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Lack of exercise in Students, Psychological and Anthropometrical Factors

Jamal Fazel Kalkhoran*, HojatAllah Amini, Marzieh Gharibi
University of Tehran, Tehran, IRAN.

A B S T R A C T

Effects of sedentary on self-esteem and body fat mass among students of the University of Tehran is the main objective of the present study. All students of Tehran University were selected as subject of the study, 320 of whom were selected through the simple randomized sampling method. Findings of this study showed that 62 and 38 percent of students were under sedentary and enough mobility study respectively. Furthermore, findings of the study showed that total average body fat mass of subjects was 26.14 percent (S.D±6.53). Regarding self-esteem among students, findings showed that 79 percent of whole students were found with high self-esteem while 21 percent of whom were found with low self-esteem. Independent T-Test and Pearson Correlation were used for analyzing the data. The average physical activity rate at the present study showed that there is significant difference between physical activity rate of men and women. With due observance to all findings, the present study showed that the difference of fat mass between sedentary and sufficient mobility individuals is not significant. The results of findings showed that any significant relation was not obtained between activity rate, high self-esteem and low-esteem.

Keywords: Body Fat Mass, Lack of exercise, Sedentary, Self-esteem, Students.

INTRODUCTION

Role of comprehensive education is defined as educating whole dimensions of the human being which does not include intellectual aspect of individual MERELY, rather, it include all psychological and physical aspects as well[1]. This type of comprehensive and total education is beneficial for all training centers like universities and faculties[2]. Obesity is a chronic condition which is appeared as a result of interference in genetic of individual and/or his surrounding environment. Of course, obesity is also appeared as a result of situation of society, culture, psyche, metabolism, and biochemical and genetics factors[3]. Findings showed that men who reside at the central part of the city are more exposed to the danger of obesity (39.4%) than men who reside at suburb (35.5%). Similarly, the study showed that 20.6% of women residing at the central part of city were exposed to obesity with 19.1% of whom residing at the suburb. Progression of increasing

* . Corresponding Author: jfazzel@ut.ac.ir

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obesity and overweight among children and adults of the United States of America (U.S.A) is an alarm for the physicians and officials in charge of public health[4]. It is well proven that level of physical activity starts declining at the adulthood periods and when they grow older and the said issue is followed with the individuals' overweight. There are not powerful documents which can prove relation between physical activity at the early youth and obesity in adulthood age at the longitudinal studies. A longitudinal study, which studied 5,700 men and women, showed relation between activity of youth period and obesity at the adult age. The individuals who do not exercise and then gain weight, they may prone to the genetic factors, because, both physical activity and body size are influenced by the genetic factors[5] .The studies on sedentary and public health rate showed that the increased sedentary is followed with the increasing obesity, declining physical activity and reducing public health level as well[4] .Since regular physical activity can lead to the increased physical fitness, studies have shown that there is a significant relation between high physical fitness and high self-esteem[6].

Programs related to the physical activity are regarded as the most common methods for boosting self-esteem. In addition, simple activities like aerobics leave the highest effect on self-esteem than the most complicated and difficult activities[7]. It has been shown that low self-esteem has direct relation with the depression, poor mental health, less progress in academic levels[8] .A group of researchers found that self-esteem has direct relation with the dissatisfaction of body image of the women who are looking for slimming diet[9]. Generally, this subject has been proven well that declining self-esteem among individuals has direct relation with the reduction of their general health[10]. Of course, relation and proportion between self-esteem and obesity has not yet been proven well [11]. Although challenges, with relation to the self-esteem, leave noticeable results on health of others, due to the incomplete results in this respect, to know whether low- self-esteem is a consequence than a factor is a hard task to be discussed[10]. According to a report released by the Center for Controlling and Preventing Diseases in 2001, 29% of schoolchildren did not pay attention to their physical education courses[12]. Another study showed that those schoolchildren who are active and pay more attention for their daily physical education courses, show higher educational performance from themselves[29]. In other words, schoolchildren with regular physical activity daily can show best performance in their studies. Physical activity is a behavior which has high proven health advantages. On the other hand, physical activity is regarded as one of the most effective methods for preventing from chronic diseases like coronary heart disease and diabetes[38]. Determining relation between physical activity, self-esteem, and percentage of body fat mass among students of University of Tehran is the objective of the present study. Measuring physical activity rate, average self-esteem and body fat mass among male and female students of the university is the main aim of the study.

