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Recommendations for the Management of Obesity

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Abstract

Obesity, which results from an imbalance between energy intake and expenditure, is one of the most important health issues of our day, and is associated with many diseases such as type 2 diabetes, coronary artery disease, increased cancer risk, osteoarthritis, and obstructive sleep apnea syndrome. Achieving long-term weight management in the course of obesity treatment is not possible as long as significant changes in life style are not implemented. In this manuscript, we present a simple and feasible treatment model that we employ in the management of obesity.

Key Words: Obesity, obesity management, weight loss

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Introduction

Due to changes in lifestyle and eating habits, more and more individuals nowadays are being categorized as obese. Although there are regional differences, the prevalence of obesity in Turkey is estimated at 32%.Over the past 12 years, an increase of 90% was observed in the number of obese individuals in Turkey. This indicates that obesity-related diseases and deaths are likely to become the most important health issue in the near future [1].

Obesity, which results from an imbalance between energy intake and expenditure, is one of the most important health issues of our day, and is associated with many diseases such as type 2 diabetes, coronary artery disease, increased cancer risk, osteoarthritis, and obstructive sleep apnea syndrome. Nowadays, both developed and developing countries are allocating an important portion of their health budgets to anti-obesity programs. It is known that weight loss among obese individuals leads to a significant decrease in the risk of diabetes and cardiovascular diseases [2,3]. A broad variety of diet programs, exercise routines, behavioral therapies, drugs, and surgical procedures are being used to achieve weight management in obese individuals. These methods are used either separately or concurrently; however, the effectiveness of these methods, as well as the question as to which are superior over the other, are currently subject to debate. Present-day studies indicate that current weight-loss programs are insufficient to achieve effective long-term weight management [4].

Obesity is becoming more common among children, women and men around the world [5], and there is a need to develop new treatment approaches to achieve and maintain the targeted weights. In this manuscript, we will present our experiences regarding a model that we successfully applied in our clinic for the management of obesity. We hope that this model will serve as a basis and recommendation for future studies.

Treatment Model

As much as the effective management of obesity requires an understanding of the patient's attitude towards obesity, as well as discussion of the consequences of obesity with the patients, it also requires more time to be spent with the patients in order to increase their participation and compliance to treatment. On the other hand, the use of a limited number of short and clear messages is recommended during the patient's education regarding obesity, as patients are often unable to understand long and complex doctor recommendations regarding weight management [6]. By taking these principles into account in our treatment model, we

organize long meetings with our patients, determining and discussing their expectations, body image, eating habits, and level of physical activity in the process. Our meetings last for a minimum of 30 minutes. The treatment model we have applied for obesity management is applicable for adolescents and adults, both male and female. Individuals with type 2 diabetes, as well as obese patients whose health conditions are not conducive to participation, are not included in this treatment model.

Anthropometric measurements are performed with a professional body composition analyzer (Tanita®) on obese patients admitted to our healthy living and obesity polyclinic; the patients are then evaluated for fasting glucose, insulin resistance, fasting blood lipids, and thyroid function tests. The appropriate treatment is then initiated for patients with pathologies identified within these parameters and who have secondary obesity.

The main approach in obesity treatment should be based on developing an individual-specific diet program by calculating the daily calorie requirement of the individual. The Harris-Benedict formula is most frequently used to this end. This formula allows the calculation of an individual's basal energy requirement and energy consumption at rest. In our treatment model, the patient's calorie requirement is calculated, in accordance with the Harris-Benedict formula, based on his/her age, gender, height, and level of physical activity. The aim is the set the patient's daily calorie intake 500-800 kcal/day below this value [7]. The patient's target weight is then determined. To achieve this targeted weight, a plan is made for the patient to lose 10% of his/her current weight within the first six months. Thus, an improvement will be observed among the patients in all components of metabolic syndrome [8].

The five standard recommendations shown in Table 1 are explained in detail to all of the patients. The patients are followed and monitored by scheduling regular appointments at 15-day intervals. At each visit, the patients will be questioned about whether they are implementing these five standard recommendations. The daily amount of calories spent by exercising, and the amount received from diet is then calculated. Among the five standard recommendations, a particular emphasis is placed on those that are not adequately followed by the patients. In the ensuing visit performed 15 days later, a control is made once again to determine whether this recommendation is now being followed properly. The patients' compliance with these recommendations is scored based on a five-point scale (5-excellent, 4-good, 3-moderate, 2-poor, 1-very poor).Most of our patients who are monitored according to

this model are able to lose weight and also to maintain their new weights. Our results regarding the effectiveness of this treatment model will be reported as another study.

