RELATIONSHIP BETWEEN PHYSICAL PERFORMANCE AND BODY COMPOSITION OF FEMALE WRESTLERS

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Abstract:

Wrestling is one of the best sports for developing physical fitness, because wrestling brings every muscle into play. It develops physical stature, builds body tones, increases cardio-vascular efficiency, improves balance and develops quickness, agility, flexibility and power. It helps the competitor to overcome awkwardness and obtain poise and physical efficiency. The purpose this studies 26 female wrestlers from University of Rajasthan, Jaipur and other Stadium in Rajasthan were selected as subject at random only those subject who had represented the hostel for wrestling were considered for the study; The average weight of the subject were 50 Kg. to 120 Kg. years ranging between 17 and 30 Years. Objectives: Physical variable was selected which are considering as the basis of physical performance and fitness. Results: It is evident from the study results that in case of wrestler's bodyweight have got significant positive relationship with fat percentage; 50 m dash vertical Jump, right and left hand, grip strength. The probably reason for positive relationship of body weight and fat percentage may be due to the fact that subject chosen for this study were young and growing wrestlers of S.A.I. hostel University of Rajasthan, Jaipur where adiposity was reasonably low. Conclusions: The findings of the study it may be concluded that Total body weight has got significant relationship with right grip strength and sum of right and left grip strength and insignificant relationship with vertical jump sum dash push up sit-up. Percent lean body mass has got significant relationship with sum dash and vertical jump puss up sit-up and insignificant relationship with right grip strength left grip strength and skin fold thickness test. Body put has got no relationship with physical performance items.

Keyword: Body Composition, Cardio-vascular, Physical performance, Physical fitness.

INTRODUCTION

The effectiveness at many Physical Performance is related to various basic traits found in boys and girls such as their maturation body size and Physique type many at there traits are related to heredity other such as body weight have heredity implications but one also affected by environment influences including the nature and amount at exercise nutritional practice and the habits.

Christine 'Conducted a study on body composition and aerobic requirements of male and female marathon. It was determined that experienced female runners were able to work at a high fraction of their aerobic capacity during actual marathon competition. And both the female and male marathon runners had more lean body mass. Further, no significant difference in these parameters was observed between the male and female runners'.

Body Composition:

Body composition is composed of low factors fat tissue and lean bodyweight of mass. The body fat or Skin fold thickness can be measured with the help of skin fold caliper. Lean body weight can be calculated from the Total body weight minus the weight of body's fat lean weight or mass is relatively constant in man, while fat may exhibit considerable variation.

METHODOLOGY

In this chapter the selection of subject design of the study criterion measure reliability at data & statistical- procedure for administering the tests and statistical techniques for analyzing the data have been described.

SELECTION OF THE SUBJECT

For the purpose this studies 26 female wrestlers from University of Rajasthan, Jaipur and other Stadium in Rajasthan. Were selected as subject at random only those subject who had represented the hostel for wrestling were considered for the study; The average weight of the subject were 50 Kg. to 120 Kg. years ranging between 17 and 30 Years.

CRITERIA MEASURE

This was a status study involving relationship of wrestler's body composition variables and in selected physical fitness variables, namely.

1) Skin Fold Thickness.

2) Weight

3) Height

4) Speed Test - 50 M. Dash.

5) Vertical jump

6) Grip Strength

7) Sit ups

8) Push Ups

PROCEDURE FOR ADMINISTERING THE TEST

Before the actual administration of the tests all selected subject were as sampled and were briefed about the purpose of the study and the various tests to be administered were described and demonstrated all the tests items were administered. To ensure similar and identical conditions for testing and obtaining reliable data. The tests of relationship body compositing & physical. Fitness performance variables were administered as the 400m. Track and wrestling mat of Sports Complex, University of Rajasthan, Jaipur .The data were collected under the direct supervision of the research scholar with the help of fellow scholars, who were experienced in conducting tests and recording items.

BODY COMPOSITION

The following sites at the body were taken for measurement at skin fold thickness to determine the body composition and after measuring the skin fold thickness‟ in the following sites the total thickness was calculated by adding the individual values and then with the help of standard table. The respective percent body fat of the individual subjects was estimated: -Fat percentage was estimated by adding the skin fold measurement in millimeters taken from four selected sites (namely by caps, triceps, sub scapular, supra iliac, thigh) Lean body weight was calculated by subtracting weight of body fat (Kg) from the total body weight (Kg) Body density = 1.1017- (0000282) x (A) - (0000737) x (B) - (0000737) x (C)

RELIABILITY OF DATA

The reliability of the data was ensured by using standard instruments and by establishing tester competency and reliability of the tests.

CO-EFFICIENT OF CORRELATION FOR TESTER COMPETENCY

S.No.	Variable	Co-efficient of correlation
1	Weight	.97%
2	Biceps	.95%
3	Triceps	.91%
4	Sub Sopular Region	.90%
5	Supra iliac Region	.89%
6	Thigh	.90%

COEFFICIENT OF CORRELATION FOR TEST RELIABILITY

S.No.	Variables	Co-efficient of correlation
1	50 M Dash	.93 %
2	Vertical Jump	.91 %
3	Sit ups	.90 %
4	Push ups	.94 %
5	Right hand grip Strength	.94 %
6.	Left hand grip Strength	.93 %

The signification

STATISTICAL PROCEDURE

To find out the relation between body composition and physical performance items of wrestler statistical procedure applied was correlations analysis using correlation matrix.

