Original Research / Özgün Araştırma

One-Year Evaluation of Family Medicine Obesity Clinic Applications

Aile Hekimliği Obezite Polikliniği Başvurularının Bir Yıllık Değerlendirilmesi

Emre Yılmaz[*1], *Pemra Cöbek Ünalan*[1], *Arzu Uzuner*[1], *Burcu Başaran Güngör*[1]

ABSTRACT

Aim/Background: Obesity is a public health problem that can affect an individual's quality of life, causing an increase in mortality and morbidity. The aim of the present study is to evaluate the characteristics of the obese patients who were admitted to Family Medicine Outpatient Clinic of Marmara University Hospital in order to improve their management. **Methods**: This is a descriptive study assessing 297 patients applied to Marmara University Family Medicine Obesity Clinic between 01/01/2014 and 01/01/2015. Participants were evaluated retrospectively by interview and clinical observation form and a 3-day dietary log. **Results**: The study included a total of 297 participants with mean age 33.7 ± 14.8 years. Of the participants, 81.2% were ≥19 years of age and 18.8% of them were <19 age group; 86.7% of those ≥19 years of age (n = 209) were women; 65.6% had chronic diseases and education level of 58% was secondary school and under. Females' education level was lower than males and they had more chronic diseases than men; and more diet experiences *(p<0.002, p<0.027, p<0.001)*. Those who had diet experience before are willing to lose more weight *(p<0.021)*. Mean body mass index (BMI) was higher in patients with chronic diseases, who were married and ho had low level of education *(p<0.001, p<0.007, p<0.004)*. **Conclusion**: Individuals admitted to the obesity outpatient clinic were mostly women who had a lower education, who had more chronic illnesses and more attempts to lose weight previously. Obesity management should be planned according to these characteristics. In addition, all patients who admit to Family Medicine Outpatient Clinics for any reason and detected to have a high BMI should be referred to Obesity Clinic and supported for losing weight.

Key words: Obesity, family medicine, primary care, obesity management

ÖZET

Giriş ve Amaç: Obezite, bireylerin yaşam kalitesini etkileyerek mortalite ve morbiditede artışa neden olan bir hastalıktır. Bu araştırmanın amacı Marmara Üniversitesi Aile Hekimliği polikliniklerinde obez hasta yönetimini geliştirmek için başvuranları değerlendirmektir. **Yöntem:** Bu araştırma, Marmara Üniversitesi Aile Hekimliği obezite polikliniğine 01.01.2014-01.01.2015 tarihleri arasında başvuran hastaların özelliklerini değerlendiren tanımlayıcı tipte bir araştırmadır. Katılımcılar, görüşme ve klinik izlem formu ile birlikte 3 günlük yeme günlüğü ile retrospektif olarak değerlendirilmiştir. **Bulgular:** Toplam 297 katılımcının yaş ortalaması 33.7±14,8 yıldır. Katılımcıların %81,2'si ≥19 yaş, %18,8'i <19 yaş grubundadır. ≥19 yaş olanların %86,7'si (n=209) kadın olup; %65,6'sının bir kronik hastalığı vardır, %58'inin eğitim durumu ortaokul ve altı düzeydedir. Kadınlar erkeklere göre daha düşük eğitim seviyesi ve daha çok kronik hastalığa sahip, daha önceden diyet yapma deneyimleri daha çoktur *(p<0.002, p<0.027, p<0.001)*. Daha önceden diyet yapmış olanların vermek istedikleri kilo daha çoktur *(p<0.021)*. BKİ ortalaması; düşük eğitim seviyesindekilerde, evlilerde ve kronik hastalığı olanlarda daha yüksek bulunmuştur *(p<0.001, p<0.007, p<0.004)*. **Sonuç:** Marmara Üniversitesi Aile Hekimliği obezite polikliniğine başvuran kişiler, erkeklere göre eğitim düzeyi düşük, daha çok kronik hastalığa sahip ve kilo vermeyi daha önceden de denemiş olan kadınlardır. Obezite yönetimi bu özelliklere göre planlanmalıdır. Ayrıca aile hekimliği polikliniklerine herhangi bir nedenle başvuran ve BKİ'si yüksek saptanan tüm hastalar obezite polikliniğine yönlendirilmeli, kilo verme konusunda desteklenmelidir.

Anahtar kelimeler: Obezite, aile hekimliği, birinci basamak, obezite yönetimi

INTRODUCTION

Obesity is a chronic disease with a gradually increasing frequency worldwide and has become one of the most important public health problems. The prevalence of obesity worldwide has nearly doubled from 1980 to 2014. The average body mass index (BMI) is increasing worldwide; BMI is 25 kg/m2 and over in 38% of females and 36.9% of males.[1,2] According to the Global Status Report published by World Health Organization (WHO) in 2014, 11% of men and 15% of women in the world are obese which means their BMI are 30 kg/m2 and over.[3] Prevalence of obesity is likewise increasing in our country.

