

A COMPARATIVE STUDY AMONG CHEST CIRCUMFERENCE AND UPPER ARM CIRCUMFERENCE OF STATE LEVEL WRESTLERS AND NATIONAL LEVEL WRESTLERS

Author

**Sandeep, Research Scholar, Dept. of Physical Education, Ch. Devi Lal University, Sirsa
Dr. Ishwar Malik, Associate Prof., Dept. of Physical Education, Ch. Devi Lal University,
Sirsa**

Abstract-

The aim of this study is to describe and compare the anthropometric measurements of state level male freestyle and Greco-roman wrestlers and national level male freestyle and Greco-roman wrestlers from Haryana, India. The sports performance usually depends on the physique of the player. The data was collected by use of measuring tape. The data was analyzed and compared with the help of statistical procedures in which arithmetic mean, standard deviation (S.D.), t-test were employed. National level wrestlers and State Level Wrestlers chest circumference and upper arm circumference was found significantly.

Keywords- chest circumference, upper arm circumference, National level wrestlers, State Level Wrestlers.

Introduction

Wrestling is a popular ancient game in India. It involves grappling techniques like holding, throwing, locking joints, pinning down the opponent on the mat etc. Wrestling is a physical competition between two wrestlers those who attempt to gain superior position over his/her opponent. The techniques of wrestling are also used in other martial arts. It is one of the oldest forms of combat sport. As early as 12th century BC. Homer recounted the Trojan War in the Iliad. The origin of wrestling was found about 5,000 years back from the cave paintings in France. The identical types of evidences were found from Babylon and Egypt too. Wrestling techniques were also evident in non-human great apes. In the Ramayana, fight between Bali and Sugriva was the evidence of wrestling (Encyclopedia Britannica, 1981).

Anthropometry, as a newly devised sub-discipline relating to the integrated study of human body especially in connection with sports, has aroused specific interest. The term Anthropometry, after its very first use in 1972, has become gradually popular in the domain of anthropology of sports. In recent years, the study of athletes in the anthropological background has become an essential issue and the athletes are regarded as the products of their genes and environments. Various bodily dimensions are assessed in the background of maturation, nutrition and genetic as well as environmental situations to have the overall dimensions of Anthropometry. The increasing demand of Anthropometry has been pin-pointed with concrete illustrations.

Anthropometry is the area of science concerned with the measurement of human body composition. As a result of changes in life styles, nutrition, activity levels and ethnic composition of populations, changes to the distribution of body dimensions are forever occurring. Anthropometry is the interface between anatomy and movement. It takes the measurement of the human body and determines its capability for function and movement in a range of settings.

Method

For the purpose of the investigation, the sample for the study were 200 male wrestlers in the age group of 18-25 years, national level wrestlers (N=100) and state level wrestlers (N=100). The subjects were selected from different wrestling academies at Haryana. To measure the chest circumference and upper arm circumference of the subjects, they were divided into two groups i.e. national level wrestlers and state level wrestlers to measure by measuring tape. The measure data had been collected, chest circumference and upper arm circumference was measured of every individual with the help of measuring tape.

DESCRIPTIVE STATISTICS OF UPPER ARM CIRCUMFERENCE

Table no. 1 point out the standards of descriptive statistics of national level wrestlers and state level wrestlers for upper arm perimeter, which shows that the mean and S.D. values of national level wrestlers and state-level wrestlers were 25.72 ± 0.36 and 25.61 ± 0.58 respectively.



Table 1: Comparison of upper-arm circumference between national-level wrestlers and state level wrestlers

Group	N	Mean (in cm)	S.D.
National level wrestlers	100	25.72	0.36
State level wrestlers	100	25.61	0.58

Table No. 2

T-test description of National level wrestlers and State level wrestlers

Variable	Groups	df	t-value	Sig.
upper arm circumference	National level wrestlers-State level wrestlers	198	1.57	.03

Table 2 and Figure 1 depict the upper arm circumference of national-level wrestlers and state-level wrestlers. According to the table, the t-test analysis reveals that there was a major distinction in upper-arm perimeter between national-level wrestlers and state-level wrestlers ($t=1.57, p<0.05$). The findings indicate that national-level wrestlers had a extensively greater upper-arm circumference compared to state-level wrestlers.