ANALYSIS OF DATA AND RESULTS OF THE STUDY

The analysis of the data and the finding of the study are persecuted is this chapter product moment correlation was employed is order to find out the relationship of physical performance items i.e. of weight, speed (50 meter. dash), leg strength, vertical-„Jump, Sit ups (muscle advance), pushups (hand strength) &: grip strength to body composition wrestlers of SAI hostel University of Rajasthan, Jaipur.

SCORING OF DATA

Measurements of weight in kilograms, 50m dash .in seconds, vertical jump in inches, grip strength (right hand), hi nearest kilogram, sit ups and push up is numbers.

RELATIONSHIP OF INDEPENDENT VARIABLES TO DEPENDENT VARIABLES

To determine the relationship between the fat per sausage to physical performance i.e. body weight, speed (50 M dash), vertical jump, grip strength (right & left hand) sit ups and push up the coefficient of compellation where feed in 'the micro - computer and correlation matrix was obtained as persecuted.

INTER CORRELATION BETWEEN BODY COMPOSITION AND PHYSICAL PERFORMANCE ITEMS

	Body weight	50 m. Dash	Vertical	Sit Ups	Push Ups	Grip strength		fate percentage
						Right Hand	left Hand	
	1	2	3	4	5	6	7	8
Body weight	1							
50 m. Dash	0.182202	1						
Vertical	-0.525131*	-0.545729	1					
Sit Ups	-0.077129	-0.298705	0.161433	1				
Push Ups	0.065761	-0.437928*	0.29458	0.589488*	1			
Right Hand	0.517535*	-0.139534	-0.118022	0.05905	0.302556	1		

Left Hand	0.689697*	0.14804	-0.44473*	0.287255	0.121024	0.739312*	1	
Fat Percentage	0.842527*	0.347513*	-0.61745 6*	0.007994	-0.10401 8	0.417662*	0.56889*	1

*Significant at .05 level.

Table shows significant positive correlation of body composition with body weight 50m dash, vertical jump, right and left hand grip strength at .05 level of significance.

The relationship of sit ups and push ups with body composition (fat percentage) were found statistically insignificant at .05 level of significant.

The signification positive circulation of body weight with vertical jump, 50M dash with vertical jump, push up with 50M dash, sit ups with push ups, body weight with right hand grip strength, body weight with left hand grip strength were also found at .05 level of significance.

DISCUSSION OF FINDINGS

It is evident from the study results that in case of wrestler's bodyweight have got significant positive relationship with fat percentage; 50 m dash vertical Jump, right and left hand, grip strength.

The probably reason for positive relationship of body weight and fat percentage may be due to the fact that subject chosen for this study were young and growing wrestlers of S.A.I. hostel University of Rajasthan, Iaipur where adiposity was reasonably low. As the sport wrestling is subject to strength specifically legs &: hands which might contribute to have development of better grip strength, and vertical jump. Further, 50 m dash and vertical jump are basically carried out by anaerobic power/ capacity of concerned muscles engaged -in sprinting and vertical jump respectively. In significant relationship between fat percentage with sit ups and push ups performance may be due to the fact that performance is such type fitness components depend mainly upon the working at active muscle mass which primarily contribute with fat percentage; therefore, no significance relationship was found.

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

The relationship between physical performance to body composition of the female wrestler selected physical performance items such as right and left grip strength, "vertical jump, 50 m. dash, push ups, sit ups, weight & body part. 2:64 student of

University of Rajasthan, Jaipur were selected as subject physical performance .item were compared with total body weight percent lean body mass and body fit.

Micro computer was used to obtain co-efficient of consolidated of scares of body composition and physical performance items of wrestler. When the co-efficient of consolidated of scores of body composition and physical performance item of wrestler. Right grip strength left grip strength and slum of light and left grip strength shown significant relationship. The relationship of the total body weight with vertical jump 50meter dash, pushup sit-up was found statistically in significant. When the coefficient of consolidated of scares of body composition and physical performance item of wrestler sum dash and vertical jump puss up sit-up shown significant relationship insignificant relationship was found of percent lean body mass with right grip strength left grip strength and skin fold No significant relationship was found between body pat and physical performance.

CONCLUSIONS

The findings of the study it may be concluded that Total body weight has got significant relationship with right grip strength and sum of right and left grip strength and insignificant relationship with vertical jump sum dash push up sit-up. Percent lean body mass has got significant relationship with sum dash and vertical jump puss up sit-up and insignificant relationship with right grip strength left grip strength and skin fold thickness test. Body put has got no relationship with physical performance items.

RECOMMENDATIONS

- That a similar may be undertaken involving physical performance item than that use in this study.
- That a similar study may be undertaken as man of different weight group.
- That a similar study may be only female Wrestler.
- That a similar study may be conducted using subjects from University of Rajasthan, Jaipur.

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