Obesity causes an increase in mortality and morbidity besides impairing the quality of life of individuals. According to WHO data, at least 2.8 million people die worldwide each year due to being overweight and obese. Obesity is known to be associated with an increase in the risk of many diseases such as stroke, diabetes mellitus, hypertension, dyslipidemia, heart disease and sleep apnea; and comorbidity prevalence is increasing with obesity prevalence.[4] In general, to have a high BMI significantly increases the risk of dying from the all-causes and cardiovascular diseases.[5,6]

In addition, health care expenditures have been shown to be higher in overweight and obese individuals compared to normal weight individuals.[7,8] Due to impairing the quality of life of individuals, increasing morbidity and mortality and bringing economic burden to health care system; obesity is a health problem that requires effective fight. Therefore, the identification of risks that could lead to obesity and planning of initiatives for these risk factors that can cause changes in individuals' lifestyle are necessary.

The aim of this study is to evaluate the characteristics of the applicants in Family Medicine Outpatient Clinic in Marmara University Hospital to improve the management of obese patients.

METHODS

This research is a descriptive study assessing 297 patients applied to Marmara University Family Medicine Obesity Clinic between 01/01/2014 and 01/01/2015. Data including identity of the patient, age, gender, height, weight, income level, education level as socio-demographic characteristics are collected retrospectively through an improved interview and clinical observation forms to question their knowledge, attitudes and behaviors for obesity and their chronic diseases. Routine assessment of an obese patient includes the 3-day eating diary requested from patients at the first interview and at regular intervals. In this diary, all kind of foods and beverages consumed durşng the day are recorded in detail by the patients with their amounts. In analyses of data; Chi-square test was used for categorical variables and the Student's t test for continuous variables; and a P level of <0.05 was considered as statistically significant.

RESULTS

A total of 297 patients were included in the study. Mean age of all participants was 33.7 ± 14.8 years (range 6-68). Mean age of the participants under 18 years of age was 12.7 ± 3.2 and an average of ≥19 years of age was 38.6 ± 11.8. Frequency distribution of patients' socio-demographic characteristics who are 19 years old and over are summarized in Table 1.

Table 1. Frequency distribution of socio-demographic characteristics of the participants ≥19 years (n=241)		Number (n)	Percent (%)
Sex	Male	32	13.3
	Female	209	86.7
Age (year)	19-28	52	21.6
	29-38	75	31.1
	≥39	114	47.3
Marital Status	Married	183	75.9
	Single/Widowed	58	24.1
Education Level	Intermediate School and below	139	57.7
	High school and above	102	42.3
Smoking	Yes	38	15.8
	No	203	84.2
Accompanying chronic diseases	Yes	158	65.6
	No	83	34.4

While the mean BMI of age ≥19 is 36.08 ± 7.92; BMIs is ≥95 percentile in 75% (n=42) and between 90 to 95 percentiles in 25% (n=14) in the subjects between 6-18 age group (n=56). The median weight they want to lose and median time they want to lose the target weight were 15 kg/3.5 months for 6-18 age group and 22kg/7 months for ≥19 age group.

Significant differences in BMI according to education level, marital status, chronic diseases are summarized in Table 2. In the analysis made under 18 age group, there are No statistically significant differences were detected in these variables in the age group 18 years and below; so Table 2 presents only the findings of ≥19 age group.

Table 2. Differences in BMI according to education level, marital status and accompanying chronic diseases (n=241)

		BMI		p
		Number (n)	Mean±SD	
Education level	Intermediate school and below	139	37.64±7.75	p<0.001
	High school and above	102	33.97±7.69	
Marital status	Single/Widowed	58	33.67±7.90	p<0.007
	Married	183	36.85±7.79	
Accompanying chronic diseases	Yes	158	37.14±7.61	p<0.004
	No	83	34.07±8.15	
Diabetes	Yes	27	44.00±9.33	p<0.001
	No	214	35.08±7.15	

Student's t test
BMI: Body mass index, SD: standard deviation

The subjects who tried to lose weight before were detected to want to lose greater amounts of weight compared to the individuals trying to lose weight for the first time (p<0,021) however no significant difference was detected between them with regard to the duration that they want to lose weight. The analysis of independent variables by gender is summarized in Table 3.

Table 3. Differences in independent variables by gender

	Gender				Total	p
	Female		Male			
	Number (n)	Percent (%)	Number(n)	Percent (%)		
Education level (Intermediate school and below)	129	92.8	10	7.2	139	p<0.002
Accompanying chronic diseases	143	90.5	15	9.5	158	p<0.027
Considering obesity as a disease	196	88.3	26	11.7	222	p<0.026
Being on a diet to lose weight before	155	92.3	13	7.7	168	p<0.001

Chi-square test

DISCUSSION

The results of this descriptive study that has evaluated the characteristics of obese patients show that our patients have a low educational level, are married, have at least one chronic disorder and are mostly female.