METHODOLOGY

All students (male and female) studying at the University of Tehran in three levels were subject of the present study. After conducting preliminary studies and announcing approval of the Research Council of Physical Education Faculty of the University of Tehran on fulfilling present study as research project, 320 students at three academic levels (BA, MA and Ph.D.) were selected as sample through simple randomized sampling method and thanks to determining sample MORGAN Table. From among 320 students, 170 and 150 female and male students respectively were selected as research statistical sample. Table 1 shows demographic characteristics of subjects:

Table 1. Demographic Characteristics of Subjects

Specifications	Male		Female		Total Individuals	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Age (Year)	24.13	±3.29	20.42	±2.30	22.16	3.36
Size (cm)	174.97	±1.06	162.34	±5.74	168.26	1.04
Weight (Kg)	72.55	±8.94	56.30	±7.72	63.92	1.16

After receiving informed and conscious consent, degree of physical activity was calculated through the application of International Physical Activity Questionnaire (IPAQ).

At this questionnaire, physical activities, carried out by individual within previous one week, were questioned and carried out activities were recorded with more than 10 minutes. These activities included job activities, manner of mobility, fulfilling home works, and doing an activity during leisure time. This questionnaire asks questions on the amount of severe physical activity, average and walking over the previous week. According to scoring protocol of IPAQ questionnaire, the amount of physical activity of individual can be reported and extracted in two methods:

1- General amount of physical activity of individual over the previous week per unit – MET Minutes/Week.

"MET" is a unit which is used to estimate energy consumption of physical activity. The amount of a MET is almost equal to the rate of energy consumed by an individual while resting. All physical activities can be classified in the form of multiplications of amount of energy consumption at resting mode. At this questionnaire, walking, average physical activity and severe physical activity has been considered 3/3 METs, 4 METs and 8 METs respectively. For calculation of general amount of physical activity during a week, the amount of walking (MET x minutes x day) should be added with the amount of average physical activity (MET x minute x day) and amount of sever physical activity (MET x minute x day) over the previous week.

2- Classification of Physical Activity of Individuals at three Levels (Low, Medium and High)

Severe physical activity is defined as follows:

Individual should experience sever physical activity at least three days a week and totally at least MET 1500/ minute and/or perform walking, combined of severe and average activities, for seven days or most of days. Generally, pertinent score should be measured at least MET 3000 – minute.

Average Physical Activity is defined as follows:

An individual should experience physical activity at least three days of a week or most of days (at least 20 minutes) and/or doing severe or average physical activity or walking for five days or more during a week (at least 30 minutes/day).

Low Physical Activity is defined as follows: Individual did not report any physical activity and/or reported physical activities did not meet high or average criteria of physical activity. Hence, group of individuals with average physical activity were set aside from the present study and amount of physical activity, degree of body fat percentage and also the amount of self-esteem at two groups with low and high levels of physical activity were taken into consideration.

Cooper-Smith Self-Esteem Test weighs attitude of individual to himself or herself in some areas. The individual, who fills out the questionnaire, should consider answering the option which corresponds with his or her inner condition. This test includes 85 questions, each of which is comprised of two alternatives. Answers have been specified entitled “YES” or “NO”. Of total 85 questions, eight of which are posed as lie detector while the rest 50 of which includes four parts: scaling family self-esteem, educational self-esteem, general self-esteem, and social self-esteem. Finally, one general score is obtained from self-esteem. The scoring method of this test is in “One” and “Zero” forms. It is obvious that “Zero” is the least score that a person can take and “50” will be maximum score of the test. The score higher than 25 were considered as the score with “high self-esteem” and score lower than 25 was considered as low self-esteem. This questionnaire has a retest reliability of 0.88 [25].

