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TOPIC: Diabetes

1.Introduction

Diabetes is an incurable disease that alters how someone's body converts food into glucose. Diabetes occurs when the body cannot produce the insulin required to regulate blood glucose (Temurtas et al., 2009 p8610-8615). When you intake food, the food is broken down into energy and liberated into the blood. When the blood glucose increases more than normal, the pancreas is signaled to stimulate insulin release. Insulin controls the blood sugar levels in the body which is used as an energy source. An individual with this health condition, their pancreas either can't release adequate insulin or can't consume the insulin in their body. When there is a low amount of insulin in your bloodstream, it causes a high level of blood sugar, which can cause other critical health conditions, including kidney disease, heart failure, and loss of vision. There are three categories of diabetes: gestational diabetes, type 1 diabetes, also called Diabetes Mellitus and type 2 diabetes, also called diabetes insipidus. Diabetes mellitus is brought by a reaction where the body attacks its cells, stopping the body from producing insulin. Most individuals who have type1 diabetes are mostly children and teens. A high glucose level causes type 2 diabetes in your bloodstream. This type of diabetes is mostly diagnosed in adults. Lastly, Gestational diabetes is mostly diagnosed in pregnant women who have never had a history of having diabetes, and it usually fades away after the mother gives birth. Reports have shown that 33.7 million people in the U.K. have diabetes, and 1 out of 5 are not aware if they have diabetes(Watkins, 1996). It has also been reported that diabetes is the seventh leading chronic disease causing death in the U.K. Diabetes has also been the leading reason of kidney disease, amputation of lower-limb, and loss of vision in adults. It has also been noted that there has been an increase in individuals with diabetes, which has doubled in the last 20 years (Wingard et al. 1995).

2. Anatomy and Physiology

Pathophysiologic modification means a change in behavior as different from the anatomical defect. Diabetes happens when there is an imbalance between the required amount of insulin in the body and the produced amount (Antonetti et al., 2006). Diabetes consists of type 1 and type 2 (Porth, 2005). The pathology of type 1 diabetes is that the immune response attacks and kills beta cells that produce insulin, causing a deficiency of beta cells, which causes a deficiency of insulin in the body. People with this type of diabetes lack insulin completely, and they live on daily injections of insulin. Also, individuals who have lost their pancreas have always type 1 diabetes.

In type 2 diabetes, insufficient beta cells are linked with insulin resistance. This type of diabetes is most common due to increasing obesity cases and people's lack of exercise, which aid in insulin resistance. The third type of diabetes condition is Gestational diabetes which arises when there is extreme production of insulin hormones when expectant. The anatomy and physiology of diabetes are further explained through the homeostasis process (Hawkes et al., 2019). Homeostasis is the ability of the body to maintain a steady constant internal environment. A good example is the feedback control of glucose present in the blood, which occur negatively. After food intake, the small intestine assimilates glucose present in food, increasing the glucose level present in the bloodstream. An increase in glucose present in the bloodstream triggers beta cells in the pancreas to release insulin, which triggers liver cells, muscles cells, and tissue cells to absorb glucose present in the blood. This process tends to make the blood glucose level fall. When the sugar level is lower below the normal level, the beta cells stop releasing insulin, and this causes insulin deficiency in the body. Due to the integration of insulin release in the beta cells, insulin concentration fluctuates in the blood after a meal. The insulin fluctuations are essential because they aid in maintaining insulin receptors' sensitivity in targeted cells. The loss of

sensitivity causes the start of insulin resistance. Hence, the lack of the negative feedback mechanism process tends to cause a high presence of glucose in the blood, and this situation causes health conditions such as type 1 and type 2 diabetes.

3.Health and Lifestyle routine measures

It can be challenging to keep your blood sugars within the recommended range by doctors because many things can suddenly change your blood glucose levels. Here are some factors that contribute to the change in blood glucose level. The first one is food. If you have diabetes, certain foods can change your blood sugar levels. It is what you eat, how often you eat, and the types of food you take. What diabetes people should do is they should learn how to count carbohydrates and portion sizes which is the key to managing diabetes. It is crucial to know the number of calories you consume in food, especially for people who take mealtime insulin to have a proper insulin dose. Diabetes people should also make sure that they take a balanced diet every time. A balanced meal should include fruits, vegetables, starches, proteins, and fats. Some carbohydrates like whole grains and some fruits contain fiber that controls your blood sugar levels. Also, an individual is supposed to coordinate their meals and treatment and avoid sugary beverages.

