



Health Services Vocational College

Education and Consultancy for Behavior Change in Obesity Management

Suheyla YARALI¹ 

1) Department of Public Health Nursing, Faculty of Nursing, Atatürk University, Erzurum, Turkey

Received Date: 06.06.2022

Accepted Date: 03.09.2022

Cite this article: Yaralı S. Education and Consultancy for Behavior Change in Obesity Management. JOBAB. 2022; 1(1), 12-20.

Corresponding author: Süheyla Yaralı

Department of Public Health Nursing, Faculty of Nursing, Atatürk University, Erzurum, Turkey

e-mail: suheyla.yarali@atauni.edu.tr

Abstract

Obesity is a serious health problem with an increasing prevalence in developed and developing countries. Obesity, which is a serious health problem, causes chronic diseases such as cardiovascular diseases, cancer and diabetes, as well as impairing physical health, and deterioration in body image also causes problems in psychological health such as depression and anxiety. All these conditions reduce the quality of life, increase the morbidity and mortality rate and negatively affect the life span. These conditions caused by obesity affect society negatively. It affects the country's economy by causing a decrease in the workforce and an increase in health expenditures. These reasons reveal that obesity management is necessary. The most important factor in providing obesity management is the implementation of lifestyle changes. In order for the training to be effective, it is necessary to use appropriate training strategies. In this article, the role of education in providing behavioral change in obesity management is emphasized.

Keywords: Obesity, Obesity Management, Behavior Change, Education.

Introduction

Obesity is a chronic disease that is defined as abnormal/excessive fat accumulation by the World Health Organization (WHO) and is increasing day by day (WHO; 1997). The most important reason why it is defined as a chronic disease is that it decreases the quality of life by impairing physiological and psychological health, and is among the causes of mortality by increasing the morbidity rate (Aygün, 2012).

It is stated that more than 1.9 billion adults were overweight in 2016, of which more than 650 million were obese, more than 340 million children and adolescents aged 5-19 were overweight/obese, and 39 million children under the age of 5 were overweight/obese in 2020 (WHO, 2020).

According to the World Health Organization 2016 data, 32.1% of the adult population in our Turkey is obese (WHO, 2016). According to The WHO wise approach to noncommunicable disease risk factor surveillance (STEPS) 2017 results, 28.8% of the total population in adults have obesity (STEPS, 2018).

This shows that obesity is an important public health problem. For this reason, it is aimed to increase the health level of the whole society with the implementation of effective interventions for obesity. When effective interventions are evaluated, behavior change for prevention should be provided first (Tedik, 2017). The education to be given to ensure a healthy life by changing the behaviors of individuals is the most important step of obesity management. In this article, the

importance of education in obesity management is emphasized.

Definition of Obesity

Body mass (BMI) index is the most commonly used method in determining obesity. Calculation is made using the formula [BMI=Weight (kg) / Height (m²)]. According to the result, values with a BMI of 30 kg/m² and above are considered as obesity. The classification of BMI is given in Table 1 (WHO; 1997).

Table 1. BMI Obesity Classification

Classification BMI Cut-Off Points (kg/m²)

Classification	BMI Cut-Off Points (kg/m²)
Thinness (düşük ağırlıklı)	< 18,50
Thinness Grade I	<16,00
Thinness Grade II	16,00-16,99
Thinness Grade III	17,00-18,49
Healthy Weight	18,50-24,99
Overweight (Preobese)	≥25,00-29,99
Obese	≥30,00
Obese Grade I	30,00-34,99
Obese Grade II	35,00-39,99
Obese Grade III	≥40,00

Causes of Obesity

Obesity can occur for many modifiable reasons such as physical activity, dietary habits, socioeconomic status, cultural environment and psychological effects.

It can also occur due to diseases such as Cushing's disease, polycystic ovary syndrome and hypothyroidism, drugs such as corticosteroids, antidepressants, genetic syndromes such as Down syndrome, Wilson-Turner syndrome (Aygün, 2012). Physical activity and eating habits are in the first place among. Among the modifiable factors, physical activity and eating habits take the first place (Tedik, 2017). When the literature is examined, it is seen that physical activity is effective in the management of overweight and obesity (Shook, 2016; Chin, Kahathuduwa, & Binks, 2016; Oppert, 2021; Baillot, et al., 2021).

Jakicic et al. determined that physical activity and exercise are effective in the treatment of obesity, while Wewege et al. stated that with the running training that they applied for 10 weeks, 3 times a week in their studies, they reduced all fat mass (Jakicic, et al., 2018; Wewege et al., 2017). In the Turkish nutrition and health survey, it was determined that 67.6% of men aged 30-44 and 78.8% of women do not do physical activity (TBSA, 2019). Unsuitable eating habits, one of the most important risk factors for obesity, cause many health problems along with obesity (TBSA, 2019).