Also, amount of fat among students was measured with Fat Scale (Caliber) Saehan Model (SH5020), made of England, at three points: Men: chest, thigh and abdomen) and Women (three heads of arms, pelvis and thigh) [13]. With the aim of boosting reliability of subcutaneous fat measuring process, each part of the body was measured three times with specific time interval and all measurements were carried out at the right hand of body[14].

For the determination of fat percentage of individuals, the measured amounts were put at Jackson – Pollack Fat Measuring Formula, based on which, amount of fat percentage was calculated. Standing stature of individuals was weighed through using height gauge, Model Seca 216. For this reason, subjects of the study stood in such a way that posterior part of the shoulders touched height gauge device. They

held their hands beside their bodies, near their feet. Weight of each individual was measured through the application of scale (Model Seca).

The present study is of descriptive – survey type. Descriptive statistics and also inferential statistics were used for analyzing data to study average of standard deviation and other indicators. Kolmogorov – Smirnov and Leven Test was used for studying distribution of data and congruousness of variances and then, independent T-Test was applied for studying the difference between averages and Pearson Correlation Coefficient was used for studying relation between variables.

Extraction of data was carried out through the application of SPSS 16 software package and $P<0.05$ level was considered significant statistically.

RESULTS

Thanks to the rate of educated individuals at the universities, which women have constituted most of them, women and men accounted for 53 and 47 percent of individuals of the study respectively. Findings of this study showed that 62 percent (198 individuals) and 38 percent (122 individuals) of students were found sedentary and sufficient mobility respectively. Also, 62 percent (198 individuals) of sedentary students, women and men accounted for 47% (93 individuals) and 53% (105 individuals) respectively. In contrast, from among 38% (122 individuals) of students with sufficient mobility, women and men accounted for 63% (76 individuals) and 37% (45 individuals) respectively. Data related to the amount of activity and students' fat mass percentage has been mentioned at Table 2:

Table 2. Comparing Men and Women Body Fat Percentage Based on Amount of Their Activity

Fat Percentage			Activity	Gender
Standard Deviation	QTY	Mean		
5.86	45	5820	Active	Men
5.21	105	21.53	Sedentary	
5.39	150	21.27	total	
4.10	76	29.73	Active	Women
3.72	93	30.97	Sedentary	
3.92	170	30.44	total	

Also, with separating gender, women constituted 54% of low mobility students while students with sufficient mobility accounted for the rest 46%. In contrast, men constituted 70% of low mobility students while 30% of them were found students with sufficient mobility.

In addition, findings of research, as a result of studying degree of outbreak of obesity of students, showed that average fat percentage of whole subjects of the study stood at 26.14% (D±6.53). With due observance to the separation of gender, the average fat percentage of men and women is reported 21.27% (S.D±5.39) and 30.44% (S.D±3.92) respectively. The said difference between women and men has been considered "significant" with P<0/05.

Also, the average rate of physical activity of whole students stands at Met/min 603 S.D±270, based on which, the present study showed that the average rate of weekly activity among women stands at 681 Met/min with ±294 standard deviation while the average rate of weekly activity among men stands at 533 Met/min with ±226 standard deviation. Furthermore, these findings showed that correlation between fat mass percentage and degree of activity stands at -0.78%.

Also, with relation to the degree of self-esteem of students, findings showed that 79% of whole male and female students (252 individuals) were found with high self-esteem while 21 percent of whom were found with low self-esteem. Of total 79% as mentioned in above, female and male students accounted for 54% (137 individuals) and 46% (115 individuals) respectively. On the other hand, from among those students with low self-esteem, female and male students accounted for 48% (33 individuals) and 52% (35 individuals) respectively. On the other hand, any significant difference was not found between amounts of activity with self-esteem. Data related to the degree of activity and self-esteem of students has been mentioned at Table 3:

Table 3. Comparing Degree of Self-Esteem among Men and Women Based on the Degree of Their Activity