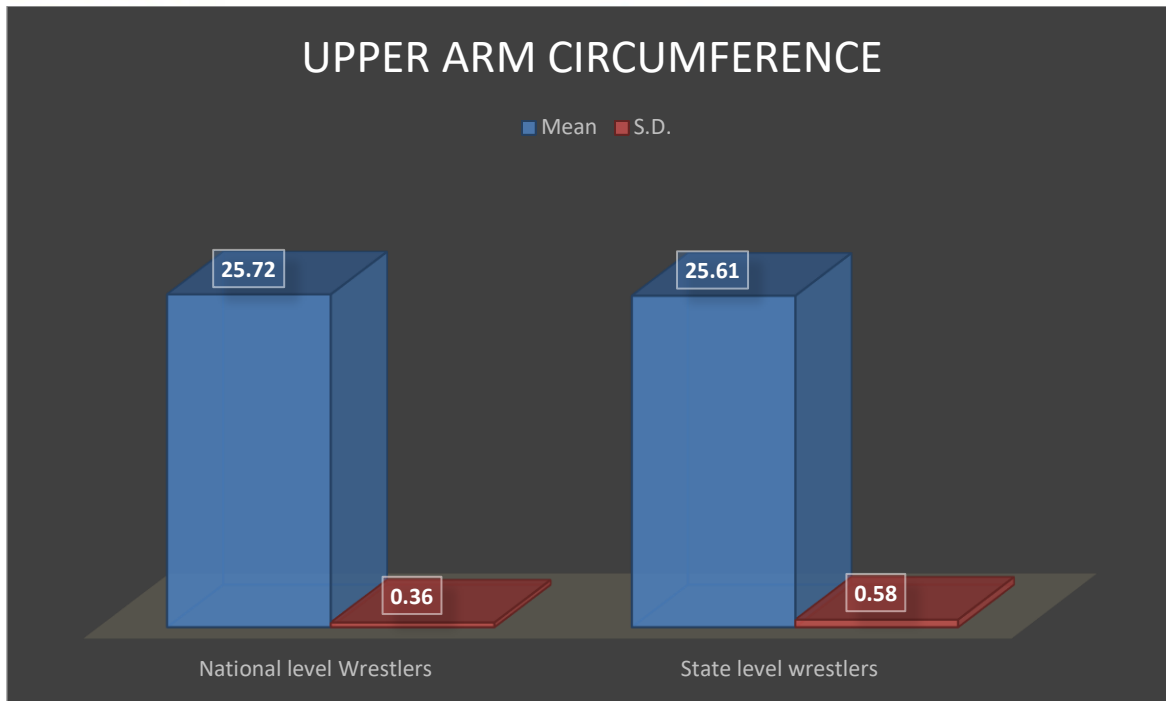


Figure-4.1 Graphical Representation of upper arm circumference between national level wrestlers and state level wrestlers

DESCRIPTIVE STATISTICS OF CHEST CIRCUMFERENCE

Table no. 3 indicates the values of descriptive statistics of national level wrestlers and state level wrestlers for chest circumference, which shows that the mean and S.D. values of national level wrestlers and state level wrestlers were 92.61 ± 2.07 and 90.89 ± 2.41 respectively.

Table 3 Comparison of chest circumference between national level wrestlers and state level wrestlers

Group	N	Mean (in cm)	S.D.
National level wrestlers	100	92.61	2.07
State level wrestlers	100	90.89	2.41

Table No. 4

T-test description of National level wrestlers and State level wrestlers

Variable	Groups	Df	t-value	Sig.
chest circumference	National level wrestlers-State level wrestlers	198	2.75	.01

Table 4 and Figure 2 illustrate the chest circumference of national-level wrestlers and state-level wrestlers. According to the table, the t-test analysis indicate that there was a major variation in chest perimeter between national-level wrestlers and state-level wrestlers ($t=2.75$, $p<0.05$). The findings suggest that national-level wrestlers had a significantly greater chest circumference compared to state-level wrestlers.

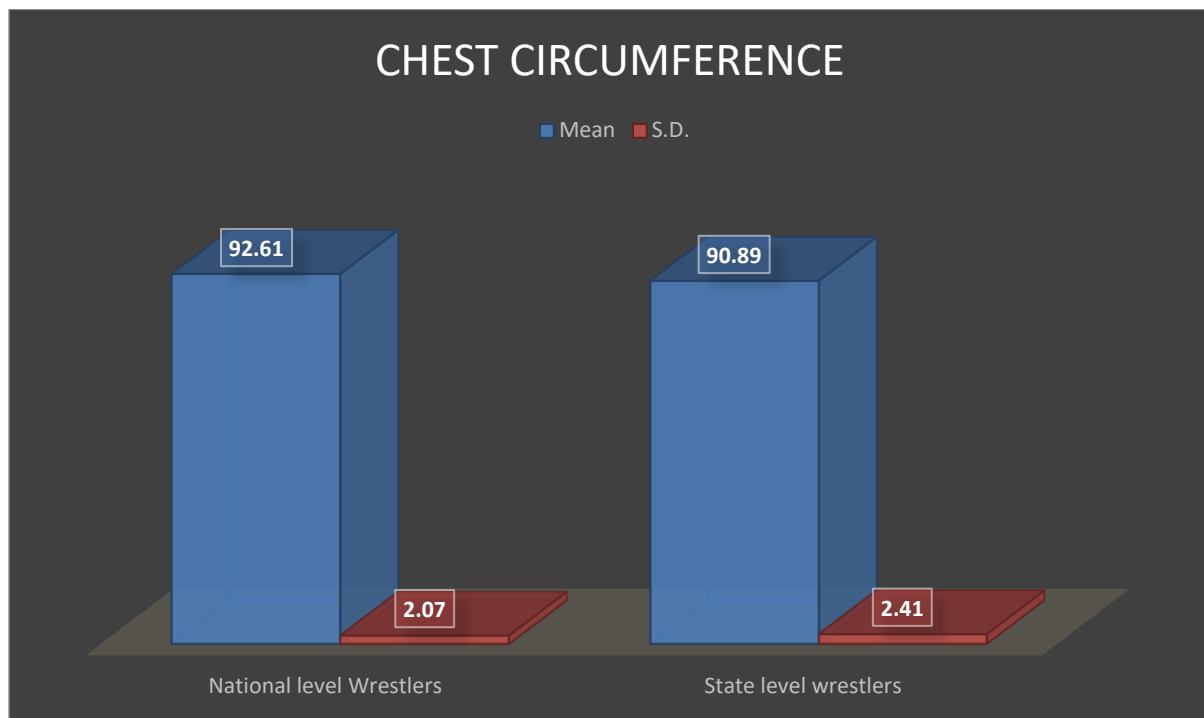


Figure-2 Graphical Representation of chest circumference between national level wrestlers and state level wrestlers

Conclusion

In the present study it was concluded that national level wrestlers were significantly higher chest circumference and upper arm circumference than the state level wrestlers. So that, There were significant difference in chest circumference and upper arm circumference between national level wrestlers and state level wrestlers.

Furthermore, National-level wrestlers demonstrated higher values in chest circumference and upper arm circumference compared to State level wrestlers, indicating significant differences in these measurements between the two groups.

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