Health Problems Caused by Obesity

Obesity causes many diseases such as cardiovascular diseases, hypertension, diabetes, musculoskeletal diseases, some types of cancer and respiratory system diseases and affects the quality and duration of life negatively by increasing the morbidity and mortality rates (General Directorate of Public Health, 2020; Turkish Society of Endocrinology and Metabolism, 2019). Obesity causes not only physical diseases but also

mental, social and economic problems. Obese individuals are exposed to negative behaviors such as anger and blame due to social prejudices in many areas of life such as workplaces, education and personal relationships. This situation can cause psychological problems such as low body image, decrease in self-esteem, depression and anxiety (O'Brien, et al., 2016; Phelan, et al., 2015). Increasing obesity rates not only negatively affect public health, but also cause loss of workforce and increase the burden on public health expenditures (Turkish Society of Endocrinology and Metabolism, 2019; Çukur & Arıtı, 2017). From all these perspectives, obesity emerges as a health problem that causes great harm to the individual, family and national economy. Management of obesity plays a key role in preventing the problems experienced by the individual, society and country.

Obesity Management

Medical nutrition, physical activity, behavioral support, drug therapy and in some cases surgical treatment are used in obesity management (Bray, et al., 2016). It is stated that 10% reduction in weight in 6 months will play an important role in preventing health problems caused by obesity (TEMD, 2018). A multidisciplinary approach involving physicians, nurses, nutritionists, psychologists and psychiatrists, sports physicians, physiotherapists, school nurses, teachers, and family is extremely important in interventions for obesity management (Güney, 2010). The education and motivation of the patient is very important in the success of the applied treatment. Treatment must necessarily include behavioral changes, including nutrition and exercise habits

(Güney, 2010). Education is essential at all stages of interventions, as obesity management involves providing behavior change.

Education and Counseling in Ensuring Behavior Change

The way to change behavior is through the awareness and education of the individual (Altınbaş & Yavuz Van Giesbergen, 2019). When the literature is examined, it is seen that education and counseling on nutrition and physical activity play an important role in obesity management initiatives (Oliveira et al., 2018; Alexander, 2022; Berra, Rippe & Manson, 2015; Barnes & Schoenborn, 2012; Public Health Institution of Turkey, Ministry of Health, 2014).

It was stated in the study of Özer et al. that group interviews were effective in obesity management and that participants were able to realize their lack of knowledge about nutrition and correct their mistakes (Özer, Kurdak & Özcan, 2018).

In their study, Pyle and Poston explained that the nutrition education given on subjects such as the types of foods given to children, adolescents and their families, the harms of overconsumption of foods such as chips and chocolate with high calories, ensuring an eating pattern, and providing healthy food consumption contributes to obesity management (Pyle & Poston, 2006). In the study of Tümer and Özsoy, it was stated that the intention and behavior scores related to physical activity increased in the intervention group with the change phase-based individual counseling initiative in increasing the physical activity they applied (Tümer & Özsoy, 2015). Grace et al. applied a 10-week

physical activity and nutrition education intervention and reduced BMI in overweight and obese adolescents (Grace, et al., 2021).

In studies where model-based education, which is a very important factor in providing behavior change, is used, it has been seen that education for nutrition and physical activity for obesity is effective (Baysal & Hacialioglu, 2017; Woods, Mutrie, & Scott, 2002; Spencer, et al., 2006; McArthur, et al., 2018; Vahedian-Shahroodi, et al., 2021).

In a study, positive behavioral changes towards physical activity occurred in 78.1% of overweight women with transtheoretical model-based training and weight reduction was achieved (Baysal & Hacialioglu, 2017).

In a study, Health Belief Model Scale in Obesity were applied to the students in the experimental and control groups. Later, the students in the experimental group were taken to a 6-week program with 2 hours of healthy nutrition and exercise education per week. As a result, after nutrition and exercise education given to obese students, a positive change was achieved in students' beliefs about obesity (Çelebi, 2021).

In a study based on the Health Belief Model aimed to determine the effectiveness of nutrition education on the self-esteem and BMI of overweight and overweight adolescent. Therefore, he states that such interventions to develop effective long-term healthy behaviors in schools have preventive and controlling effects on overweight (Vahedian-Shahroodi, 2021).

Conclusion and Recommendations

As a result, education on nutrition and physical activity in obesity management will provide a positive behavioral change in these issues. It can be said that it will create effective results in obesity management by providing systematic and planned training.

