

The Global Public Health Crisis of Obesity: A Narrative Review

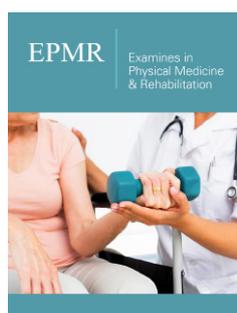
Onur Oral^{1*}, Zeinab Rezaee² and Pınar Tatlibal³

¹Ege University, Faculty of Sports Sciences, Turkey

²Department of Exercise Physiology, Ferdowsi University Of Mashhad, Iran

³Dokuz Eylul University, Necat Hepkon Faculty of Sports Sciences, Turkey

ISSN: 2637-7934



***Corresponding author:** Onur Oral, Faculty of Sports Sciences, Department of Health Sciences and Sports, Ege University, Izmir, Turkey

Submission: 📅 December 01, 2021

Published: 📅 May 11, 2022

Volume 3 - Issue 4

How to cite this article: Onur Oral*, Zeinab Rezaee, Pınar Tatlibal. The Global Public Health Crisis of Obesity: A Narrative Review. Examines Phy Med Rehab. 3(4). EPMR. 000567. 2022.
DOI: [10.31031/EPMR.2022.03.000567](https://doi.org/10.31031/EPMR.2022.03.000567)

Copyright@ Onur Oral, This article is distributed under the terms of the Creative Commons Attribution 4.0 International License, which permits unrestricted use and redistribution provided that the original author and source are credited.

Abstract

Background: The study aims to investigate and evaluate the factors and treatment options of global health problem of obesity which poses a serious risk for a healthy life

Materials and Methods: In the search for scientific literature related to this review the US National Library of Medicine (PubMed) used Medline and Sport Discus data and the terms “obesity genetics”, “obesity”, “physical activity” and “exercise” were used. The relevant literature has also taken its source from the research of relevant articles from reference lists derived from data studies.

Results: Obesity is a genetic and environmental interaction disease that can cause serious and chronic problems for a healthy life. Due to the excessive amount of adipose tissue in the body, its development is a metabolic health problem that causes many health problems and requires medical treatment.

Conclusion: In the light of all these facts, it can be observed that the most important risk factors of obesity, genetic predisposition, decrease in physical activity, nutritional habits, age, gender, education level stand out. Adult and child obesity is spreading rapidly all over the world, but especially in developing countries.

Keywords: Obesity; Physical activity and exercise; Weight control; Obesity genetics

Introduction

Obesity is defined as the condition which refers to the uncommon or overmuch fat acceleration rate of adipose tissue [1]. This disease embodies such alarming risks that it may even impair health and as a result, can lead to morbidity and mortality. When it is the case, obesity is acknowledged as a global health problem that is causing worries worldwide day by day and hence, paves the way for the fact that states, scientists, and healthcare providers attempt to raise awareness about the factors contributing to the development of obesity in a person, its effects and results [2].

First of all, it would be better to state the factors which are accepted as the contributors to this disease, obesity. These factors can be classified as; genetic factors and social and environmental factors [3]. Genetic factors include the conditions such as hormones, whereas social and environmental factors involve various situations depending on an individual such as eating habits, settings, socio-cultural and economic reasons, and so forth. Accordingly, when it comes to the genetic factors, it is possible to state that genetic factors significantly affect the tendency to obesity [4,5] and this fact begins to be effective during in utero or postnatal periods [1]. In this sense, the diet or perinatal behaviors of the mother is related to the development of the fetus.

On the other hand, social and environmental factors refer to various aspects which are mostly depending on an individual's preferences and conditions. Initially, a sedentary lifestyle plays a key role among these factors. If people tend towards obesity or patients do not perform sufficient physical activity, it may increase the risk of obesity to higher levels. Most people claim that they do not exercise enough because they work and as a result, they do not constantly move. In addition, with the introduction of technological developments and social media where people have started to spend much more time on the computer, hence in a sitting position, which may even take the whole day and prevent an individual from being physically active [6]. On the other hand, economical situations may influence the choices of an individual. For instance, the fast-food sector and the products, which are nutrient-poor or contain a high-fat rate, stimulate the risk of obesity and even damage the health of people [7]. Accordingly, people with low purchasing power generally prefer consuming these products as they are not costly and easy-accessible. Obesity is a serious health problem for children as well as adults. Childhood obesity has reached epidemic levels in both developed and developing countries. The problem of overweight and obesity in childhood affects both the physical and psychological health of children very negatively. Diabetes, cardiovascular diseases, metabolic, orthopedic, neurological, hepatic, pulmonary, and psychological problems are observed more frequently in overweight and obese children in adulthood. So it's said to be a serious problem to observe that childhood obesity has exceeded its capacity to be a health problem and is now considered a global epidemic [8,9].

