

**Programme: BSc (Hons) Health and Social Care
Level 5**

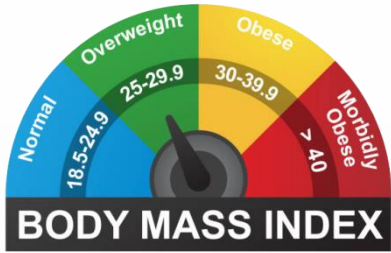
Module: Introduction to Physiology (BMHP5003)

Assignment Title: *Poster Presentation on ‘Obesity’*

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OBESITY

The terms 'obese' and 'obesity' derived from the Latin verbs 'obedere,' which means 'to overeat,' and 'obesitas,' means 'to be very fat.' (Baldwin, 2010) **Obesity** and **overweight** are both described as abnormal or excessive fat accumulations that pose a danger to one's health. A person with a BMI of 30 or above, considered obese and 25 or above BMI, recognised as overweight. (WHO, 2021)



$$\text{BMI} = \frac{\text{Weight in KG}}{(\text{Height in M})^2}$$

What is BMI? Body mass index (BMI) is calculated using a person's height and weight. By dividing an adult's weight in kilograms by his or her height in metres squared, BMI can be measured. (NHS, 2019)

Facts

- Obesity and overweight are the world's fifth leading cause of mortality. At least 2.8 million individuals die each year as a result of being overweight or obese. 2021 (EASO)
- In 2016, about 650 million individuals were obese. Around 340 million children and adolescents aged 5 to 19 were overweight or obese, accounting for roughly 13% of the world's adult population (11% and 15% of men and women respectively). (WHO, 2021)
- 217.6 million diabetes cases, 307 million hypertension cases, 11.7 million cardiovascular disease cases, and almost 500,000 cancer cases are related to obesity. (Federation, 2020)

Effects of Obesity

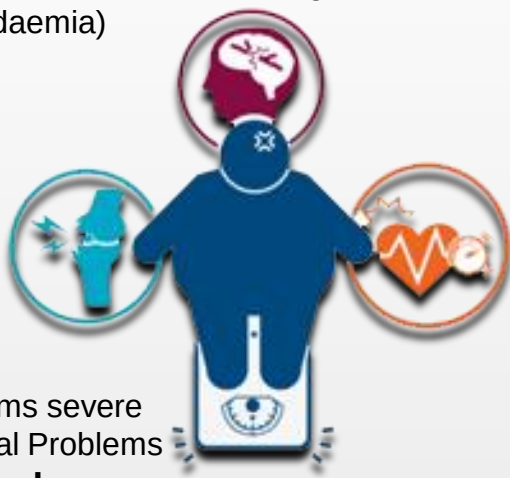
Physiological

Obese people are at a higher risk for a variety of severe illnesses and health problems, including the followings (CDC, 2020):

- Death from any cause (mortality)
- High Blood pressure (Hypertension)
- High LDL cholesterol, low HDL cholesterol, or high triglyceride levels (Dyslipidaemia)
- Diabetes type 2
- Heart disease
- Stroke
- Digestive ailments
- Osteoarthritis
- Sleep apnoea
- Breathing difficulties
- Pain and difficulties
- Many kinds of cancer
- Makes COVID-19 symptoms severe
- Sexual and Gynaecological Problems

