

**MODULE: INTRODUCTION TO PHYSIOLOGY
(BMHP 5003) _LON**

**ASSESSMENT: 1
TOPIC: LIFESTYLE DISEASE DIABETES**

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INTRODUCTION

AIM : Discuss Type 2 Diabetes Mellitus (T2DM)

Lifestyle

Healthcare Practice

Anatomy and Physiology

The aim of this presentation is to discuss Type 2 Diabetes Mellitus (T2DM) and the effect of lifestyle on the development or prevention of the condition.

Lifestyle is an important part of health and social care. About 60% of related factors to individual health is related to lifestyle according to the world health organisation. (Wild et al, 2004).

We will now explore Patient A and how lifestyle can help prevent Type 2 Diabetes.

PRESENTING COMPLIANT

Patient A is a 55-year-old male who attends your GP practice with increased urine frequency and increased thirst.

He has a background of High cholesterol and hypertension

Patient A could be diagnosed with either;

Type 2 Diabetes Mellitus

Type 1 Diabetes Mellitus

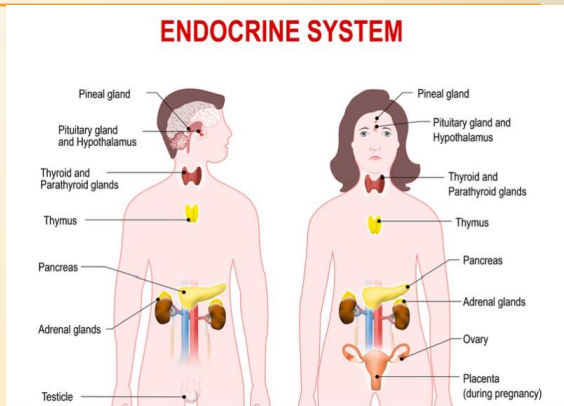
Urinary tract infection

(CDC, 2021), (Mayo Clinic, 2021)

To understand and differentiate this further, it is imperative that I introduce you to the Endocrine system.

ANATOMY AND PHYSIOLOGY

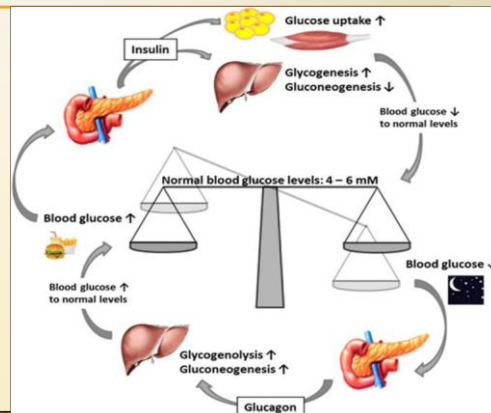
- (Biology Dictionary, 2021)



The endocrine system consists of glands that secrete various hormones into the blood stream. The hormones target a particular cell in the body and creates a response in that cell to reach homeostasis (balance). (Biology Dictionary, 2021)

THE PANCREAS

(Han et al. 2016)
Pancreatic regulation of
glucose homeostasis.



The pancreas is one of these endocrine systems.

It is made of two types; an exocrine and endocrine system.

The endocrine system produces hormones which aid in food digestion whereas, the exocrine system produces 2 hormones known as insulin and glucagon.

These regulate how much glucose is in the blood.

Insulin is produced by the beta cells and glucagon is also produced from alpha cells in the pancreas.

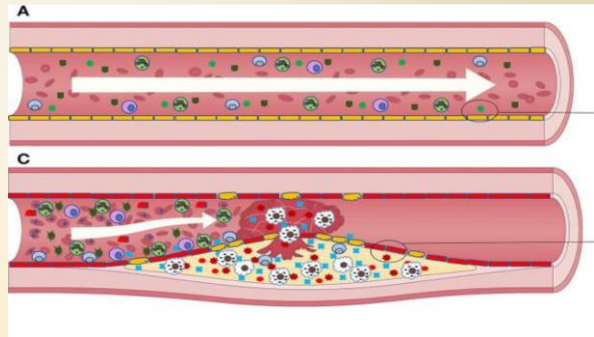
They work alongside each other to create a balanced state in the blood glucose levels.

If there is a disruption in this process, it creates an imbalance and can lead to hypoglycemia or diabetes.

