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THE EFFECTS OF BODY MASS INDEX (BMI) ON THE ACCEPTANCE AND FUTURE OF PROFESSION

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ABSTRACT

Objective: Obesity is an increase in the proportion of body fat to whole body. Body Mass Index (BMI) is used to classify obesity on the basis of height and weight. BMI is important for some occupations and higher education programs such as first and emergency aid. For this reason, this study was conducted to evaluate the body mass index of the 95 students who study in the first and emergency aid program. For this purpose, initially questionnaire form was used, the result was analyzed by one way ANOVA and student t-test.

Results: 95 students participated in our study (female: 58, male: 37). The students were 168.89±7.14 cm in height, 62.13±10.36 kg in weight, and 22.08±4.56 kg/m^2 body mass index in average. While the average BMI of male was 22.41±2.91 kg/m^2, the mean BMI of female was 21.40±2.74 kg/m^2. The difference between females and males were statistically insignificant (p=0.09). However, Males had higher BMI than female. While the body mass index of the students who study in the daily education was 22.21±2.64 kg/m^2, BMI of students who study in the second education was found as 21.29±3.03 kg/m^2. The difference between the daily and evening education students were statistically insignificant (p=0.116). Average of BMI of daily students was higher than the evening education. 14.73% of the population's BMI was considered overweight (25-29.9)

Conclusion: According to the results of the research, it has been found that a large proportion of the students have maintained the body mass index during the last nine months after acceptance of program. The importance of protecting the body mass index at the normal level for students who cannot protect the body mass index should be emphasized and awareness should be created in this regard.

Key Words: First and Emergency Aid, Body Mass Index, Obesity

1. Introduction

Obesity is proportion of the accumulation of body fat, increase whole body (1). Obesity is becoming serious health problems because of development in cheap food industry and changes in dietary habits. Due to spreading of obesity around the world, obesity has drawn attention in scientific. It has been reported that number of obese people in the United Kingdom and United States will be 76 million by 2023(2). Also, prevalence of obesity has increased in Turkey. A study conducted by Turkey Health Survey notes that %19.6 of Turkish suffer from obesity (3). According to the same survey, prevalence of obesity in aged 15 and over is 19.9 % in 2014 and 19.6% in 2016. Furthermore, In the same study, 23.9 % of women is obese while 15.2 % male is obese. Additionally, 30.1% of female is pre-obesity while, 38.6%, of male is pre-obesity. Obesity plays critical role in pathogenesis of several chronic diseases such as diabetes mellitus, cardiovascular diseases, and cancer (2) Individuals aged 15 years and over generally suffer from lumbar region problems linked with obesity (3). Although, many factors including malnutrition, genetic susceptibility, sedentary life, endotoxin and inflammation causing bacteria, vitamin D deficiency, endocrine disorders, drug use are underlying reasons for formation of obesity (4,5). Recently, considerable surveys have grown up around the bad eating habits and limitation of movement (4). Irregular and unbalanced diet especially results in obesity emerging an important problem in the adolescent period which is the critical period of life. Adolescent period generally coincides with university life. The rapid growth and development in the same period conduce to the excessive energy intake and consumption of the individual. Students generally move

to different town because of education. Increases in energy metabolism, separated and living a different life from his / her family gives different nutrition habits.

Aims And Objectives

In Turkey, BMI is a requirement for students to be accepted for first and emergency aid program. Therefore, this descriptive study was designed to examine the level of BMI of students after 9 months. The study will be explained that whether or not level BMI of students have been changed.

2. Materials And Methods

The data were collected between September 2016 and June 2017 at University of Mehmet Akif Ersoy. A total of 95 students participated in the first and emergency aid program of the study participated. A questionnaire (gender age, education statue, weight and height) form prepared by the researcher was used as data collection tool. Precision scales were used for weight (Premier, China). Tape measured was utilized to measure height. The data were analyzed using descriptive statistics, one-way ANOVA and student t-test. This study was allowed by Non-Interventional Clinical Research Ethics Communities (2017/85).

