World Health Assembly (WHA)

Fighting obesity and its secondary diseases

Research Report

Leiden Model United Nations 2024

"Out of this world"

Forum: World Health Assembly (WHA)

Issue: Fighting obesity and its secondary diseases

Position: Chair

Introduction

Rates of overweight and obesity continue to grow in adults and children. The percentage of children and adolescents aged 5 to 19 living with obesity increased from 2 to 8 percent globally from 1990 to 2022. At the same time, the percentage of adults 18 years or older living with obesity more than doubled from 7 to 16 percent.[1] Today more people are obese than underweight in every region except South-East Asia. Obesity was once considered a problem only in high-income countries, but today some middle-income countries have among the highest prevalence of overweight and obesity worldwide. This increase is driven by different factors, including genetic predisposition, environmental influences, lifestyle choices, and socioeconomic conditions.

Obesity can lead to a variety of secondary diseases such as type 2 diabetes, cardiovascular disease, and certain cancers.[2] About 2,8 million people per year pass away from the effects of obesity worldwide, which makes the disease one of the leading preventable causes of death worldwide.

Definition of Key Terms

Body mass index (BMI):

The body mass index (BMI) is a tool used by healthcare providers to estimate the amount of body fat. It can help assess risk factors for certain health conditions, however the BMI is not always an accurate representation of body fatness.[3] To calculate your BMI you can use the formula: BMI = kg/m^2 with kg being the person's weight in kilograms and m being the height in metres.[4]

Overweight and obesity:

Overweight and obesity are both defined as abnormal or excessive fat accumulation that presents a risk to health. According to the World Health Organisation (WHO) a BMI over 25 is considered overweight, and over 30 is obese.[5] Both overweight and obesity bring severe health risks.

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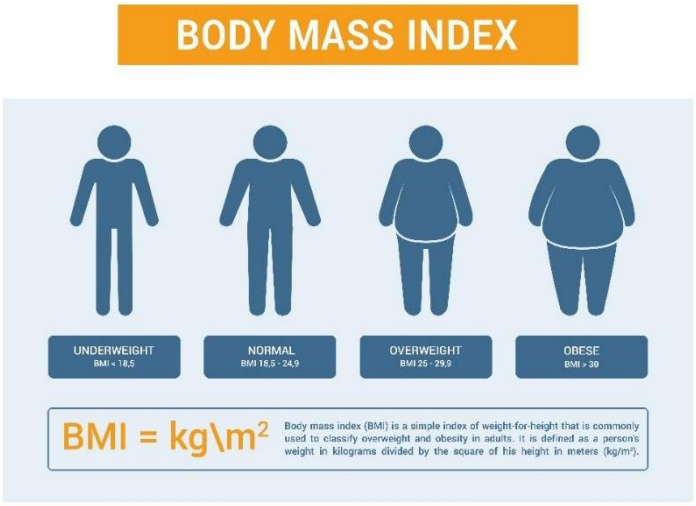
[1] WHO. (n.d.). Obesity. Retrieved from World Health Organization (WHO): https://www.who.int/health-topics/obesity#tab=tab_1

[2] Wikipedia. (n.d.). Obesity. Retrieved from Wikipedia: https://en.wikipedia.org/wiki/Obesity

[3] Cleveland Clinic. (2022, September 5). Body Mass Index (BMI). Retrieved from Cleveland Clinic: https://my.clevelandclinic.org/health/articles/9464-body-mass-index-bmi

[4] Diabetes Canada. (n.d.). Body Mass Index (BMI) Calculator. Retrieved from Diabetes Canada: https://diabetes.ca/en-CA/resources/healthy-living-tools-resources/diabetes-and-you-healthy-living-resources-weight#:~:text=BMI%20is%20a%20simple%20calculation,body%20fatness%20or%20general%20health

[5] WHO. (n.d.). Obesity. Retrieved from World Health Organization (WHO): https://www.who.int/health-topics/obesity#tab=tab_1



Source: University of Bristol[6]

Energy imbalance:

When your energy in calories does not equal your energy out (calories your body uses for things such as breathing, digesting food, and being physically active).[7] Energy imbalance over a long period of time can develop into overweight or even obesity.

General Overview

What is obesity?

Obesity is typically defined as a substantial accumulation of body fat that could impact health.[8] People are usually classified as obese based on their body mass index (BMI), a ratio of a person's weight to the square of their height in metres. The World Health Organization (WHO) defines being obese for adults as having a BMI of 30 or higher. For children, age must also be taken into consideration along with their height and weight.

However, there are some problems with defining obesity with someone's BMI. BMI tries to approximate someone's body fat percentage (BF%), the ratio of the total weight of a person's fat to his or her body weight but is not always as effective in doing so. For example, people who do heavy physical labour or sport may have a high BMI despite having little fat. According to BF%, someone is classified as obese when their BF% is higher than 32% for women and 25% for men.

Effects of obesity on health

Obesity has profound and far-reaching effects on health, contributing to the development of numerous chronic conditions and reducing overall quality of life. Obesity increases a person's risk of developing various diseases, such as Alzheimer's, depression, and certain types of cancer including, breast, colorectal, kidney, and endometrial cancers, likely due to hormonal imbalances and chronic inflammation.[9] Depending on the degree of obesity, the disease is associated with an estimated 2 to 20 years shorter life expectancy.

