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Comparison of a few health parameters of physical and non-physical students of Dr B.A.M.U Aurangabad

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Abstract

Health is the key to education success, good citizen ship and happy life. Health is a state of complete physical, mental and social well being and not merely an absence of diseases or infirmity. Physical fitness is an important component of health. The study was designed to draw a comparison of few parameters of health between Post Graduate physical and non-physical students of Dr B.A.M.U Aurangabad. Random sampling was used to assess the important parameters like height, weight and fat content in the two groups. Our study showed no significant difference in the parameters between the two subject groups.

Keywords: Health, Aurangabad, physical, stadiometer

Introduction

In the history of humankind, physical fitness has been considered as a vital element of everyday life of an individual. In being so, the ancient people were mainly dependent up on their individual strength, vigor and vitality for physical survival (Manmeet *et al*, 2010) [9]. Health (freedom from disease, sound body and mind etc. that condition in which functions of body and mind are duly discharged) is a very important; Healthy people constitute a healthy nation (Glenn, 1980) [6]. Health can be achieved maintained and improved by supplying the basic physical, mental, emotional and social needs in proper proportion. In fact health is the key to education success, good citizen ship and happy life. Health is a state of complete physical, mental and social well being and not merely an absence of diseases or infirmity”, - W.H.O. Health is some adaptive efforts and is used to imply body power, vitality, and ability to resist fatigue. Health is sometimes considered as the total outcome of the organic neuro-muscular interpretive and emotional development. Health is a state of physical, mental emotional and social wellbeing. Good health enables people to enjoy life and to have the opportunity to achieve the goals they have set for themselves (Dhingra, 2000) [4]. The real purpose of health has been very appropriately summed up by J.F. Williams, “Health is that quality of life that enables an individual to live most and serve best.” Health can be achieved, maintained and improved by supplying the basis physical, mental, emotional and social needs in proper proportion.

There is evidence to support that low fitness and physical activity, excess body weight, and excess abdominal fatness are associated with increased health risk (Garay, 1974) [5]. Moreover, evidence exists to support that sufficient levels of physical activity can significantly improve body weight, fatness, and health risk. Physical activity has been shown to have a modest effect on body weight that is typically <3% of initial body weight, but has an additive effect when combined with dietary restriction (Jakicic, 2009) [7]. The link between physical fitness and activities has been demonstrated in sport, where physically fit individual are able to perform at a higher relative intensity than their rivals.

The modifications in body composition occur during physical training program, modification in energy expenditures due to the physical activities is effected by diets and or time spent in ordinary activities (Katcher *et al*, 1969) [8]. Vigorous walking training had significant effect of cardiovascular function and body composition of adult men (Polleck 1971) [10].

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Materials and methods

In the present study, the researcher used stratified random sampling technique, to select the sample. The present investigation was conducted on Post Graduate physical and non-physical students of Dr B.A.M.U Aurangabad using random sampling method with the sample size of 25. For the present study, Comparison between physical and non-physical Post Graduate students of Dr B.A.M.U Aurangabad was made using different methods The height is measured in centimeters for B.M.I and in inches for fat %age, the weight is measured in kgs and the skinfold is measured in millimeters. Height is measured by stadiometer. For the measurement of Height, the subject is asked stand without shoes. Heels together, back as straight as possible, heels, buttocks shoulder and head touching the vertical ruler and looking straight ahead. Weight should be distributing evenly on both feet arms hanging freely by the sides of the body. Thus the measurement of the subjects in recorded accurate up 0.1 cm is maintained. For measurement of weight weighing machine was used in this case the subject is asked stand erect on the platform of the weighing machine with equal weight on both feet. The weight of subject is usually recorded accurate up to 0.05 kg. Is maintained.

For Fat analysis skin fold calliper was used, the skin fold of chest, abdomen, arm and thigh was recorded. For Triceps fat the skin fold was measured with naked arm. A double layer of skin and subcutaneous tissue was grasped with the thumb and fore finger of the left hand over the triceps muscle on the back of the right arm. In supraillic skin fold analysis a normal erect posture is needed and the arms should hang by the sides. A diagonal fold should be grasped with the thumb and forefinger of the left had just to the rear of the midaxillary line following the natural cleavage of the skin. The skin fold was gently into grasped skin was recorded from the indicator needs of the dial. It was measured to the nearest millimeter. Similarly, for thigh skin fold the subject is asked to sit on a table with naked thigh. A vertical fold on the front of the thigh mid way between the hip and the nearest border of the patella or knee cap. The person in being tested should first flex the hip to make it easier to locate inguinal crease. The skin fold caliper was placed gently into the grasped skin without removing the fingers and the thickness of skin was recorded from the indicator needle of dial. It was measure to the nearest millimeter. In case of chest skin fold, the subject is asked to sit on a table with naked chest. The skin fold is picked up just next to the anterior axillary fold (front of armpit line) the measurement is taken are half inch from the finger. The site is approximately one inch from the anterior axillary line towards the nipple. The skin fold was gently into grasped skin was recorded from the indicator needs of the dial. It was measured to the nearest millimeter. For abdomen skin fold the subject is asked to stand erect with naked abdomen arms should hang by the sides. A horizontal fold is picked up slightly more than one inch to the side of and one half inch below the naval. The skin fold was gently into grasped skin was recorded from the indicator needle of the dial. It was measured to the nearest millimeter.