The main objective to fight against obesity in family medicine should be prevention and adapting healthy eating behavior. According to WHO data, prevalence of obesity is gradually increasing and obesity has become a major threat affecting all age groups. In our country, the rate of adult obesity was 22.3% in the TURDEP-I study in 1998 and the TURDEP-II study published in 2010 showed that this ratio reached 31.2%. In the same study, prevalence of obesity was 44% in women and 27% in men. [9] Results of the present study show that 87% of the participants are female. Compared with men, obesity is seen as a disease by a higher proportion of women and they have more experience about

weight losing diet before their admission. Patients' admitting to obesity clinic by their own deicison shows that they are committed to lose weight. Achieving behavioral changes is essential in obesity management. According to this; patients who are committed to change behavior facilitates the intervention.

Obesity leads to chronic diseases.[10-12] Some studies have reported that the prevalence of obesity is increasing with aging.[13] In this research, about 60% of all participants have one or more comorbid chronic disease. The mean BMI was significantly higher in patients with one or more chronic disorder and only diabetes. In scope of preventive medicine of family medicine, the development of obesity-related chronic diseases can be prevented with regular control for BMI, patient education about a healthy and balanced diet, regular exercises and close monitoring of patients with higher BMI.

The educational status of 58% of the participants is below high school level and women have a lower level of education. The mean BMI of the participants whose educational status was intermediate school or below was higher than those graduates of high school or above. In the studies of Bakhshi, Alvarez, Fouad and Maskarinec, the level of education was reported to increase as the value of the BMI decreased significantly.[14-17] The high level of education indicates a high knowledge level about healthy diet, regular exercise and a high level of awareness in terms of the fight against obesity, as a result BMI is affected in a positive way.

Approximately 76% of the participants are married. Body mass index them were significantly higher than those of single or divorced, similarly with the studies of Fouad, Maskarinec and Hosseinpour.[16-18] Constantly preparing meals at home, the collective eating habits, watching television with the family after dinner and meanwhile consumption of carbohydrate-containing foods, nuts and fruits with tea and adopting it as a lifestyle can explain high level of BMI in the married.

Considering that the people usually who cook and prepare food at home are women, a lower educational level of women constitute a risk for the whole family to prepare a balanced meal and prevention of obesity. Accordingly, women should be educated for a balanced nutrition and preparing healthy meals, family physicians advising their patients on this issue,

provide information and training opportunities are important in terms of preventive medicine.

In this study, the median value of participants stated they want to lose weight in the first meeting and the targeted duration was 15 kg/3.5 months; this was found to be 22 kg/7 months for ≥19 years of age Similarly, in a study by Foster, it has been shown that patients' target was 32% loss of their current weight.[19] Accordingly, it is above the recommended value which weight they want to lose and the time they were aiming for this. To reduce the health risk of the obese or overweight individuals in the treatment process, 10% loss of body weight is recommended. Intervention process is planned in six months. For a healthy weight loss process, target is ½-1 kg per week and for this goal, reducing 500-1000 kcal of daily calorie intake is recommended.[20,21] An individual's body image, goals and decisions are important for accession of the treatment process, for his reason individuals should be informed about the need for a healthy weight loss.

The study has some limitations. First is not having a prospective design, data were collected retrospectively from the files of the obesity clinic patients. There were missed data in patient files. For this reason, some analysis was completed with missing data. Finally, the sample size of our study is small.

As a result, patients admitted to the obesity clinic with their own decision creates a group that is ready to make changes in their lives and who will benefit most from the services to be provided. According to the findings, the possible risks for obesity can be summarized as female gender, being married, having a low level of education and having one or more chronic disorder. For this reason, patients admitted to the other family medicine clinics that have these characteristics and with high BMI should be referred to the obesity clinic. Male patients admitted for any reason to family medicine clinic with a high BMI may also be referred to the obesity clinic and should be encouraged to lose weight. Waist circumference, height and weight measurements should be part of the routine physical examination. In the context of ongoing maintenance, BMI monitoring will allow necessary intervention on time.

As well as the dietary habits acquired in the family, modifiable factors such as lifestyle, education and non-modifiable factors such as age and gender are effective in the

development of obesity. Therefore, organizing prevention and intervention programs for high-risk individuals and raising awareness on this subject by planning and implementation of educational programs targeting all age groups would be effective in prevention and control of obesity. People admitted to obesity clinic have intervention experiences before in this regard and high expectations. Close follow-up and use of multiple methods should be considered to improve patient compliance.

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