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[6] University of Bristol. (2018, December 11). BMI is a good measure of health after all, a new study finds. Retrieved from University of Bristol: https://www.bristol.ac.uk/news/2018/december/bmi-measure-of-good-health.html

[7] NIH. (2022, March 24). Overweight and Obesity: Causes and Risk Factors. Retrieved from National Heart, Lung, and Blood Institute (NIH): https://www.nhlbi.nih.gov/health/overweight-and-obesity/causes

[8] Wikipedia. (n.d.). Obesity. Retrieved from Wikipedia: https://en.wikipedia.org/wiki/Obesity

[9] Sukanya Pati, W. I. (2023, January 15). Obesity and Cancer: A Current Overview of Epidemiology, Pathogensis, Outcomes, and Management. PubMed Central.

Obesity is also a leading cause of type 2 diabetes, as it contributes to insulin resistance and impaired glucose metabolism. Excess body fat is the cause of 64% of diabetes cases in men and 77% in women. Obesity is also a major risk factor for some cardiovascular diseases such as heart disease and stroke.[10] The disease also increases respiratory issues, such as sleep apnea and asthma, and puts additional strain on joints, leading to osteoarthritis. Obesity also effects mental health, people suffering from obesity experience higher rates of depression, anxiety, and body image issues.[11]

All these health issues combined result in a decreased life expectancy and reduced quality of life. Therefore, obesity places a significant burden on healthcare systems, increasing the need for medical treatment and intervention. Addressing obesity is therefore crucial for improving both individual health outcomes and public health.

Causes of obesity

Obesity can develop over time when you consume more calories than you use, which is called energy imbalance. This causes your body to store more fat that can be used in the future.[12] However the risk of developing overweight or obesity is determined by more than just how much you eat. The types and amount of food and drinks you consume each day, your level of physical activity, and how much good-quality sleep you get each night also impact this.

There are many other causes of obesity, like high amounts of stress. High amounts of stress can affect the brain and trigger your body to make hormones that control energy balances and hunger urges, which can make you eat more and store more fat. Genetics also play a role in the risk of getting obesity. Genes can affect how people's bodies change food into energy and store fat. Genes can also affect the lifestyle choices people make.

Treatment of obesity

The main way obesity is treated consists of weight loss via lifestyle interventions, such as prescribed diets and physical exercise.[13] Other ways to manage obesity are certain types of medication, or surgeries. Many studies have tried to find effective interventions, but there is currently no efficient solution to prevent obesity that is evidence-based and well-defined.[14]

Whenever these lifestyle interventions do not work out, bariatric surgery can be performed to treat obesity. Bariatric surgery is a category of surgical operations intended to help people with obesity lose weight.[15] These surgeries modify your digestive system, usually your stomach, to regulate how many calories you can consume and absorb. Sometimes they can also reduce the hunger signals that your digestive system gives to your brain. However, these so-called "weight loss surgeries" are not an easy fix. It does require long-term lifestyle changes after the surgery to be successful.

There are also some forms of medication that help with obesity. These anti-obesity medications alter the weight regulation of the human body by reducing appetite and energy intake, increasing the amount of energy burned by the human body, or interfering with the absorption of calories.[16] Some anti-obesity

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[10] WHO. (n.d.). Obesity. Retrieved from World Health Organization (WHO): https://www.who.int/health-topics/obesity#tab=tab_1

[11] Vafiadis, D. (2024, February 27). How Excess Weight Impacts Our Mental and Emotional Health. Retrieved from ncoa: https://www.ncoa.org/article/how-excess-weight-impacts-our-mental-and-emotional-health

[12] NIH. (2022, March 24). Overweight and Obesity: Causes and Risk Factors. Retrieved from National Heart, Lung, and Blood Institute (NIH): https://www.nhlbi.nih.gov/health/overweight-and-obesity/causes

[13] Wikipedia. (n.d.). Obesity. Retrieved from Wikipedia: https://en.wikipedia.org/wiki/Obesity

[14] Wikipedia. (n.d.). Management of obesity. Retrieved from Wikipedia: https://en.wikipedia.org/wiki/Management_of_obesity

[15] Cleveland Clinic. (2022, September 6). Bariatric Surgery. Retrieved from Cleveland Clinic: https://my.clevelandclinic.org/health/treatments/bariatric-surgery

[16] Wikipedia. (n.d.). Anti-obesity medication. Retrieved from Wikipedia: https://en.wikipedia.org/wiki/Anti-obesity_medication

medications can have severe and even dangerous side effects. Currently, the United States Food and Drug Administration (FDA) only approves six anti-obesity medications, including phentermine-topiramate, liraglutide, setmelanotide, and semaglutide. Others have been withdrawn from the market for numerous reasons, such as heart valve damage and cardiovascular-related side effects.[17]

Although there are solutions available to treat obesity, not all of them are as effective in the long term. Most solutions are not an easy fix and need serious lifestyle changes to stay effective. Therefore, it is also good to focus on preventing obesity rather than just treating the disease. This can be done by understanding and correcting the environmental factors that contribute to the increasing prevalence of obesity.[18] Solutions can involve changing the factors that cause excessive food energy consumption and inhibit physical activity. For example, the WHO recommends taxing sugary drinks.

