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Comparative Study of Kinanthropometric Measurements of Judo and Wrestling Male Players of Sirsa District

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Abstract

In the present study, an attempt has been made to compare the Kinanthropometric measurements of Judo and Wrestling male players. The study was carried out on 50 players (25 Judo and 25 Wrestling male players). The age of the selected subjects ranged from 19 to 27 years. Subjects were only measured by skin fold caliper. The present study was delimited to the affiliated colleges of C.D.L.U. i.e. Govt. National college Sirsa, Shah Satnam Ji Boys College Sirsa, M.M. College Fatehabad and University Teaching Departments C.D.L.U., (Sirsa). To compare the skinfold measurements such as percentage Fat and lean body mass. "Lange skin fold caliper was used to measure various skin folds. The data was used to analyze by t-test.

Keywords: Judo, Wrestling, Anthropometry, Fat percentage, Lean body mass, Male, Sirsa.

1. Introduction

Kinanthropometry measurement plays a critical role in different game and sports, routinely new records are being established in different sports activity possibly by science and technology merely the area of Physical education and sports has also established from the development of science and technology. The high level of functioning by a sports man by requires an extremely scientific approach and it should be done right from the level of identified talent. Kinanthropometry is a branch of ergonomics. Kinanthropometry is the measurement of body size, shape, strength weight, fat & working capability of the body. This measurement data is used to depict or paint a picture of the user population for a particular measure of the body by utilizing Kinanthropometry. The body is made up kinthropometrically of various functional parts, such as sitting height, forward grip, waist height and head circumferences. Height is often used as a design criterion, but as a 'tall' person can either have a long or short body and long or short leg. Kinanthropometry aids in optimising training to improve performance, and also aids to lowers injuries. It is useful in the early recognition of athletic potential, and to test the effect of early training on the growth and maturation. It provides an important function in evaluating the relationship between exercise, nutrition and health, effects of ageing on the body.

Percent body fat is the percentage of fat your body contains. Exact body fat percentage cannot be precisely determined, but multiple methods are used to estimate it. These include: a formula that uses your weight in pounds and waist circumference, some body fat is required for overall health. It plays an important role in protecting internal organs, providing energy, and regulating hormones. Excess body fat is linked to an increased risk for diseases such as cancer, for men, a body fat percentage of 15% to 18% body fat is considered normal; for women, 22% to 25% body fat is normal. A body fat percentage of 25% or more for men or 35% or more for women indicates that a person should be considered obesity. Lean body mass is the weight of a person's body that isn't fat. This includes muscle as well as bones and other non fat tissue. A change in your lean body mass can dramatically affect your appearance, even if your total body weight doesn't change. You can estimate your lean body mass using several methods.

Review of related Literature

Chiara Milanese, et al. (2010) [1] Surveyed the Anthropometry and Motor fitness in children aged 6-12 years. This study aimed at evaluating motor abilities and anthropometric parameters in children aged 6-12 years and their interrelationships. One hundred fifty-two children underwent standard anthropometry (BMI, waist circumference, waist-to-hip ratio, and sum of five skinfolds) and motor fitness tests (standing long jump and 30m dash).

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Data were stratified by age (6-7, 8-9, 10-12 years) and sex (M/F), and the Spearman correlation coefficient was used to evaluate the correlation between BMI and the other anthropometric measurements in each class as well as the correlation between anthropometric parameters and fitness tests. The effect of age, sex, and individual anthropometric measurement on velocity or jump length was evaluated by ANOVA. BMI positively correlated with waist circumference and subcutaneous fat, and negatively correlated with body density. Motor fitness was not significantly affected by BMI, while sum of five skinfolds negatively associated with velocity in males aged 6-7 years and with jump length in females aged 8-12 years. Motor fitness significantly correlated with age, and performance was higher in males. Moreover, motor fitness tests positively correlated with each other, especially in females. In the 6-12 years period motor performance improves with age and improvement is partially sex-related; this correlation is higher in boys, possibly because of their lesser amount of fat. Subcutaneous fat is a better predictor of physical fitness than BMI or waist circumference. Results also suggest that explosive strength and velocity are related the 6-12 years age span, possibly because both are power events, which involve horizontal movement of the centre of mass.

Objective of the study

- To compare the skin fold measurements such as percentage fat and lean body mass of Judo and Wrestling male players.

Hypothesis

- There would be a great significant difference in skin fold measurement percentage fat and lean body mass between Judo and Wrestling male player.

Delimitation

The present study was delimited to Judo and Wrestling male players of inter collage championship.

- Only fifty male players from each game of judo and wrestling were selected as the subject.
- The age group range from 18 to 28 years for the subject.
- Subjects were only measures by skin fold caliper.
- The present study was delimited to the affiliated colleges of C.D.L.U. i.e. Govt. National college Sirsa, Shah Satnam Ji Boys College Sirsa, M.M. College Fatehabad and University Teaching Departments C.D.L.U.