Self-Esteem			Activity	Gender
Standard Deviation	QTY	Mean		
5.73	115	29.66	Active	Men
6.10	35	28.62	Sedentary	
5.99	150	28.94	Total	
7.31	73	31.82	Active	Women
6.45	97	29.22	Sedentary	
7.05	170	30.7	Total	

Accordingly, self-esteem degree of whole students stood at 29.8 (S.D±6.6), based on which, the average score of individuals with high self-esteem stands at 32 while the average score of individuals with low self-esteem stands at 20. Also, score amount of self-esteem among men and women stands at 28.94 and 30.7 respectively and the difference of men and women self-esteem was considered significant ($P<0.05$) .In addition, these findings showed that correlation between self-esteem and amount of activity stands at +0.28.

CONCLUSION

The results obtained from the present study showed that outbreak of sedentary is high among educated individuals and approx. 62% of whole individuals have not participated in any of severe and average physical activities. For example, in Saudi Arabia, outbreak of sedentary accounts for more than 43% of people [15]. Also, unlike results of some research activities conducted in our study

[16, 18], women showed more physical activity then men in all levels. At the present study, the results showed that 38% of the educated individuals enjoy low level of physical activity while other researchers[19] showed that physical activity rate among individuals with low educational level is reduced. On the other hand, with the study made in this regard [15], there was not any significant relation between physical activities and levels of education. These results are accorded with the results of other research activities obtained by other researchers [20, 21], the average rate of physical activity at the present study showed that difference between rate of men and women physical activity is significant. Namely, men enjoy less physical activity than women at this study. On the other hand, noticeable increase has been observed in obesity of children and adults over the previous three decades[22]. This issue proved that individuals' body fat percentage will be increased along with their increased level of education as well but other researchers have reported opposite results for the finding [23]. Based on which, they asserted that educated individuals have not enjoyed remarkable fat mass rate increase. On the other hand, prevalence of obesity in Venezuela stood at 74 and 56 percent for men and women respectively [24], which is matched with the findings of this research with regard to the difference of physical activity rate among women and men as well. For instance, obesity rate in the country of Palestine has been reported 48 and 65 percent for men and women respectively [37], which shows conflicting results with our findings. With due observance to all findings, the presents study shows that the difference of fat mass between sedentary and sufficient mobility individuals is insignificance, that is to say that low-mobility individuals did not enjoy higher fat mass. Another study has shown that less participation of individuals in educational programs has direct relation with reduction of their self-esteem and enjoys positive correlation[28], That is to say that their self-esteem will be declined upon reduction of studying hours, based on which, this result is accorded with the results of the present stud, because, students enjoyed high self-esteem. Then, it can be concluded that rate of self-esteem will likely be increased among individuals in tandem with their increased level of education. The results of findings showed that any significant relation was not obtained between rate of physical activity and high- and low self-esteem. That is to say that both sedentary group and also sufficient mobility group showed high self-esteem score from themselves. In the same direction, findings of other research showed that there is not any significance relation between self-esteem and obesity [26], which is matched with our findings at the present study. But in contract to the results, another study proved that obese women enjoyed less self-esteem [27]. According to the results of study [30], it is put forward that self-esteem does not change significantly along with changes of individuals' fat mass which is matched with the findings of the present study, because, any significant difference statistically was not observed among low-

mobility and sufficient-mobility students in their body fat mass. In an opposing claim [31, 35], findings showed that there is a reverse relation between body weight and self-esteem among individuals, i.e. amount of self-esteem will be increased with the reduced body weight and with the increased body weight, self-esteem is reduced. On the other hand, other scientists [36] stated this issue that self-esteem level is lower among children with weight gain than their counterparts with normal weight significantly which is not matched with the findings of the present study, because, any significant difference was not observed between fat mass rate and also rate of physical activity with the self-esteem level. The main reason of this difference could be attributed to the age difference between children and adults.

Generally speaking, findings of the present study are similar to the global obesity epidemic statistics largely. It seems that increased obesity in countries such as Iran has become more common in recent decades, indicating that obesity and overweight in developed and developing countries is growing. The main reason of the said issue can be attributed to the changes of life pattern and above all, low physical activity especially among urban population. Therefore, we conclude that literacy level cannot leave remarkable effect in prevalence of physical activity in community while educated class, who benefit from update scientific resources and are relatively aware of dangers of obesity and sedentary, are prone to such injuries.