Economic costs of obesity

Global study predicts that the majority of the population will be living in either overweight or obesity by 2035 and 1 in 4 people will have obesity.[19] The World Obesity Atlas predicts that the global economic impact of overweight and obesity will reach $4.32 trillion annually by 2035, which is nearly 3% of the global GDP. Most of these costs consist of Obesity-related medical care costs to treat obesity and all its secondary diseases.

Major Parties Involved

World Health Organization (WHO)

The WHO develops evidence-based guidelines for preventing and managing obesity. These include recommendations on diet, physical activity, and the prevention of childhood obesity.[20] Monitoring global obesity trends is also a way the WHO tries to fight obesity, together with supporting research on the causes, consequences, and effective interventions for obesity. Aside from that, the WHO leads global campaigns to raise awareness about obesity and its health risks.

United States (US)

The US tackles obesity through a multifaceted approach involving government agencies, public health initiatives, and community programs. Federal nutrition programs aim to improve dietary habits, particularly among children. These programs provide guidance on balanced diets and ensure that healthier food options are available in schools. The US government also focuses on policy and regulation. For instance, the Affordable Care Act (ACA) includes provisions that require chain restaurants to display calorie information, helping consumers make informed food choices.[21]

European Union (EU)

The EU addresses obesity through an approach that combines policy-making, regulation, research, and public awareness. The EU focuses on promoting healthier diets and physical activity while aiming to reduce childhood obesity and create a sustainable food system. An important way in which the EU tries to do this is with the implementation of different food labelling regulations like the Nutri-Score system to help consumers make informed choices.

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[17] Ewumi, O. (2023, May 10). Side Effects of Anti-Obesity Medications. Retrieved from MedCentral: https://www.medcentral.com/endocrinology/obesity/side-effects-of-anti-obesity-medications

[18] Wikipedia. (n.d.). Management of obesity. Retrieved from Wikipedia: https://en.wikipedia.org/wiki/Management_of_obesity

[19] World Obesity. (2023, March 2). Economic impact of overweight and obesity to surpass $4 trillion by 2035. Retrieved from World Obesity: https://www.worldobesity.org/news/economic-impact-of-overweight-and-obesity-to-surpass-4-trillion-by-2035

[20] WHO. (2004, May 22). Global Strategy on Diet, Physical Activity and Health. Retrieved from World Health Organization (WHO): https://www.who.int/publications/i/item/9241592222

[21] parry, T. (n.d.). Payment Considerations - The Challenge of Treating Obesity and Overweight. Retrieved from NCBI: https://www.ncbi.nlm.nih.gov/books/NBK475871/#:~:text=The%20Patient%20Protection%20and%20Affordable,6%20and%20older%20for%20obesity.

The EU also supports research and innovation, funding studies on obesity prevention and effective interventions. The EU brings together stakeholders from member states, NGOs, and industry to collaborate in these studies.

These measures are very important, because 1 in 6 citizens in the EU is considered obese and 50% of adults overweight.[22]

Timeline of Events

Middle Ages	Obesity was seen as a sign of wealth and prosperity in many societies, where food scarcity was common.
1863	William Banting published the first popular diet book called "Letter on Corpulence." He advocated for a low-carbohydrate diet to combat obesity.
1880s	Obesity begins to be formally recognized as a health issue, and it gets linked to heart disease and other conditions.
1950s	The rise of the fast-food industry begins, which leads to increased calorie consumption and contributes to the rise in obesity rates.
1880	The WHO officially declares obesity a global epidemic.
2000	The WHO publishes its "Obesity: Preventing and Managing the Global Epidemic" report, providing a comprehensive overview of the causes, consequences, and potential solutions to obesity.
2020	The COVID-19 pandemic highlights the risk of obesity, as individuals with obesity are found to be at higher risk for severe outcomes from the virus.

Possible Solutions

One of the most important ways to fight obesity is to promote healthy diets. Educating the public about healthy eating habits is very important and access to affordable healthy foods will help individuals make healthier choices. This can be done by taxing and restricting the marketing of unhealthy foods or reducing taxes on healthy foods.

Together with promoting healthy diets, encouraging physical activity is also an effective way to prevent obesity. This can both be done by influencing individuals to do regular physical activity and by investing in infrastructure for physical activity such as parks, bike lanes, and pedestrian-friendly environments.

Next to preventing obesity, it is also important to make treatments for obesity more accessible. This can be by making programs that focus on modifying behaviour and weight management programs more accessible. However, bariatric surgeries should also be affordable and accessible to people with severe obesity.

[22] Yanatma, S. (2024, January 31). 1 in 6 Europeans are now obese. Which countries are the worst hit by the rising obesity crisis? Retrieved from euronews: https://www.euronews.com/health/2023/12/20/europes-growing-obesity-crisis-which-countries-have-the-most-and-least-overweight-populati

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