Besides the factors contributing to obesity, certain consequences of obesity also impair the health of an individual such as type II diabetes, cardiovascular health problems including hypertension and coronary heart disease [10,11] cancer respiratory diseases, diseases related to kidney, musculoskeletal diseases and gastrointestinal and hepatic disorders [12,13,14,15]. Since obesity and being overweight may even lead to morbidity and mortality, it should be well known that the potential physical and psychological threats posed by this health condition are crucial [16,17].

Discussion

Worldwide, the prevalence of obesity is continuing to rise at an alarming rate, often described as being of epidemic proportions. It is estimated that about 250 million people are obese, equivalent to 7% of the adult population world wide [2]. Worldwide, the prevalence of obesity is continuing to rise at an alarming rate, often described as being of epidemic proportions. It is estimated that about 250 million people are obese, equivalent to 7% of the adult population world wide [2]. Worldwide, the prevalence of obesity is continuing to rise at an alarming rate, often described as being of epidemic proportions. It is estimated that about 250 million people are obese, equivalent to 7% of the adult population worldwide [2].

It is defined as abnormal or excessive fat accumulation that may impair health, overweight, and obesity. Body mass index (BMI) is determined by dividing a person's weight in kilograms by the square

of their height in meters (kg/m^2) and is an index used to classify overweight and obesity in adults. According to the World Health Organization's (WHO) definitions of obesity and overweight, if a person's BMI is 25 or greater; overweight, 30 or greater is obesity. But BMI gives a rough result. Age must be taken into account when evaluating overweight and obesity in children [18]. The Global Burden of Disease Obesity Collaborators estimate that >603.7 million adult individuals worldwide are obese [19]. The presence of obesity has been associated with many diseases. Increased mortality due to all causes and increased risk of hypertension, dyslipidemia, type 2 diabetes, coronary artery disease, stroke, gallbladder disease, osteoarthritis, sleep apnea, as well as endometrial, breast, prostate, and colon cancers are associated with obesity [20,21]. It is estimated that there is an estimated 75% direct relationship between the incidence of hypertension and obesity [22]. Epidemiological data support that greater body weight is one of the main risk factors for high blood pressure. Recent data from US National Health and Nutrition Examination Surveys (NHANES) indicate that the prevalence of hypertension among obese individuals, with a BMI $>30\text{kg}/\text{m}^2$, is 42.5% compared with 27.8% for overweight individuals (BMI $25.0\text{-}29.9\text{kg}/\text{m}^2$) and 15.3% for those with BMI $<25\text{kg}/\text{m}^2$ [23]. In a 5.5-year follow-up study, the incidence of diabetes in insulin-sensitive obese subjects was 40% lower than in insulin-resistant obese subjects. Conversely, lean people with insulin resistance had an 80% higher risk of developing diabetes than insulin-sensitive individuals [24]. It has been emphasized that the incidence of obesity-related cancer and cancer-related deaths in the last two decades has been 14% in men and 20% in women [25].

It is known that obesity has serious negative effects on physical and physiological health for children. Overweight and obesity are associated with important health problems such as hyperlipidemia, hypertension, abnormal glucose tolerance, and infertility. In addition, psychological disorders such as depression occur with increasing frequency in obese children [26].

Conclusion

Weight control methods, which should be applied in the planning of obesity prevention and treatment, include practices that include a series of weight maintenance methods consisting of a balanced, natural diet and physical activity to help people live a healthier life. Lifestyle changes and a healthy diet are the factors that must be applied to reach or maintain the ideal weight. However, it is known that for individuals who have severe obesity problems, it is generally necessary to change their eating habits and plan regular exercise, as well as to use some medical drugs to accelerate the weight loss process in line with the recommendations of the physicians. However, for individuals who do not have advanced obesity problems, regular exercise, and healthy eating habits will be sufficient to maintain the ideal weight and maintain a healthy lifestyle. In a conclusion, The most important factor in lifestyle change in the prevention and treatment of obesity is to increase activity and to realize the role of exercise in a positive weight loss program. A much more effective weight loss program can be

achieved when physical activity is put into practice together with a calorie-restricted nutrition program. So diagnosis and treatment of obesity are said to be extremely important in terms of knowing well the factors and treatment options of obesity, which poses a serious risk for a healthy life, preventing obesity and obesity-related complaints, and arranging their treatments.