Methods and Procedures

3.1 Design of the study

In this chapter the procedure adopted for sampling, tool used, selection of variables, instruments reliability, administration of the test, collection of the data and description of the various test items and statically techniques used for analyzing the data have been discussed. In the present investigation an attempt has been made the study of kinanthropometric variables measurements of Judo and Wrestling male players participated in the inter-college championship.

3.2 Sample

The present study was concerned with 25 male players of judo and 25 male players of wrestling with age level 19 to 27 years as the subject.

3.3 Tool Used

The weight of the subject was measured with the help of portable electronic weighing machine.

- The lange skin fold caliper was used to measure various skin folds.
- The height of the subjects was measured with the help of measure tape.

3.4 Selection of Variables

- Percentage Fat
- Lean body mass

3.5 Instrument Reliability

1. Lange skin fold caliper
2. Measuring Tape.

These instrument provided by department of Phy. Edu. Punjab University, Chandigarh. These instruments were also utilized and accurate enough for the purpose of the study.

4.1 Statistical technique

For the present study, the mean value, Standard deviations, T- test was applies to analyze the data.

Analysis and Interpretation of Data

In the present chapter, the investigator has made an attempt to make the comparative studies between 25 male players of wrestling and 25 male players of judo participation inter college championship on different skin fold measurement and body composition variable which were essential for the prediction and suitability.

Analysis of data-the data of the present study is analysis and interpretation in different tables as follows:

Table 1: Comparison of body compositions of lean body mass of wrestling and judo male players.

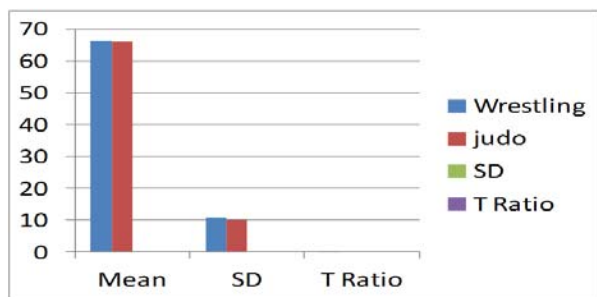
Variables	No. of players	Wrestling		Judo		S.E.D	T ratio
		Mean	SD	Mean	SD		
Lean body mass	25	66.49	10.63	66.32	9.98	1.69	0.10
	25						

The significant not at any level.

Table no.5.1 represent that the mean score of lean body mass of wrestling male players 66.49, SD is 10.63 and the mean score of lean body mass of judo male player 66.32, SD is 9.98 and the SED is 1.69 and t-ratio score is 0.10 and the significant not at any level. It means that there is similar

difference in lean body mass of wrestling male players and judo male players. In hypothesis there would be a great significant difference in lean body mass. But now the hypothesis was not significant at any level so the hypothesis was rejected.

Graph-1: Comparison of body compositions of lean body mass of wrestling and judo male players.



The significant not at any level.

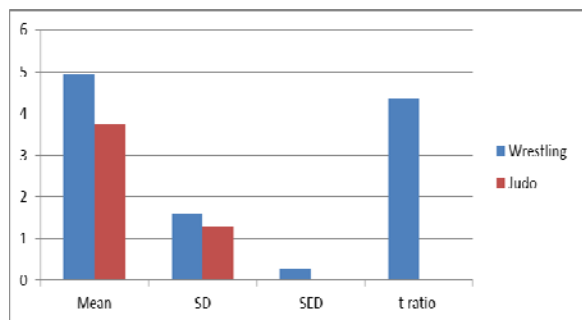
Table 2: Comparison of body compositions of percentage fat of wrestling and judo male players.

Variables	No. of players	Wrestling		Judo		S.E.D	T ratio
Percentage fat	25	Mean	SD	Mean	SD	0.24	4.37
	25	4.93	1.58	3.73	1.29		

The significant at the 0.01 level of the confidence.

Table no.5.2 represent that the mean score of percentage fat of wrestling male players 4.93, SD is 1.58 and the mean score of percentage fat of judo male player 3.73, SD is 1.29 and the SED is 0.24 and t-ratio score is 4.37 and the significant at the 0.01 level of the confidence. It means that the wrestling players have been found better in percentage fat as compared to judo players. In hypothesis there would be a great significant difference in percentage fat. But now the hypothesis was significant at 0.01 level of the confidence so the hypothesis was accepted.

Graph-2: Comparison of body compositions of percentage fat of wrestling and judo male players



The significant at the 0.01 level of the confidence.

6. Main finding

- There was similar difference in lean body mass between judo male players and wrestling male players.
- The judo male players were found to better percent fat as compared to wrestling male players.

7. Conclusion

It is also found that the percentage fat of wrestling players is higher compared to judo male players. But there was similar difference between wrestling male players and judo male players in case of lean body mass.

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