Table 1. Five standard recommendations in the obesity treatment model

1. To exercise
2. To form a serving plate
3. To eat slowly
4. To eat three meals a day
5. To keep an eating diary

Exercise

In exercise programs recommended for obese individuals, the aim should be to prevent further weight gain, to ensure weight loss, and to allow them to preserve their new weight. In terms of duration, frequency and intensity, the exercise routines of the patients will not be any different than those that would be followed by individuals of a normal weight.However, the amount of exercise should be greater. It should aim to increase the total amount of energy expenditure. At the beginning of the exercise routine, emphasis should be placed on frequency and duration rather than intensity [9]. The United States Sports Academy recommends 30 minutes of exercise every day. Although the amount of evidence indicating that exercise prevents weight regains following weight loss is limited; it is nevertheless known that exercise is associated with a reduction in health risks due to the increase in non-fat mass and the decrease in fat mass that it engenders [10]. It is also known that the addition of a low calorie diet to an exercise program is more effective than an exercise program alone. To this end, the patient's exercise routine should be followed, along with the recommendations regarding proper diet [11]. Our department has a sports center that our obese patients may use free of charge. This provides them the opportunity to exercise under the supervision of professionals. The effectiveness of this model has been demonstrated in a previous study [12]. By exercising collectively in this center, the patients can continue their weight-loss program without losing their motivation.

Forming a Serving plate

Due its historic heritage, Turkey possesses a rich and diverse culinary culture. Turks, who are living in rural area and significantly engaged in agriculture and animal husbandry, frequently consume wheat products, fatty pastries made with wheat flour, and meat dishes. Nowadays, 63.9% of individuals in rural areas and 29.2% of individuals in urban areas have the habit, per tradition, of eating from a large common platter placed at the center of the family table [13]. Considering that most obese individuals have eating disorders, such as excessive eating and compulsive eating [14], it is apparent that this traditional eating habit in Turkey needs to change. In our weight-loss program; patients are recommended to form their own serving plate and to avoid eating from a common platter. It is thus ensured that the patients include all varieties of food in their serving plate by taking into account the amount of servings they take (in terms of spoonful's, scoopfuls, or number of servings). By acquiring this habit, which is monitored and questioned at each visit, the patient gains an insight into the amount of food he/she consumes, and also has little difficulty in keeping an eating diary, which is one of our five standard recommendations.

Eating Slowly

Chewing is the first stage of digestion. The habit of eating rapidly and chewing less is associated with the development of obesity [15,16]. Data that is currently available suggests that the habit of eating rapidly also contributes to insulin resistance. In a study conducted on 3,500 non-diabetic Japanese citizens; it was observed that HOMA-IR values were significantly higher among individuals with rapid eating habits. In the same study, a positive relationship was identified in particular among men between eating rapidly and obesity. Eating rapidly also increases the amount of daily calorie intake. Furthermore, since eating rapidly precludes any sense of satiation in the stomach, it may also lead to overeating. Among strategies outlined in these studies for the prevention of obesity, it has been emphasized that changing individuals' rapid eating habits is the most important factor [17,18]. For this reason, eating slowly and chewing more is one of our five standard recommendations for obesity. We recommend patients to chew their food at least 30 times before swallowing. The patients are thus able to acquire the habit of chewing more and eating at slower pace.

Eating three meals a day

There are conflicting studies on what the frequency of meals should for a healthy life. Should the same amount of energy be consumed in small quantities at frequent intervals, or should larger quantities be consumed at lesser intervals? Certain studies have demonstrated that the risk of obesity decreases parallel to an increase in eating frequency. For this reason, obese patients are generally recommended to eat small quantities at frequent intervals [19]. On the other hand, a comparison of individuals consuming six meals a day and two meals a day revealed no differences in terms of energy expenditure [20]. However, it has been observed in recent years that obese individuals have a tendency to report only 50% of what they actually eat. This observation has gradually led to view that eating at frequent intervals increases the daily amount of calorie intake. In fact, a significant reduction in patients' body mass indices was observed in a study that recommended obese patients to eat three meals a day [16,21]. In our treatment model, we also recommend obese patients to eat three meals a day, and to avoid snacking between meals.

Keeping an eating diary

A change in improper feeding habits, which constitutes the most important stage in any obesity treatment, can be achieved with the aid of professional nutrition information systems. We recommend our obese patients to keep an eating diary where they record the variety and quantities of food they consume every day. By analyzing the eating diary professional nutrition information system (BeBis®) at each visit, we identify the patients' daily intake of calories; the amount and distribution of carbohydrates, protein and lipids in their diet; and how much their vitamin and mineral intake meets their daily requirements. We then return the diary to the patients by indicating and writing the calorie value of each food onto the diary. By learning the calorie and nutritional value of the foods they consume, the patients can eat with a greater level of awareness with regard to calorie and nutrition intake.

Conclusion

In the management of obesity, which has become the most important health issue worldwide and in Turkey, weight loss can only achieved with weight-loss programs that involve a comprehensive change in lifestyle. Based on our initial observations, the approach we have developed is willingly adopted and easily implemented by the patients, and is also effective. There is a need for further randomized, controlled, and long-term studies investigating the

effectiveness of simple and feasible recommendations in encouraging weight-loss among patients, as was the case in our treatment model.

Conflict of Interest

The authors declare no conflicts of interest.

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