



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

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Obesity



F.loomis, 2019.

Definition

According to **WHO** "Overweight and obesity are defined as abnormal or excessive fat accumulation that may impair health." (2021).

According to **NHS** "The term obese describes a person who is very overweight, with a lot of body fat." (2019).

Obesity has reached an epidemic level in 2017.
(WHO, 2021).

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Physiology

The excess energy is deposited by the energy intake exceeding expenditure. It is transformed into body tissue.

The quality of the diet is affected for the energy balance, which influences the satiety by the complex hormonal and neurological pathways.

Individual responses to diet and physical activity are dependent on microbiota, genetic and epigenetic factors. (Romieu et al., 2017).

An important part of regulating glucose homeostasis and appetite is the gut-brain axis. (Richards et al., 2021).

BMI

It is the tool that categorizes overweight and obesity.
"It is defined as a person's weight in kilograms divided by the square of his height in meters (kg/m^2)."
(WHO, 2021).
30 to 39,9 means you are obese
(NHS, 2019).

Patient A

Lifestyle questioner was made.
48 years old, female
high blood pressure,
10-19 cigarettes/day
Her height is 165cm
Her weight is 86kg. According to the NHS BMI calculator, the result is 31,5. (NHS, 2019).

Causes

Poor diet
Unhealthy eating behaviours and lifestyle habits, such as a lack of physical activity
(NHS, 2019)

Risk factors

Raised BMI may lead to non-communicable diseases.
Her father had a heart attack
Her sister has high cholesterol

Intervention

Healthy reduced calory diet
Unprocessed and fresh food
For sneck to choose vegetables and fruits
Reduce her fat intake, eat fish, and white meat
(WHO, 2021).

Eat slowly
Physical activity such as walking
To find support such as weight loss group or psychological support
(NHS 2019).

References

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Obesity speaker notes

First, I am going to start with **definitions**, special organisations define obesity in different ways.

According to **WHO** "Overweight and obesity are defined as abnormal or excessive fat accumulation that may impair health." (2021). In this definition WHO refers to further health problems, **NHS** simply defines who the obese person is.

"The term obese describes a person who is very overweight, with a lot of body fat." (NHS, 2019). According to WHO, obesity is one of the most important public health problems, not just within the UK but also internationally. Obesity has reached an epidemic level in 2017 globally, from 1 billion overweight adults to at least 300 million are obese. It is a complex disease. The effect of childhood obesity may be significant for adults as a higher chance to be obese, premature death and have noncommunicable diseases. WHO provides strategies to decrease the growing number of obese people globally (WHO, 2021).

Now I am moving on to the next part of the presentation, what is the **physiology behind obesity**. Energy homeostasis plays the main role in keeping a healthy weight. The main driver of weight gain is energy intake that outstrips energy outtake. The excess energy is deposited by the energy intake exceeding expenditure. It is transformed into body tissue. People, environment, food, and drinks cooperate in a very special way and determine the eating and drinking habit of behaviours and that way can influence the energy balance. The quality of the diet is affected for the energy balance, which influences the satiety by the complex hormonal and neurological pathways. Individual responses to diet and physical activity are dependent on microbiota, genetic and epigenetic factors. (Romieu et al., 2017). The brain is the key organ to control complex energy homeostasis. Energy balance is controlled by the hypothalamic neurons, but the process has participated by the multiple organ systems. The leptin hormone, which circulates at concentrations proportional to body-fat mass, plays a significant role in the relationship between obesity and energy homeostasis. An important part of regulating glucose homeostasis and appetite is the gut-brain axis. Scientists need further research to understand better this complex system to identify gut-brain communications better and with this, they can find new therapeutic ways. (Richards et al., 2021).

Now moving on to the next part of my presentation. How can we measure obesity? **Body Mass Index** (BMI) is the tool that categorizes overweight and obesity, it is the same for both sexes and all ages of adults. "It is defined as a person's weight in kilograms divided by the square of his height in meters (kg/m^2)." (WHO, 2021). For adults, the BMI is 30 to 39,9, which means the person is obese. An additional measure can be used, which can help to determine whether an individual is overweight or obese, even if the BMI is in the healthy range. With a large waist circumference, increased fat in the abdomen area can mean that the person is obese and it can lead to different kinds of diseases. (NHS, 2019).

A lifestyle questioner was made by **Patient A**.

- She is 48 years old, female.
- She has high blood pressure.
- She smokes 10-19 cigarettes daily.
- Her height is 165cm

Her weight is 86kg. According to the NHS BMI calculator, the result is 31,5. (NHS, 2019). It is mean she is obese.

The **causes** of being obese are Poor diet, she eats meat, chips, fries food daily and she drinks between 3-6 units of alcohol daily. She did not do any exercises because of no time for it. Unhealthy eating, drinking behaviours plus unhealthy lifestyle habits, such as a lack of physical activity are the cause of being obese. (NHS, 2019) According to NHS, usually, can be more reasons for being obese, such as:

- Lack of sleep can affect hormones.
- Cortisol hormone control energy balance and hunger urge, chronic stress trigger production of it.
- age, sex, ethnicity
- family history and genetics
- Medical reasons such as medications for diabetes or epilepsy or mental illness, hypothyroidism. (2019).

According to WHO changes in environmental and societal related with sectors of education, food processing, health, urban planning, and marketing determine changes in dietary and physical activity habits. Raised BMI, can affect blood pressure, cholesterol, insulin resistance, triglycerides, as adverse metabolic processes also may lead to non-communicable diseases such as:

- cardiovascular diseases
- diabetes
- musculoskeletal disorders such as osteoarthritis
- some types of cancers

In this case, obesity is the **risk factor**, it can lead to further problems. We can see in the family history heart attack and high cholesterol as well. Her father had a heart attack, and her sister has high cholesterol, so it is mean patient A has susceptibility to cardiovascular diseases. The genetic factor is one of the main reasons for the possibility to have the same illness then the relatives. Together with obesity, the risk of this is increased. (2021).

Now I am moving to the last part of my presentation which is one of the main areas of it. How can patient A prevent further problems and what kind of help she can get? Healthy reduced calory diet, eat a balanced calorie-controlled diet as recommended by a GP or dietitian. (NHS, 2019). According to WHO to eat unprocessed and fresh food can help to eat the correct amounts of essential nutrients daily. For sneck to choose vegetables and fresh fruits is the best way to prevent gain weight. Patient A should follow this recommendation and instead chips eat these. She eats meat in every day, so the best choice is to eat fish and white meat to reduce her fat intake. She should eat fewer fries or not eat at all and use unsaturated vegetable oils. (2021). According to NHS physical activity plays one of the main roles in loose weight.

Because she did not do any exercise at all, she should start slowly and increase the time daily. The best start to walk. Eat slowly is a good strategy as well, setting aims and monitoring the progress can help to move to the right way. To do the lifestyle change alone can be difficult, to find support such as a weight-loss group or psychological support can be very useful. (2019).