Also, results related to the self-esteem of individuals showed that rate of self-esteem will be increased in tandem with the increased scientific level among individuals of society, based on which, such increase exceed among women than men. Therefore, recommendations arose from this study will prevail increased level of physical activity to reduce body fat mass and increased self-esteem and this activity can be planned simply without any complexity, because, results of study showed that simple and aerobic activities have a greater impact on increasing self-esteem of individuals than complicated programs and activities[28].

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REFERENCES

1. Baird, L.L (2001).Higher education social role. Journal of higher ucation, 72,121.
2. Karahana, J. Evaristo, R., Strit, M. (2005). Levels of culture and individual behavior;an integrative perspective. Journal of Global Information Management, 13(2), 1.

3. Lyzinicki,J.M.,Young,D.C.,Riggs,J.A.,&Davise,R.M.(2001).Obesity:assessment and management in primary care.American Family Physician,63,2185-2196
4. Lopez, R. P., & Hynes, H. P.(2006).Obesity, physical activity, and the urban environment: public health research needs.Environmental Health: A Global Access Science Source
5. Pietiläinen K. H., Kaprio, J., Borg, P., Plasqui, G., Yki-Järvinen, H., Kujala, U. M. Rose, R. JWesterterp, K. R., Rissanen, A.(2008). Obesity :Physical Inactivity and Obesity: A Vicious Circle .Nature publishing group 16, 409–414
6. Lampinen,P.,&Heikkinen,R.(2002).Gender differences in depressive symptoms and self-esteem indifferent physical activity categories among older adults.Women in Sport&Physical Activity Journal,11(27),171.
7. Naismith, J., Gloucester.(1994).Self-Esteem and Body-Image:Structure, Formation and Relationship to Health Related Behaviours ien vous adressant a l'Institut canadien de la recherche sur la condition physique et le mode de vie, 313-1600
8. Crocher,J.(2002).The costs of seeking self-esteem. Journal of Social Issues,58(3),597.
9. Matz,P.E.,Foster,G.D.,Faith,M.S.,&Waden,T.A.(2002).Correlates of body image dissatisfaction among overweight women seeking wright loss.Journal of Consulating and Clinical Psychology,70(4),1040.
10. Marmot M(2003). Self esteem and health ,Autonomy, self esteem, and health are linked together. BMJ VOLUME 327, 574-575.
11. Ozmen, D., Ozmen, E., Ergin, D., Cetinkaya, A. C., Sen ,N., Dundar, P. E., and Taskin, E. O. (2007). The association of self-esteem, depression and body satisfaction ; with obesity among Turkish adolescents ;BMC Public Health7,80,1-7.
12. Maier,T.W.(2001).Schools giving P.E.short shrift.Insight on the News,17(32),30.
13. online body tracker]http://www.linear-software.com]
14. Katzman M A, Jacobs L, Marcus M, Vermani M, Logan A C(2007). Weight gain and psychiatric treatment: is there as role for green tea and conjugated linoleic acid?. Lipids in Health and Disease, 6:14, 1-4 .
15. Al-Hazzaa HM.(2007).Health-enhancing physical activity among Saudi adults using the international physical activity questionnaire (IPAQ). Public Health Nutr; 10(1): 59-64.
16. Hajian Tilaki KO, Heidari B(2007). Prevalence of obesity central obesity and the associated factors in urban population aged 20-70 years in the North of Iran: a population based study and regression approach. Obes Rev; 8(1): 3-10.
17. Wilsgaard T, Jacobsen BK, Arnesen E (2005). Determining lifestyle correlates of body mass index using multilevelanalysis: The tromso study, 1979-2001. Am J Epidemiol; 162(12): 1179-88.
18. Gomez LF, Duperly J, Lucumi DI, Gomes R, Venegas AS(2005). Physical activity levels in a adults living Bogot? [Colombia]: prevalence and factors associated. Gac Sanit; 19 (3): 206-13.
19. Hernandez B, de Haene J, Barquera S, et al(2003). Factors associated with physical activity among Mexican women of child bearing age. Rev Panam Salud Publica; 14(4): 235-45
20. Lisa O .Lewise(2005).Relationship of physical activity, self-esteem,and percent body-fat to grade point average in higher education students.a dissertation submitted to the graduate school of Tennessee state university
21. Trickel,M.T.,Barnes,M.D,.&Egget,D.L.(2000).Health-related variablrs and academic performance among first-year college students:implication for sleep and other behaviors.Journal of American College Health,49(3),125.
22. Carter P J,Taylor B J,Williams S M,Taylor R W(2011). Longitudinal analysis of sleep in relation to BMI and body fat in children.BMJ,1-7