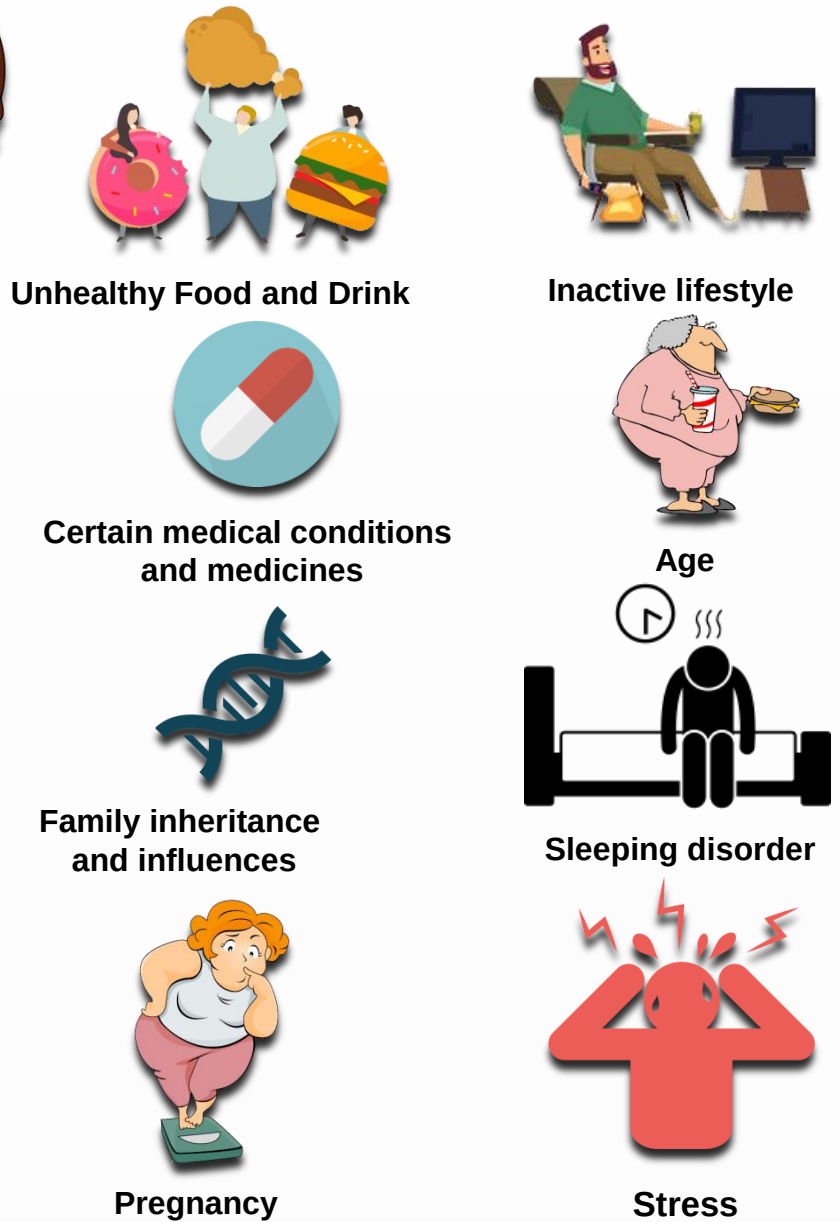
Social and Psychological

- Poor life quality
- Clinical depression, anxiety, and other mental illnesses.



Causes and Risk factors

Generally, obesity is a result of eating excessively and exercising insufficiently. However, obesity is typically the consequence of a combination of causes and factors (NHS, 2019)



Case Study

Patient A is a 48-year-old female who is 173cm tall. According to BMI calculator her BMI is 31.5, which indicates that she is obese. (NHS, 2019) The causes for the patient's obesity may be immediately discovered by examining her background, lifestyle, eating and drinking habits. She lives on an unhealthy diet (meat, fries, and chips), consumes too much alcohol, and does not exercise; all of these are significant risk factors for her obesity.(NHS, 2019) She also mentioned her hectic work schedule, which may often causes stress and does not allow her to engage in physical activity. (NHS, 2019) (Clinic, 2020) Certain obesity-related diseases in her family suggest that she might have inherited some genes and food habits contributing to her condition. (Clinic, 2020) She is in danger of developing other life-threatening diseases if she does not act soon.

