

**Introduction to Physiology
(BMHP5003_LON)**

Assessment Component 1

Poster Presentation

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Learner declaration

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DIABETES

DEFINITION AND TYPES OF DIABETES

diabetes is a long term disease which affects a person's pancreas, causing an impairment in the regulation and use of glucose as a fuel for the body. The popular known diabetes is the type 1, 2, and gestational diabetes. In the type 1 diabetes, the body is unable to produce as the immune system attacks and destroys the cells in the pancreas that make insulin (Mayo clinic 2018). With the type 2 diabetes, the body is unable to utilise insulin well. Type 2 diabetes can happen to anyone at any age. Gestational diabetes is mostly found among pregnant women and usually disappears after birth (Mayo clinic, 2018).

IMPACT IN THE COMMUNITY AND NATIONWIDE

Diabetes has become the seven most deadly disease in the world and the NHS in the UK found that, over two million individuals are at risk of getting diabetes in England whilst 90% are already recorded to have diabetes type 2 (Mambiya et al., 2019).

HOW IT OCCURS

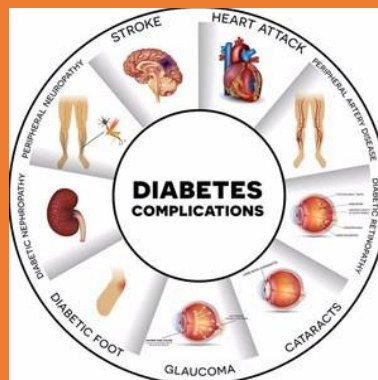
The pancreas which is an organ in the body contains islets cell which produces and discharge the insulin hormones into the blood, the hormone is responsible for regulating the mobility of glucose into the bloodstream. However, if the pancreas gets damaged, insulin is no longer produced properly for the body to utilise. Nevertheless, diabetes also occurs, when cells are not able to properly react to the insulin the pancreas discharge, thereby taking in less of glucose and leaving a larger portion of glucose in the bloodstream. This makes the body insulin-resistant leading to high blood sugar levels (T2D) (Mayo Clinic, 2018). This reaction causes the body to experience some adverse effects on the outer layer of the skins as well as damaging some nerves and blood vessels, such as foot amputation, blurred vision, fatigue, frequent urinating etc (Mugnolo, 2020).

CAUSES AND RISK FACTORS BASED ON THE CASE STUDY

From my case study, it was found that the patient smokes a lot, high blood pressure, eat unhealthy diet and rarely exercise, therefore the patients can be at a high risk of getting type two diabetes. This is because.

Smoking cigarette has been also found to be a risk factor of diabetes (Pan, et al, 2015). Cigarette smoking makes the body vulnerable to vascular damages, endothelial dysfunction, and other blood-clotting issues. Therefore, if the patient continues to increase the intake of smoke in his body, the combined harmful effects will raise the glucose level in the blood, which can cause a vascular damage where the pancreas can no longer function properly risk (Qin et al, 2013). Therefore, he needs to reduce or stop the intake of cigarette to reduce the risk of getting diabetes.

Again, based on the case study, it was noticed that the patient likes to eat a lot of high protein and high sugars foods. These types of food can lead to a high risk of getting diabetes. When the patient continues to take these types of foods, it may increase in blood glucose from the high calories and fat in the food and not exercising regularly may lead him to a high risk of diabetes with this poor diet.



INTERVENTION TO HELP THE PATIENT

Some diabetes has different treatments depending on the progression level of the diabetes. However, in the case of the patient, he has not been diagnosed of any diabetes and therefore do not require any insulin injection or therapy. However, the intervention is focussed on getting his lifestyle in check to avoid his chances of getting diabetes. Changing his eating habits, exercising regularly, and avoiding smoking, is a way that can help reduce the patient risk of being diagnosed with diabetes. When the patient can manage and maintain a healthy living with nutritious diet and regular exercise it will boost his immune system and helping it to fight and any disease that comes in contact with the body like diabetes (Watson, 2021).

Healthy eating: there are a lot of benefits the patient can receive from having nutritious foods that are high in fibre that carbohydrates and high sugar foods. These fibre foods are low in fat and cholesterol and prevent the patient from building unwanted fat at certain part of his body that can be a risk of getting diabetes. It is therefore recommended that a diet plan should be given to the patient whilst a dietician should be with him to make sure he follows the meal plan (Watson, 2021).



Frequent exercise and stop smoke. It is recommended that the patients is able to exercise at least three times in a week to reduce fatigue and eradicate risk of getting diabetes. The exercise is to help him with his body's sensitivity to insulin, this will also help to reduce his blood sugar levels helping mobility of sugar into the cells where it is needed for energy. Again, if all this is managed and the patient continues to smoke, he will still may be at risk of getting diabetes, therefore, it will be advisable for the patients to stop smoking to keep himself free from diabetes (Watson, 2021).

SPEAKER'S NOTES

INTRODUCTION

- Diabetes is a chronic disease they can affect children, adult as well as old people, this is a condition where the pancreas begins to malfunction. In a person with diabetes, there is always a malfunction in the regulation and use of sugar known as glucose in the body. Their bodies can neither produce the insulin or the body is not able to use the insulin. People whom their bodies are not able to produce the insulin are considered to have type 1 diabetes. This type occurs when the immune system attacks and destroy the cells in the pancreas that makes the insulin. Whereas some people are considered to have type 2 diabetes when their bodies do not use up the insulin.
- Diabetes has become the seven deadly diseases affecting most communities in the world, therefore as healthcare professionals, it is important to create awareness, help people to live healthy to prevent this disease and give knowledge to those who are living with it on how to prevent the disease from progressing
- The pancreas which is an organ in the body contains islets cell which produces and discharge the insulin hormones into the blood, the hormone is responsible for regulating the mobility of glucose into the bloodstream. however, if the pancreas gets damaged, insulin is no longer produced properly for the body to utilise. Nevertheless, diabetes also occurs, when cells are not able to properly react to the insulin the pancreas discharge, thereby taking in less of glucose and leaving a larger portion of glucose in the bloodstream. This makes the body insulin-resistant leading to high blood sugar levels

CAUSES AND RISK FACTORS ACCORDING TO THE CASE STUDY

- From my case study, I found that the patient smokes a lot, eat unhealthy diet and rarely exercise, and all these things are some of the risk factors that can cause diabetes in a patient. therefore, the patient will be at a high risk of getting diabetes if he continues live such lifestyle. This is because, studies have shown cigarette smoking to be a high risk of diabetes. The exposure to the cigarette smoking with vascular damage, endothelial dysfunction and activation of the blood-clotting cascade. This side effect of the cigarette smoking increases the risk of getting diabetes. As well as poor diet and lack of regular exercise has also shown to increase the risk of diabetes.

INTERVENTION

- After analysis the risk factors of the patients, the patient can be free and reduce the risk of getting diabetes if he starts to adapt a healthy lifestyle that is, eating nutritious foods such as grains, fruits vegetables and reducing the intake of high protein and high sugar level foods such as animal products, refined carbohydrates and sweet.
- Reducing the intake of cigarette can also help to reduce the risk of getting diabetes.
- Lastly, having regular physical exercise, according to studies frequent aerobic exercise is essential for an individual, as it can increase the patient sensitivity to insulin, resulting in the body needing less to transport sugar to the cells. Exercise also helps to lower blood sugar levels by aiding movement of sugar into the cells where it is needed for energy

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