23. Morrill C M, Leach J N, Sheeve W C, Radebaugh M R(1991). Teenage obesity: an academic issue. INTERNATIONAL JOURNAL OF ADOLESCENCE AND YOUTH,2,245-250 .
24. Campose,G.,Ryder,E.,Dize-Ewald,M.,Rivero,F.,Fernandez,V.,Raleigh,X.,Arocha-pinango,C.L.(2003).Perevalevce of obesity and hyperinsulinemia:its associations with serum lipid and lipoprotein concentration in healthy individuals from Maracaibo,Venezuela.44:5-19
25. Coopersmith S. The antecedents of self-esteem. Palo Alto, CA: Consulting psychologists Press1967.
26. French, S.A., Story,M., Perry, C.L.(1995). Self-esteem and obesity in children and adolescents: a literature review. Obes Res,3:479-490
27. Pesa JA., Syre TR., Jones, E.(2000): Psychosocial differences associated with body weight among female adolescents: the importance of body image Adoles Health, 26:330-337.
28. Suss,A.L.,Tinkelman,B.K.,Freeman,K.&FreemanS.B.(1996).School tendance, Health – risk Behaviors, and Self-esteem in Adolescents Applying for Working Papers; Bulltin of The New York Academy of Medicine,255-266
29. Young,J(2002).Does P.E. aid academics?(what they're saying).Curriculum Review,41,2002.
30. Gordon-Larsen P(2001), Obesity-related knowledge, attitudes, and behaviors in obese and non-obese urban Philadelphia female adolescents, Obesity Research, 9(2), 112-8
31. Davis H, Gergen P (1994). Self-described weight status of Mexican American adolescents. Journal of Adolescent Health. 15:407–409.
32. Guinn B, Semper T, Jorgensen L, Skaggs S(1997). Body image in female Mexican American adolescents. Journal of School Health. 67(3):112–115.
33. Snow JT(1989), Harris MB. Disordered eating in South-western Pueblo Indians and Hispanics. Journal of Adolescent health; 12:329–336.
34. Wang F, Wild TC, Kipp W, Kuhle S, Veugelers PJ. (2009)The influence of childhood obesity on the development of self-esteem. U.S. National Library of Medicine National Institutes of Health. Jun;20(2):21-27
35. Anderson SE, Cohen P, Naumova EN, Must A(2006). Association of depression and anxiety disorders with weight change in a prospective community-based study of children followed up into adulthood. Arch Pediatr Adolesc Med;160: 285–291.
36. Childress A, Brewerton T, Hodges E, Jarrell M(1993). The Kids'Eating Disorders Survey (KEDS): a study of middle school students. Journal of the american academy of child and adolescent psychiatry.;32:843–850
37. Abdul-Rshim,H.F.,Holmboe-Ottesen,G.,Stene,L.C.,Husseini,A.,Giacaman,R.,Jervell,J&et al.(2003).Obesity in a rural and urban Palestinian West Bank population, Int J Obes Relat Metab Disord;27:140-146.
38. Shaw, B. A. & Spokane, L.S.(2008). Examining the Association Between Education Level and Physical Activity Changes During Early Old Age., Journal of Aging and Health, http://jah.sagepub.com/,20-21