3. Result

58 female and 37 male students participated in this study. The mean age was 18.53± 0.73/years. The sample group had 168.89±7.14 cm in length, 62.13±10.36 kg in weight, 22.08±4.56 kg/m^2 BMI average (Table 1).

The BMI of the sample group were evaluated according to their gender, age, education status. While the average BMI of male students was 22.41±2.91 kg/m^2, female student was 21.40±2.74 kg/m^2. It would seem that difference between males and females of BMI was statistically insignificant (p=0.09). However, BMI of male were found to be higher than female students. The difference between the age groups was not statistically significant (p=0.051) while difference between the ages of 19-20 is statistically significant (p=0.048). The BMI of the students who study in the daily education was 22.21±2.64 kg/m^2 whereas the BMI of the students who study in the evening education was found as 21.29±3.03 kg/m^2. The difference between the daily and evening education students was statistically insignificant (p=0.116). The average BMI of daily education was higher than evening education (Table 2).

The height of the sample group was evaluated according to their gender, age, education status. The average height of the male was 175.46±5.62 cm, while female was 164.71±4.29 cm. It is clear that difference between males and females of height was statistically significant (p<0.001) because average height of male was higher than average height of female. The difference between the age groups was statistically significant (p=0.029). The difference between 18-20 age group was statistically significant (p<0.05). The average age of 20 years group was higher than the average age of 18 years group (Table 2). The average height of daily education was determined as 169.33± 7.62 cm, while the mean height of evening education was found as 168.43 ± 6.65 cm (Table 2). The weight of the sample group was evaluated according to their gender, age, education status. The average weight of the male was 68.79±10.70 kg, female was 57.88±7.59 kg. The difference between males and females was statistically significant (p <0.001). It shows that Female weight average was found to be lower than males. The difference between age groups was statistically significant (p=0.036). The difference between 18 and 20, and age 19 and 20 years were determined statistically significant (p <0.05). Additionally, 20 age group was higher than the average of the other two groups. The weight of the daily education was 63.93±10.73 kg/m^2 whereas evening education was 60.21±9.71 kg/m^2. The difference between the daily and evening education students was statistically insignificant (p=0.080). The average weight of daily education was higher than evening education (Table 2). It was determined that 14.73% of the students in our total samples group were pre-obesity (BMI: 25-29.9).

4. Discussion

Obesity is a general public health problem because it leads to the loss of qualified work force, physical and psychological problems, economic loss and social isolation (6). Because of unknown underlying reasons of obesity, it will continue to be an important public health issues as well as an important risk factor for many chronic diseases such as cancer, and infertility in the following years (7,8). In order to further

Table 1: Descriptive Statistic of Length, Weight, Age and BMI (n=95)

	Min	Max	X±SS
Length (cm)	156.00	186.00	168.89 ± 7.14
Weight (kg)	47.30	103.30	62.13 ± 10.36
Age (year)	18.00	20.00	18.53 ± 0.73
BMI (kg/m^2)	16.47	56.64	22.08 ± 4.56

Table 2: Comparison of Body Mass Index according to personal characteristics

Variable	Group	n	%	Min	Max	X±SS	p
BMI (kg/m^2)	Female	58	61.00	16.43	29.26	21.40±2.74	t=-1.714
	Male	37	39.00	17.84	29.86	22.41±2.91	p=0.09
	18 Age	58	61.00	16.91	29.86	21.91±3.02	F=3069
	19 Age	24	25.30	16.47	25.73	20.73±2.02	p=0.051
	20 Age	13	13.70	18.06	27.73	23.04±3.00	
	Daily E.	49	51.60	17.41	29.86	22.21±2.64	t=1586
	Evening E.	46	48.40	16.47	29.83	21.29±3.03	p=0.116
Length (cm)	Female	58	61.00	156.00	175.00	164.71±4.29	t=-10543
	Male	37	39.00	162.00	186.00	175.46±5.62	**p=0.000***
	18 Age	58	61.00	156.00	186.00	167.45±6.96	F=3664
	19 Age	24	25.30	160.00	184.00	170.38±6.51	**p=0.029***
	20 Age	13	13.70	160.00	183.00	172.62±7.65	
	Daily E.	49	51.60	159.00	186.00	169.33±7.62	t=0.606
	Evening E.	46	48.40	156.00	184.00	168.43±6.65	p=0.546
Weight (kg)	Female	58	61.00	47.30	78.70	57.88±7.59	t=-5807
	Male	37	39.00	55.90	103.30	68.79±10.70	**p=0.000***
	18 Age	58	61.00	47.30	103.30	61.32±10.21	F=3447
	19 Age	24	25.30	47.60	83.90	60.42±9.07	**p=0.036***
	20 Age	13	13.70	48.90	83.00	68.90±11.40	
	Daily E.	49	51.60	48.10	103.30	63.93 ± 10.73	t=1770
	Evening E.	46	48.40	47.30	84.20	60.21 ± 9.71	p=0.080