Recommendations

Because obesity is mostly caused by an unhealthy lifestyle, the following are recommended (NHS, 2019):



Replace her unhealthy eating habits with a nutritious, well-balanced diet



Avoid foods high in fat and sugar



Reduce her weekly alcohol consumption



Physical activity or workouts



If she decide to join any weight-loss programme or to use any medication, the patient should consult with her doctor

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Speaker Note (Obesity)

Definition: The terms 'obese' and 'obesity' derived from the Latin verbs 'obedere,' which means 'to overeat,' and 'obesitas,' means 'to be very fat.' (Baldwin, 2010)

Obesity and overweight are both defined as abnormal or excessive fat accumulations that represent a health risk.

Obesity is defined as a BMI of 30 or above. Overweight is defined as a BMI of 25 or higher. (WHO, 2021)

Symptoms: A person's height and weight are used to calculate their **body mass index (BMI)**. An adult's weight in kilogrammes is divided by his or her height in metres squared to get at the BMI calculation. In the range of 18.5 to 24.9, BMI is considered ideal for most adults. (NHS, 2019)

Facts

- Overweight and obesity are the world's fifth most common causes of mortality. At about 2.8 million individuals die each year as a result of being obese or overweight.. (EASO, 2021)
- In 2016, about 650 million individuals were obese. In total, about 13% of the world's adult population (11 percent of men and 15% of women) and 340 million children and adolescents between 5 to 19 were overweight or obese. (WHO, 2021)
- In 2019, over 63% of the UK's total population, or 35 million individuals, are overweight or obese, with 28% of the population being obese in England. (NHS, 2019) (Nuffieldtrust, 2021) (UK, 2019)
- 217.6 million diabetes cases, 307 million hypertension cases, 11.7 million cardiovascular disease cases, and almost 500,000 cancer cases are related to obesity. (Federation, 2020)

Causes and Risk factors: Generally, obesity is a result of overeating and exercising insufficiently. However, obesity is typically the consequence of a combination of causes and factors (Clinic, 2020) (NHS, 2019) (CDC, 2021):

Lifestyle

Unhealthy eating habits: Weight gain is caused by a diet high in calories, low in fruits and vegetables, and rich in high-calorie beverages and big portions.

Calories in liquid form: People may take a lot of calories but not feel full if those calories come from alcohol. Other high-calorie beverages, such as sugared soft drinks, may contribute to weight gain as well.

Inactivity. A sedentary lifestyle may easily gathers more calories than lifestyle with exercise and daily activities. Sedentary activities include staring at computer, tablet, or phone screens. Time spent in front of a screen is also significantly associated with weight gain.

Certain medical conditions and medicines: Obesity may be associated with medical illnesses such as Prader-Willi syndrome, Cushing syndrome, and others in certain people. Medical conditions, such as arthritis, may also lead to a decrease in activity, which can result in weight gain. Some medications may induce weight gain if not balanced with a healthy diet and exercise. Pharmaceuticals in this area include antidepressants, anti-seizure drugs, diabetic medications, antipsychotic medications, steroids, and beta-blockers.

Family inheritance and influences: People’s family genes may affect how much body fat they maintain and where it is distributed. Genetic features may also affect how well the body converts food into energy, the body controls appetites, and the body burns calories during workout.

Obesity is a characteristic that is passed down via families. This is not only because they have the same DNA but also family members share similar dietary and physical activity habits.

Age: Obesity is more common among adults between the ages of 40 and 59. (Holland, 2020)

Obesity may strike anybody at any age, including youngsters. Hormonal changes and a sedentary lifestyle raise obesity risk with age. Also, as we age, our muscular mass decreases. Muscle loss often slows metabolism, which helps to gain weight.

Pregnancy: Pregnancy causes weight increase. After delivery, some women struggle to shed this weight. This weight increase may lead to female obesity.

Quit smoking: It may also cause obesity in certain people. This occurs when individuals eat to deal with nicotine withdrawal.

Insomnia. Insufficient or excessive sleep may alter hormones, increasing hunger.

Stress: Many environmental influences on mood and wellbeing may lead to obesity. Stressful circumstances can lead to increased calorie intake.