References

- Chan RS, Woo J (2010) Prevention of overweight and obesity: How effective is the current public health approach. *Int J Environ Res Public Health* 7(3): 765-783.
- Brown WV, Fujioka K, Wilson PW, Woodworth KA (2009) Obesity: Why be concerned? *Am J Med* 122(S4): 11.
- (2000) Obesity: Preventing and managing the global epidemic. Report of a WHO consultation, World Health Organ Tech Rep Ser, World Health Organization, Geneva, Switzerland.
- Bouchard C (2009) Childhood obesity: Are genetic differences involved? *Amer J Clin Nutr* 89(5): 1494S-1501S.
- Lonnqvist F, Arner P, Nordfors L, Schalling M (1995) Overexpression of the obese (ob) gene in adipose tissue of human obese subjects. *Nat Med* 1(9): 950-953.
- Shields M, Tremblay MS (2008) Sedentary behaviour and obesity. *Health Reports* 19(2): 19-30.
- Jones N, Furlanetto DL, Jackson JA, Kinn S (2007) An investigation of obese adults' views of the outcomes of dietary treatment. *J Human Nutr Diet* 20(5): 486-494.
- Raj M, Kumar RK (2010) Obesity in children & adolescents. *Indian J med Res* 132(5): 598-607.
- Sahoo K, Sahoo B, Choudhury AK, Sofi NY, Kumar R, et al. (2015) Childhood obesity: Causes and consequences. *J family med prim care* 4(2): 187-192.
- Guh DP, Zhang W, Bansback N, Amarsi Z, Birmingham CL et al. (2009) The incidence of co-morbidities related to obesity and overweight: A systematic review and meta-analysis. *BMC Public Health* 9: 88.
- Renahan AG, Tyson M, Egger M, Heller RF, Zwahlen M (2008) Body-mass index and incidence of cancer: A systematic review and meta-analysis of prospective observational studies. *Lancet* 371(9612): 569-578.
- Murugan AT, Sharma G (2008) Obesity and respiratory diseases. *Chronic Respiratory Disease* 5: 233-242.
- Ting SM, Nair H, Ching I, Taheri S, Dasgupta I (2009) Overweight, obesity and chronic kidney disease. *Nephron* 112(3): c121-127.
- Wearing SC, Hennig EM, Byrne NM, Steele JR, Hills AP (2006) Musculoskeletal disorders associated with obesity: A biomechanical perspective. *Obes Rev* 7(3): 239-250.
- Batty GD, Shipley MJ, Kivimaki M, Barzi F, Smith GD et al. (2008) Obesity and overweight in relation to liver disease mortality in men: 38 year follow-up of the original whitehall study. *Int J Obes* 32(11): 1741-1744.
- Hruby A, Hu FB (2015) The epidemiology of obesity: A big picture. *Pharmacoeconomics* 33(7): 673-689.
- Ruth SMC, Woo J (2010) Prevention of overweight and obesity: How effective is the current public health approach. *Int J Environ Res Public Health*. 7(3): 765-783.
- <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>
- Afshin A, Forouzanfar MH, Reitsma MB, Sur P, Estep K, et al. (2017) Health effects of overweight and obesity in 195 countries over 25 years. *N Engl J Med* 377(1): 13-27.
- (1998) NHLBI Obesity education initiative expert panel on the identification, evaluation, and treatment of overweight and obesity in adults. Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults – the evidence report. *Obes Res* 8: 51S-209S.
- Pi-Sunyer FX (1993) Medical hazards of obesity. *Ann Intern Med* 119(7): 655-660.
- (2009) American Heart Association, Overweight and Obesity Statistics.
- Wang Y, Wang QJ (2004) The prevalence of prehypertension and hypertension among US adults according to the new Joint National Committee guidelines. *Arch Intern Med* 164(19): 2126-2134.
- Owei I, Umekwe N, Provo C, Wan J, Dagogo-Jack S (2017) Insulin sensitive and insulin-resistant obese and non-obese phenotypes: Role in prediction of incident pre-diabetes in a longitudinal biracial cohort. *BMJ Open Diabetes Res Care* 5(1): e000415.
- Amer A, Franchi L, Kanneganti TD, Body-Malapel M, Ozoren N et al. (2006) Regulation of legionella phagosome maturation and infection through flagellin and host Ipaf. *J Biol Chem* 281(46): 35217-35223.
- Daniels SR, Arnett DK, Eckel RH, Gidding SS, Hayman LL (2005) Overweight in children and adolescents: Pathophysiology, consequences, prevention, and treatment. *Circulation* 111 (15): 1999-2012.

For possible submissions Click below:

Submit Article