(Han et al. 2016)

DIABETES MELLITUS

(Daryabor et al. 2022)



What is Diabetes Mellitus ?

Diabetes is condition where glucose can not move from the blood in the cells in our body.

This leads to high glucose levels in the blood and not enough in the cells.

In T2DM, the body makes insulin, but the cells and tissues fail to respond to it.

The cells overwork and start to die off.

(Daryabor et al. 2022)

Complications of T2DM

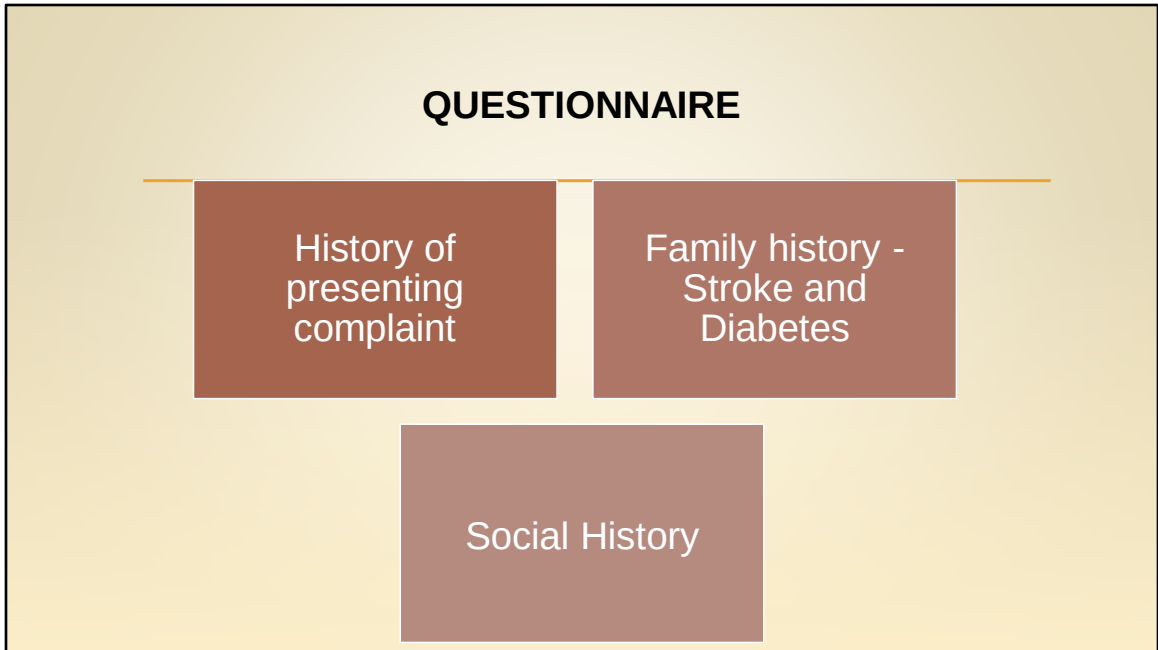
Stroke

Myocardial infarction means adults with T2DM are twice more likely to suffer a heart attack.

Peripheral arterial disease can lead to ulcers and other infections.

Diabetic retinopathy create complication that affects the eyes and cause damage to the blood vessels.

Diabetic nephropathy is a referred to as kidney damage. This affects the nerves, especial the hands and feet. (American Diabetes Association, 2013)



The lifestyle activities for patient A contain some of the activities that have been linked with the development of Type 2 Diabetes.

Let's elaborate this, as previously discussed, patient A only started noticing these symptoms at age 55. The symptoms have been ongoing for about a month and has been persistent since. Especially waking up multiple times in the night to pass urine.

Family history - Stroke and Diabetes from his grandfather and father respectively

Social History - He has an 80-pack years smoking history, he drinks alcohol and works as a truck driver. He rarely does exercise as he is always sitting in the car. He has no sporting hobbies and eats a lot of fast foods because he is always on the road. He has a body mass index (BMI) of 32.

HEALTH RISKS

- Obese or overweight
- African and Asian descent
- Family history of diabetes
- Smoking
- Alcohol consumption
- Physical inactivity
- Older age - 45 years and above
- Poor diet

(Public Health England , 2014)

This is a list of persons which are at higher risk of getting diabetes.