***p< 0.05**

understand and identify, homogeneous groups including same lifestyle, economic status, and housing shape should be focused (9). In Turkey, University students are the best example of homogeneous groups because they move to another town due to education and training. Therefore, they find their self in the different world and these conditions affect their eating habits and supply new life opportunities. For example, students living with their families could stay healthier because of adequate and balanced nutrition, on the other hand, student had tendency to prefer frozen food and fast food in university life (10). According to Turkish Statistical Institute (TSI), mild obesity was measured 33.0 % and obesity was measured 16.9% in 15 years old and over. In the same study, the prevalence of obesity was higher in women than in men (11). In another study, 4.4 % of the students aged 15 to 20 (n = 2.258) were mildly overweight while 0.6% of remains were obese (12). A study conducted on University students, it was observed that 73.7% of the students had normal weight (13). According to a similar study, 73.1% of students were shown to be normal weight (14). Our study indicates that 85.27% of samples group has normal weight. Data from our study is higher from data from similar studies (10-14) because BMI of students who study first and emergency aid programs is a critical standard to accepted program. Several recent studies related obesity have shown that socio- demographic

factors such as gender, age, marital status, education, economy, occupation is effective in protecting and improving health (16). Date from our study indicates that means of BMI of males, 20 aged group, and daily education were higher than female, 18 and 19 aged groups, and evening education, respectively. According to a recent study focused on childhood and adolescence period, age factors have significant influences on the obesity (15). Especially in adolescence period, height, and anatomical differences, sleep routine between male and female are a possible reason of obesity. Several published studies pointed out link between height, gender, and age (13,16) and our data was supported by these studies. Occupations such as first and emergency aid are affected by obesity factors. A study claimed that Occupation and obesity influenced each other. The relationship is thought to be related with the movement within the occupation. For example, housewives and retired people are more tendencies towards obesity while worker is not (17). Many factors such as disorder of sleep, stress, Infection, intense of work tempo put health worker at risk of obesity (18,19). This finding supports our study because prevalence of BMI among our samples increases to 14.73% after 9 months. Therefore, prevalence of pre-obesity is increasing among health worker. Data from study (19) supports our study because prevalence of BMI among our total samples increases to 14.73% after 9 months. Therefore, it can be claimed that increased prevalence of pre-obesity among health worker is connected with claimed factors by study including disorder of sleep, infections, intense of work tempo, and stress (19). It seems that more realistic policies should be created in order to combating against obesity.

5. Conclusion

Considering all of this evidence, after nine months of admission to university, level of BMI was protected in generally. It should be reminded that the body image is important in working areas, and social areas. One of the feasible ways to do this is to provide continuous awareness activities in terms of nutrition and physical activity in education or in professional life. It is emphasized that physical and mental health of people will be reflected positively in all the activities. Individuals leaving for education purpose need to be educated about the importance of adequate and balanced nutrition. All social activities based on awareness of people about obesity need to be backed by relevant public institutions and organizations. Reduction in prevalence of obesity contributes to protection and development of health. Also, economic burden of diseases, prevalence of systemic diseases such as cancer and diabetes are diminishing because of increased awareness of obesity in society.

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