References

- Alexander, L., Christensen, S. M., Richardson, L., Ingersoll, A. B., Burrige, K., Golden, A., ... Bays, H.E. (2022). Nutrition and physical activity: an obesity medicine association (OMA) clinical practice statement. *Obesity Pillars*, 1, 100005. <https://doi.org/10.1016/j.obpill.2021.100005>.
- Altınbaş, Y., & Yavuz Van Giesbergen, M. (2019). Strengths based nursing. *Adiyaman University Journal of Health Sciences*, 5(2), 1652-1665. <https://doi.org/10.30569/adiyamansaglik.528795>
- Aygün, M. (2012). Obesity and its Management. *Obezite ve Yönetimi*. Durna, Z. (Ed). *Chronic Diseases and Care*, in (341-378). Istanbul: Nobel Printing.
- Baillet, A., Chenail, S., Barros Polita, N., Simoneau, M., Libourel, M., Nazon, E.,.... Romain, A.J. (2021). Physical activity motives, barriers, and preferences in people with obesity: A systematic review. *PloS one*, 16(6), e0253114. <https://doi.org/10.1371/journal.pone.0253114>.
- Barnes, P.M., & Schoenborn, C.A. (2012). Trends in adults receiving a recommendation for exercise or other physical activity from a physician or other health professional. *NCHS Data Brief*, (86), 1–8. <http://www.ncbi.nlm.nih.gov/pubmed/22617014>.
- Baysal, H.Y. & Hacialioglu, N. (2017). The Effect of Transtheoretical Model-Based Education and Follow-up on Providing Overweight Women with Exercise Behavior. *International Journal of Caring Sciences*, 10(1), 225.
- Berra, K., Rippe, J., & Manson, J.E. (2015). Making physical activity counseling a priority in clinical practice: The time for action is now. *JAMA*, 314(24), 2617–8. <http://dx.doi.org/10.1001/jama.2015.16244%5Cnhttp://>
- Bray, G.A., Frühbeck, G., Ryan, D.H., & Wilding, J.P.H. (2016). Obesity management. *Lancet*, 387(10031), 1947-1956. [https://doi.org/10.1016/S0140-6736\(16\)00271-3](https://doi.org/10.1016/S0140-6736(16)00271-3).
- Chin, S.H., Kahathuduwa, C.N., Binks, M. (2016). Physical activity and obesity: what we know and what we need to know. *Obes Rev*, 17,1226–1244. <https://doi.org/10.1111/obr.12460>.
- Çelebi E. , Ulaş Kadioğlu B. , Uncu, F. (2021). The Effect Of Nutrition And Exercise Education On The Development Of Attitude And Belief Of University Students Towards Obesity: Case Of Elazığ Province. *ESTÜDAM Halk Sağlığı Dergisi*. 2021; 6(2): 138-147. <https://doi.org/10.35232/estudamhsd.877044>
- Çukur, A, & Arıtı, E. İ. (2017). He role of obesity taxes in the fight against obesity: an evaluation for

- Turkey. *Sayıştay Journal*, 28(106), 121-139.
12. General Directorate of Public Health. Department of Obesity, Diabetes and Metabolic Diseases, Health Problems Caused by Obesity. <https://hsgm.saglik.gov.tr/tr/obezite/obezitenin-yolactigi-saglik-problemleri.html>.
13. Grace, J., Biggs, C., Naicker, A., & Moss, S. (2021). Effect of physical activity and nutrition education on body mass index, blood pressure and biochemical variables in overweight and obese adolescents. *Ann Glob Health*, 87(1),9. doi: 10.5334/aogh.3147.
14. Güney, E. (2010). Obesity. Family Medicine Diagnosis and Treatment Guidelines Alpoğuz, C. (Ed). In (342-346). 1st Edition. Ankara: HYB Publishing .
15. Jakicic, J.M., Rogers, R.J., Davis, K.K., & Collins, K.A. (2018). Role of Physical activity and exercise in treating patients with overweight and obesity. *Clinical chemistry*. 64(1), 99–107. pmid:29158251.
16. McArthur, L.H., Riggs, A., Uribe, F. & Spaulding, T. J. (2018). Health belief model offers opportunities for designing weight management interventions for college students. *Journal of nutrition education and behavior*, 50(5), 485-493. <https://doi.org/10.1016/j.jneb.2017.09.010>.
17. O'Brien, K.S., Latner, J.D., Puhl, R.M., Vartanian, L.R., Giles, C., Griva, K., & Carter, A. (2016). The relationship between weight stigma and eating behavior is explained by weight bias internalization and psychological distress. *Appetite*, 102, 7076.
18. Oliveira, A., Araújo, J., Severo, M., Correia, D., Ramos, E., Torres, D.,..... Loper. C. (2018). Prevalence of general and abdominal obesity in Portugal: comprehensive results from the National Food, nutrition and physical activity survey 2015–2016. *BMC Public Health*, 18, 614. <https://doi.org/10.1186/s12889-018-5480-z>.
19. Oppert, J. M., Bellicha, A., van Baak, M. A., Battista, F., Beaulieu, K., Blundell, J. E.Busetto, L. (2021). Exercise training in the management of overweight and obesity in adults: Synthesis of the evidence and recommendations from the European Association for the Study of Obesity Physical Activity Working Group. *Obesity Reviews*, 22, e13273. <https://doi.org/10.1111/obr.13273>.
20. Özer, Z.Y., Kurdak, H., & Özcan, S. (2018). Evaluation of the group interview method used in obesity management. *Turkish Journal of Family Medicine and Primary Care*, 12(4), 288-300. <https://doi.org/10.21763/tjfmpe.465916>.
21. Phelan, S.M., Burgess, D.J., Yeazel, M.W., Hellerstedt, W.L., Griffin, J.M. & Van Ryn, M. (2015). Impact of weight bias and stigma on quality of care and outcomes for patients with obesity. *Obesity Reviews*, 16 (4), 319-326.
22. Prevention and management of the global epidemic of obesity. Report of the WHO Consultation on Obesity (Geneva, June, 3–5, 1997). Geneva: WHO. file:///C:/Users/tr/Documents/