Those who are :

Obese or overweight

Of African and Asian descent

Those with a Family history of diabetes

Person who Smoke

Those with high alcohol consumption

People physically inactivity and of an older age - 45 years and above and finally, a person with a poor diet.

(Public Health England, 2014) (National Institute of diabetes and digestive and kidney diseases, 2022)

From the information given above, Patient A falls in the category of a person at risk of being diagnosed with Type 2 Diabetes.

However, diabetes can be prevented at home and health care assistants can give recommendations to patients of high risk such as patient A.

RECOMMENDATIONS

- National Institute for Health and Care Excellence (NICE) UK – national guidelines (NICE, 2022).
- Diabetes UK – Forums
- Royal college of Nursing – education (Royal College of Nursing, 2022)

The UK NICE guidelines advises lifestyles changes as the most effective management for diabetes, it offers structure for GP and medical professionals to give advise on various lifestyle measures e.g., weight loss and smoking cessation for any individual over the age of 12 (NICE, 2022).

Diabetes UK organize forums on weight loss and dieting programs to aid these.

The royal college of nursing provide teachings for nurses and other health care professionals to support and manage patients on the prevention of type 2 diabetes.

RECOMMENDATION - HEALTH CARE WORKER

MASTERING DIABETES.		
Green Light Foods (Unprocessed whole plant foods naturally low in fat; can be fresh or frozen)	Yellow Light Foods (Minimally processed or whole plant foods containing a higher fat content)	Red Light Foods (Animal products and highly processed foods)
• Fruits (e.g., bananas, mangoes, oranges) • Starchy vegetables (e.g., potatoes, butternut squash, corn) • Legumes (e.g., beans, lentils, peas) • Intact whole grains (e.g., brown rice, quinoa, farro) • Non-starchy vegetables (e.g., tomatoes, cucumbers, broccoli) • Leafy greens (e.g., lettuce, arugula, spinach) • Herbs and spices (fresh or dried) • Mushrooms (e.g., shiitake, cremini, portobello)	• Avocados • Nuts and seeds • Nut and seed butters • Plant-based milks • Coconut meat • Soy products (edamame, tofu, tempeh) • Olives • Pasta alternatives (e.g., lentil, bean, brown rice) • Sprouted bread • Dried fruits (e.g., dates, raisins, dried apricots) • Fermented foods (e.g., sauerkraut, kimchi, coconut kefir)	• Red meat • White meat • Eggs • All dairy products • Oils of any kind • Fish and shellfish • Processed baked goods (e.g., croissants, muffins, cookies) • Sweeteners (e.g., HFCS, sorbitol, maltodextrin) • Refined "white" foods (e.g., white pasta, white bread, white sugar, white flour) • Coconut products (processed, high-calorie products excluding coconut kefir and aminos, e.g., yogurt, ice cream) • Processed vegan foods (e.g., processed veggie burgers, vegan cheeses, nut milk ice creams)



(Thatch, 2021)

As health care worker, the best recommendation would be:

Cease to smoke

Go on a healthy diet which entails a diet with high fiber and low carbohydrates (meaning less sugar in the bloods)

Reduce their alcohol intake and exercise frequently.

Take up a hobby or sport or aim to do a step count of about 10000 per day.

(Thatch, 2021)

Practical example at work:

The food chat above was used to fight type 2 diabetes for a services user who is living with autism spectrum disorder, to understand his condition, this chat was pasted on his clip board. He learnt to use it by ensuring that every meal he took fell within the recommended food group.

Again, a type 2 diabetic client was encouraged to reduce his smoking and alcohol intake by drawing him a chat to follow which again was successful.

CONCLUSION

A healthy lifestyles
can lead to
prevention of type 2
diabetes mellitus

Un-managed
lifestyle can lead to
health
complications

Health care
professionals need
to present
preventative
measure to patients

“Prevention is
better than cure”.

Thank you

In conclusion, a healthy lifestyle can lead to the prevention of Type 2 diabetes mellitus, however, an un-managed lifestyle can lead to severe complications. Therefore, patients needs to understand that it is advisable to follow the preventive measures that have been give by Health Care Professionals.

“ Prevention is better than cure”

Diabetes can be prevented at home.

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