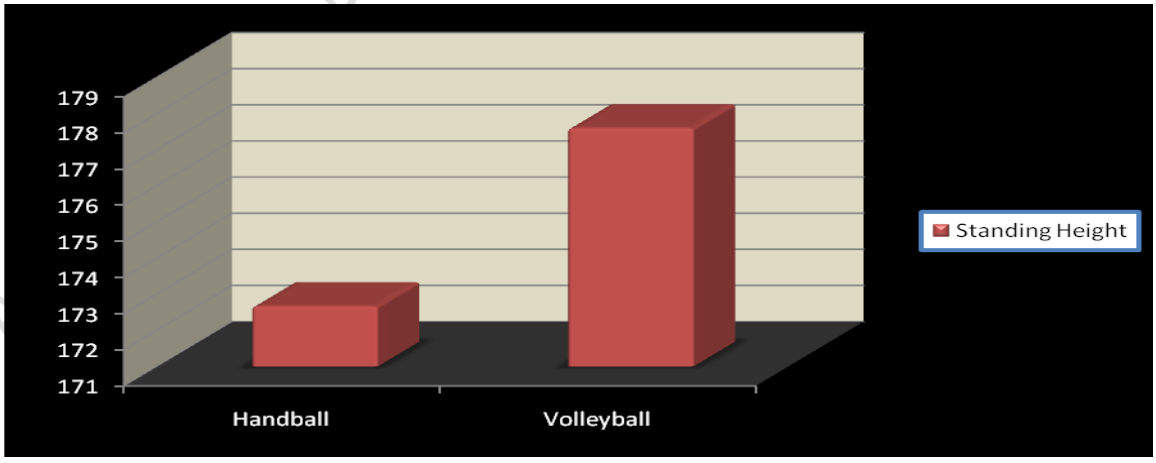

Figure 2

fig. 2 shows that the mean scores of standing height in volleyball players and handball players were found different.

TABLE 3

Mean score difference in Chest Circumference between handball and volleyball players is presented in table 3

Chest Circumference	N	Mean	Sd	*df*	t value
Handball players	15	89.66	7.55	14	0.708
Volleyball players	15	91.46	5.84	14	

*Significant at $t_{0.05}$ (14) = 2.145

Table 3 revels that the mean and standard deviation of Handball players (N=15) were 89.66 and 7.55 respectively. The mean and standard deviation of Volleyball players (N=15) were 91.46 and 5.84 respectively. Further, mean scores of standing height were found insignificant because calculated t value (0.708) was found lesser than the tabulated t value (2.145).

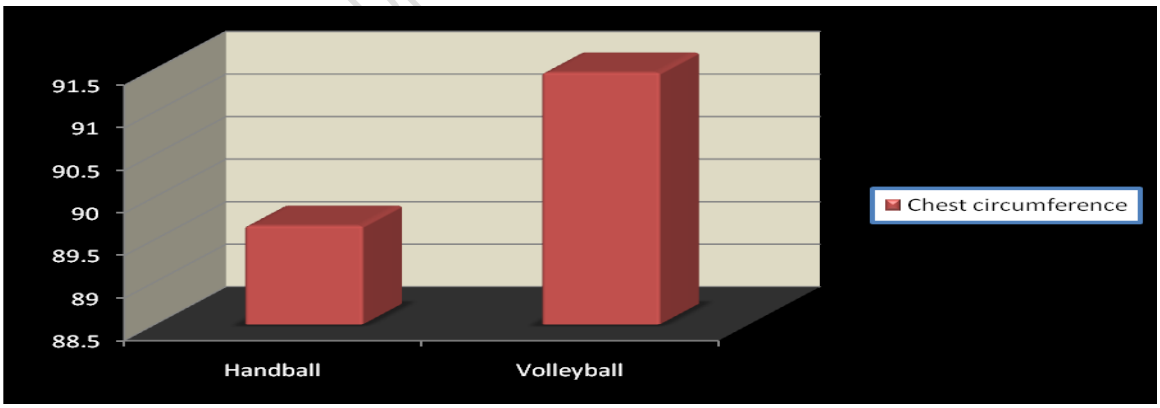

Figure 3

Fig.3 shows the mean scores chest circumference in handball players and volleyball players.

DISSCUSSION OF FINDINGS

After analysis of data the result of the study shows that there were insignificant differences found in body weight and chest circumference between handball and volleyball players. However, in case of standing height, significant differences were found between volleyball and handball players. Here, it may be concluded that there was no significant difference in Anthropometric measurement between volleyball and handball players except standing height. This study reveals that the difference between handball players and volleyball players is only in standing height. It means the volleyball players are taller than the handball players. It is concluded that the standing height may help in discriminating between handball and volleyball players. Bayios also did a study to compare the anthropometric characteristics between handball and volleyball players and found that the volleyball players were significantly taller than the handball players. Musaiger also did a study in this area and found that the volleyball players were taller than the handball players.

On the whole it may be ascertained that insignificant difference between groups may be due to small sample size and non-availability of sophisticated equipment's.

References

David Hurst Thomas, "Skull Wars Kennewick Man, Archaeology, and the Battle for Native American Identity", Publisher: Basic books, 2001, pp. 38 – 41.

Josiah Clark Nott et. al., "Types of Mankind", Lippincott, Grambo & Company, 1854.

Queiroga M.F, Ferreira A.S, Rmanzini M, Marques A.T, "Female high competitive level as tactical function in the game", Revista Brasileira de Kinanthropometry and Human Performance, v.7, n.1, p.30- 34, 2005.

Boraczynski T, Urniaz J, "Changes in aerobic and anaerobic power indices in elite handball players following a 4-week general fitness mesocycle", J. Hum. Kinet. 2008, volume 19, p-131-140.

Bayios I. A, Bergeles N. K, Apostolidis N. G, "Anthropometric, body composition and somatotype differences of Greek elite female basketball, volleyball and handball players", Journal of sports medicine and physical fitness A. 2006, vol. 46, no 2, pp. 271-280

A O Musaiger, M A Ragheb, G al-Marzooq, "Body composition of athletes in Bahrain", Br J Sports Med 1994;28:157-159