Downloads/WHO_NUT_NCD_98.1_(p 1-158).pdf.

23. Pyle, S., & Poston, C. (2006). Fighting an epidemic: the role of schools in reducing childhood obesity. *Psychology in the Schools*, 43(3), 361-376.

24. Public Health Institution of Turkey, Ministry of Health. (2014). *Turkey Physical Activity Guidelines*. Ankara. Ministry of Health Publication No: 940. <http://morfselletme.gov.tr/>

25. Shook, R.P. (2016). Obesity and energy balance: what is the role of physical activity? *Expert Rev Endocrinol Metab*, 11, 511–520.

26. Spencer, L., Adams, T.B., Malone, S., Roy, L., & Yost, E. (2006). Applying the transtheoretical model to exercise: a systematic and comprehensive review of the literature. *Health Promot Pract*, 7(4), 428-43. <https://doi.org/10.1177/1524839905278900>

27. Tedik, S.E. (2017). Healthy Life and Role of Nursing in the Control of Body Weight. *Turkish Journal of Diabetes and Obesity*, 2, 54-62.

28. TEMD Obesity LM, Hypertension Working Group Turkish Endocrinology and Metabolism Association 2018.

29. Tumer, A. & Özsoy, S. (2015). The effect of individual counseling intervention based on the stage of change in increasing physical activity. *Journal of Ege University Faculty of Nursing*, 31 (2),26-39.

30. Turkey Household Health Survey: Prevalence of Risk Factors for

Non-Communicable Diseases 2017 (STEPS, 2018). Uner, S., Balcilar, M., & Ergüder T. (Eds). World Health Organization Turkey Office, Ankara.

31. Turkey Nutrition and Health Survey (TBSA,2019), T.C. Ministry of Health, General Directorate of Public Health, Publication No: 1132, Ankara.

32. Turkish Society of Endocrinology and Metabolism. (2019). *Obesity Diagnosis and Treatment Guide*. Ankara: BAYT Scientific Researches Press.

33. Vahedian-Shahroodi, M., Tehrani, H., Robot-Sarpooshi, D., GHolian-Aval, M., Jafari, A., & Alizadeh-Siuki, H. (2021). The impact of health education on nutritional behaviors in female students: An application of health belief model. *International Journal of Health Promotion and Education*, 59(2), 70-82. <https://doi.org/10.1080/14635240.2019.1696219>.

34. Wewege, M., van den Berg, R., Ward, R.E., & Keech, A. (2017). The effects of high-intensity interval training vs. moderate-intensity continuous training on body composition in overweight and obese adults: a systematic review and meta-analysis. *Obes Rev*, 18(6), 635–46. [pmid:28401638. https://doi.org/10.1111/obr.12532](https://doi.org/10.1111/obr.12532).

35. Woods, C., Mutrie, N., Scontt, M. (2002). Physical activity intervention: a transtheoretical model-based intervention designed to help sedentary young adults become active. *Health Educ Res*, 17(4), 451-460.

36. World Health Organization. (2016). Obesity and overweight Fact Sheet. <http://www.who.int/news-room/fact-sheets/detail/obesity-andoverweight>.

37. World Health Organization. (2020). Obesity and overweight Fact Sheet. <http://www.who.int/news-room/fact-sheets/detail/obesity-andoverweight>.