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An assessment study of comparison of body fat percentage between professional and non-professional students

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Abstract

Aim: The aim of the present study was to compare the bodily fat percentage between B.B.A., and B.P.Ed. students.

Method: For the purpose of this study a total of 40 male subjects (20 B.B.A., and 20 B.P.Ed. students) were selected from Degree College of Physical Education, Amravati, Maharashtra. The mean age of the subjects were 22 years. Bodily fat percentage of the subjects was assessed through skinfold measurement. Four sites i.e., biceps, triceps, supra-iliac and sub-scapular were measured with the help of skinfold calliper. For the assessment of fat percentage tables made by Durenin and Rehman was used. For the analyzing of data, t test was used.

Result: It showed that there was a significant difference between B.B.A., and 20 B.P.Ed. students.

Conclusions: It is concluded that B.B.A. students (non-professional) have more amount of body fat percentage in comparison of B.P.Ed. (Professional) students.

Keywords: Body fat percentage, skinfold measurement, biceps, triceps, etc.

Introductions

The physical and physiological health would be negatively affected if the essential body fat is below level in the body. There is controversy among the researchers as to whether a particular body fat percentage is better for one's health and sport performance may also be affected. The feeblest athletes typically compete at levels of about 6-13% for men or 14-20% for women. The bodybuilders may compete at ranges even lower than these levels. Based on the basis of a Pinch Test or a Skinfold Test, the Skinfold Estimation Methods are performed, whereby a pinch of skin is precisely measured by callipers at several standardized points on the body to determine the subcutaneous body fat layer thickness.

By an equation, these measurements are converted to an estimated body fat percentage. Some of the formulas demand as few as three measurements, others as many as seven. These estimates are more dependent accurately on a person's unique body fat distribution rather than on the number of sites measured. It is very essential and significance to test in a precise location with a fixed pressure. Although it may not give an accurate reading of real body fat percentage, it is a reliable measure of body composition change over a period of time, provided the test is carried out by the same person with the same technique. The body fat percentage of a human or other living being is the total mass of fat divided by total body mass; body fat includes essential body fat and storage body fat.

Essential body fat is necessary to maintain life. The percentage of essential fat is 3-5% in men, and 10-14% in women. Storage body fat consists of fat accumulation in adipose tissue, part of which protects internal organs in the chest and abdomen. The minimum recommended total body fat percentage, such as measurement with calliper or through the use of impedance method. The body fat percentage is a measure of fitness level, since it is the only body measurement which directly calculates a person's relative body composition without regard to height or weight.

Method

Selection of subjects

For the objective of the present study, 40 male (20 B.B.A., and 20 B.P.Ed. students) studying in Degree College of Physical Education, Amravati, were selected as subject for the study. The mean age of the subject was 22 years.

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Procedure for administration of test

For the administration of the test, the subjects B.B.A., and B.P.Ed., students were assembled on the ground of Degree College of Physical Education, Amravati. They were acquainted with the specific purpose of the present study. The tester had performed test trails on different subjects to ensure the tester reliability. The calliper was applied to measure the body fat percentage of the subjects.

The subjects were asked to remove the clothes of upper body. The measurement for body fat was taken from four sites i.e., triceps, biceps, supra-iliac, subscapular. The investigator followed standardized testing procedure for measurement. The side on triceps and biceps was marked at mid acromialeradiare and measurement was taken and at the supra-iliac region the measurements were taken in the line of naval at side of the body. The subscapular fat measurement was taken at proper site. Care was taken that subject maintained an ideal anatomical position at the time of measurement.

Statistical technique

Descriptive statistics and independent 't-test' as a statistical technique for the data analysis were used.

Result

Table 1: Descriptive Statistics

Groups	N	Mean	S.D.	DM	t value
B.B.A.	20	17.44	3.52		
				5.99	6.45*
B.P.Ed.	20	11.45	2.24		

* Significant at .05 level
 $t_{.05 (38)} = 2.0244$

It is evident from Table 1 that there is significant difference between B.B.A., and B.P.Ed., students on body fat percentage, test means in the body fat percentage where the calculated t ratio was 6.45, which was greater than tabulated t value 2.0244 at .05 level.

Discussion

The aim of the present study was to compare the body fat percentage of B.B.A., and B.P.Ed., students.

The results of the study indicated that there is a significant difference in the mean values of two groups in fat percentage; this significant difference may be attributed to the nature of training course programme generally followed by the B.B.A., and B.P.Ed., students. While the energy expenditure in terms of physical activities by B.B.A., student is less than in comparison with the B.P.Ed., students. During B.P.Ed., course the amount of physical work done by them is quite more than the B.B.A., students.

Conclusions

The aim of the present study was to compare the result of the study indicated that there is a significant difference in the mean values of two group in body fat percentage. This significant difference may be attributed to the nature of the programme generally followed by the B.P.Ed. (Professional) students and not by B.B.A. (Non-Professional), students. It is also concluded that B.B.A., students have more amount of body fat percentage in comparison of B.P.Ed., students.

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