Social and Economic Reasons

Obesity is linked to social and economic problems. Obesity is difficult to prevent when individuals lack secure places to walk or exercise. Inactivity may also be caused by a hectic lifestyle. Similarly, people may not have been taught nutritious cooking or may not have access to high-quality ingredients. Furthermore, the people one spends time with may have an impact on his or her weight - if they have obese friends or family members, they are more likely to develop obesity.

Effects of Obesity

Physiological

Obese people, as compared to individuals with a standard or healthy weight, are at a higher risk for a variety of severe illnesses and health problems, including the following (Clinic, 2020) (WHO, 2021) (CDC, 2020):

- Death from any cause (mortality): Given the adverse effects of obesity on many areas of health, it stands to reason that the condition also shortens life or causes early death.
- High Blood pressure (Hypertension)
- High LDL cholesterol, low HDL cholesterol, or high triglyceride levels (Dyslipidaemia)
- Diabetes type 2: Obesity can impact how the body utilises insulin to regulate blood sugar levels. This increases the likelihood of insulin resistance and diabetes.
- Heart disease and Stroke
- Digestive ailments: Obesity increases the likelihood of getting heartburn, gallbladder disease, and liver problems.
- Osteoarthritis: Obesity puts additional strain on weight-bearing bone joints while also raising inflammation in the body. These factors may lead to issues like osteoarthritis.
- Sleep apnoea and breathing difficulties: Obese individuals are more prone to have sleep apnoea, a potentially deadly disease in which breathing often pauses and restarts during sleep.
- Pain and difficulties
- Many kinds of cancer: Obesity may raise the chance of uterine, cervix, endometrial, ovarian, breast, colon, rectum, oesophageal, liver, gallbladder, pancreatic, kidney, and prostate cancer.
- It makes COVID-19 symptoms severe

Social and Psychological

Obesity may have a negative impact on one's overall quality of life. Obese individuals may be unable to perform things they used to love, such as participate in recreational activities. They may avoid going to public areas. Obese people may face discrimination. (Clinic, 2020)

Other weight-related issues that may have an effect on the quality of life are as follows: : (Clinic, 2020):

Depression

Anxiety

Mental illness

Disability

Sexual issues
Shame and remorse
Isolation from others
Lower levels of work accomplishment

Case Study:

Patient A is a 48-year-old female who is 173cm tall. According to the NHS BMI calculator, her BMI is 31.5, which indicates that she is obese. (NHS, 2019) The causes for the patient's obesity may be immediately discovered by examining her background, lifestyle, eating and drinking habits. She lives on an unhealthy diet (meat, fries, and chips), consumes too much alcohol; She drinks 3-6 unit each day but according to NHS recommends not more than14 units per week, and does not exercise at all; all of these are significant risk factors for her obesity. (NHS, 2019) Patient is suffering from high blood pressure (180/90) which can be very much related to her obesity. (NHS, 2019) She also mentioned her hectic work schedule, which often causes stress and does not allow her to engage in physical activity. (NHS, 2019) (Clinic, 2020) Certain obesity-related diseases in her family suggest that she might have inherited some genes and food habits contributing to her condition. (Clinic, 2020) She is in danger of developing other life-threatening diseases if she does not act soon.

Recommendations: There is no definitive rule that applies to all, but most people are advised to reduce their calory intake by 600 calories per day in order to lose weight at a resilient and secure rate of 0.5 to 1kg per week. Most males should consume not more than 1,900 calories per day, while most women should consume no more than 1,400 calories daily. Because a poor lifestyle is the primary cause of obesity, the following are suggested for patient A: (NHS, 2019):

Replace her unhealthy eating habits with a nutritious, well-balanced diet.

Avoid foods high in fat and sugar.

Reduce her weekly alcohol consumption.

Physical activity or workouts should be encouraged.

Patient can join any weight-loss programme. However, before joining any programme or using any medication, the patient should consult with her doctor in order to lose weight safely.

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