Result and discussion

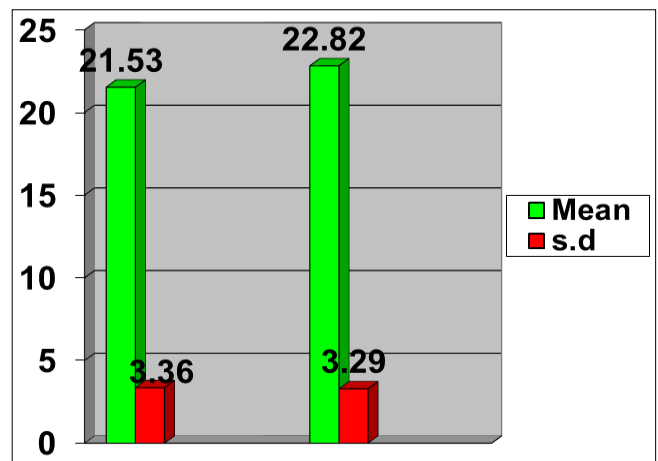
The Statistical Analysis of the gathered data for the purpose of the study “Comparison of Body composition between physical and non-physical post graduate students of Dr B.A.M.U Aurangabad (given in appendix). The subjects belonged to the age group of 18-28. The data obtained regarding fat percentage and body mass index were analyzed

by using ‘t’ test. To testing the hypothesis the level of significance at 0.05 level of confidence was considered adequate for purpose of this study. The calculated’ values of these variables were compared with t-test value. The degree of freedom is 48 is equal to 1.98 at 0.05 level of significance. The Mean, standard deviation of both the groups (physical and non- physical) for the above mention traits are calculated. The mean difference of physical and non-physical Post Graduate Students was obtained and further ‘t’ test was applied, however no significant difference between B.M.I. of physical and non-physical subject was observed. With regards to the fat percentage significant difference was obtained between male and female Post Graduate Students, this is shown in the table 1 and 2.

Table 1: Difference between BMI of physical and non-physical Post Graduate Students

Group	Mean	S.D.	T-test
Physical	21.53	3.36	1.343
Non physical	22.82	3.29	

Table-1 reveals that there is least significant difference between means of physical and non-physical students. physical students were =21.53 and that of non-physical =22.82, whose mean difference is 1.316. To check the significant difference between physical and non-physical B.M.I. the data was again analyzed by applying ‘t’ test. Before applying ‘t’ test, standard deviation was calculated. Where S.D. = 3.36 and Post test where S.D. = 3.29. And then ‘t’ test was applied. It was again found that There was not significant difference between B.M.I. of physical and non-physical because value of calculated ‘t’ = 1.343 at 0.05 level of significant.



Graph 1: Showing difference between BMI of physical and non-physical post graduate students

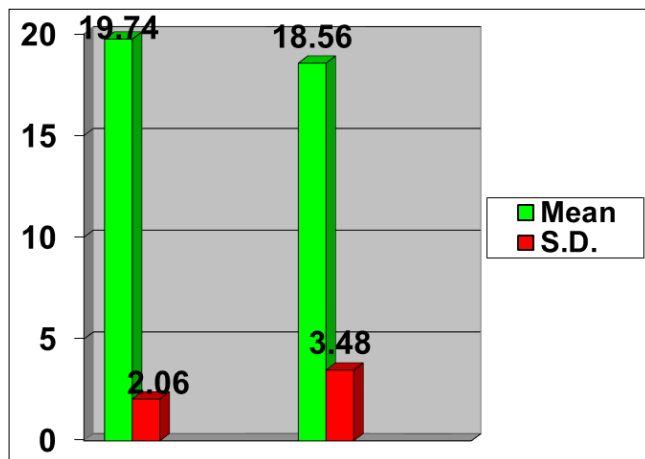
Table 2: Comparison between Fat Percentage of physical and non-physical Post Graduate Students.

Group	Mean	S.D.	T-test
Physical	19.74	2.06	1.43
Non-physical	18.56	3.48	

*insignificant at 0.05 level of confidence.

Table-2 reveals that there is insignificant difference between means of physical and non-physical; where mean of physical=19.74 and that of non-physical=18.56 To check the significant difference between physical and non-physical of fat percentage the data was again analyzed by applying ‘t’ test. Before applying ‘t’ test, standard deviation was

calculated. Where S.D. of physical = 2.06 and S.D. of non-physical = 3.48, then 't' test was applied. It was found that there was insignificant difference between Fat percentage of physical and non-physical because value of calculated 't' = 1.43 at 0.05 level of significance.



Graph 2: Showing difference between fat percentage of physical and non-physical students

The study reveals that there was no significant difference in B.M.I. of physical and non-physical students of post Graduate departments. The mean difference in found between physical and non-physical students. Further there was insignificant difference in Fat percentage of physical and non-physical post Graduate Students.

Conclusion

In physical fitness body composition is used to describe the percentage of fat; bone and muscle is human bodies because muscular tissue takes up less space in our body. In general most athletes' performance greater performance at body fat percentage lies between 7-19 for male and 10-25 for female. The study showed the partially significant difference among the mean of selected items of the groups. The conclusion of this research work may aware the students as well as players about the Fat % while performing any physical activity.

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