The second thing the diabetes people should include in their lifestyle routine is exercise. When individual exercises, the muscles break down the sugar present in the body into energy. Regular physical exercise helps regulate your insulin more efficiently. What they should do is they should discuss with their doctor their plan to exercise and discuss with them the type of exercise that suits them and for how long they should exercise. They should also know their blood sugar level before they begin their exercise and check their blood sugar regularly during the entire exercise period since exercise reduces the glucose, especially if the exercise is more intense, which can be dangerous to people with low blood sugar. Another important thing is that they

should stay hydrated and be prepared by always having a snack and medication tablet with them during their exercise.

The third important factor in the health of diabetes people is medication. Insulin and other diabetes treatment are meant to regulate your blood glucose levels since diet and exercise only is not enough to manage diabetes. The efficacy of those treatments relies on the timing and the dose size. Also, the treatments you are consuming for other illnesses apart from diabetes can influence the changes in glucose levels. What diabetes people should also do is they should properly store their insulin since insulin that is stored improperly or has expired cannot be effective. They should also report problems to their doctor, especially when the medication causes their blood to go too low or too high. Their doctors can adjust the problem by changing the medication or the timing. There should also be cautious with new medications such as over-the-counter medications since they can also affect their blood pressure.

Alcohol is also a beverage that can affect the diabetes people negatively. The work of the liver mostly is to correct the falling blood sugar levels by releasing sugars, and if your liver is overworked by metabolizing alcohol, then your blood glucose level may not be corrected by the liver. But if an individual's diabetes condition is contained and your doctor has consent that you can take alcohol, it's fine. Another important thing is that they should not take alcoholic beverages while hungry to prevent reducing blood sugar. They should also select drinks with fewer calories and carbohydrates, such as light beers and dry wines, and they should also remember to include the carbohydrates present in the alcohol they drink into their daily count of calories. After taking alcohol, it is also important to check their blood sugar level before retiring.

Additionally, stress can also play a very high impact on blood sugar level fluctuations. When a person is stressed, the hormones the body generate to counter the stress can cause high blood glucose level. Individuals with diabetes are encouraged to look for a pattern by logging in their stress on a one up to 10 scales every day they log in their blood glucose levels, and by

doing that, a pattern may soon appear. Diabetes people are also advised to take control once they realize they have stress by learning how to fight back either through relaxation, avoiding common stressors, or exercising (Grabowski, 2021). The last health issue condition affecting blood glucose levels is menstruation. Changes in hormones that happen a week before or amid menstruation can significantly alter blood sugar levels. The hormonal changes can be controlled by adjusting your diabetes treatment plan, looking for your pattern, and checking your blood sugar more frequently.

4. Health and Social Care practice

With the increase in demand for jobs and a move toward providing home-based care, primary and community care has been at the forefront of diabetes care in the U.K. The U.K. government came up with a plan to give the best measures in diabetes care all over the primary care networks (PCNs). They came up with the guidelines and recommendations for developing diabetes care delivery at the PCN, which aimed to support diabetes care delivery in the new PCNs (Aveyard, 2018). The key takeaways were the importance of early inference and treatment for individuals freshly found with diabetes, the importance of going beyond the glycemic management in diabetes care to offer a whole approach and address diabetes as a long-term disease burden, the function of the Primary Care Network in supporting underserved groups such as individuals with type 1 diabetes within their localities and how they can meet the education and training needs of health experts who are delivering diabetes care within the Primary Care Networks. Also, creating a diabetes support team within PCNs was one of the recommendations.

However, since 1996, The percentage of people with diabetes in the U.K. has multiplied, and the government of the U.K. came up with a program known as My diabetes, my care. The Program goes deep into people's experiences in diabetes care across the U.K. and the support they receive to control their conditions themselves. The diabetes U.K. community Champions

project offers training in diabetes awareness, advice, and support to local churches, society, and social leaders. The public health of England and the regional authorities should collaborate with community groups to ensure that this becomes true.

5.Recommendations

Living with diabetes is very challenging, and there are so many factors the diabetes people living in the U.K. need to consider for them to manage the condition, starting from how they eat to their emotional well-being. First, what you eat can affect how well you manage or control your diabetes. I would recommend people living with diabetes eat healthily, avoid a lot of carbohydrates and make sure their food is always a balanced diet. The second thing I would recommend people living with diabetes to do is to take control of their condition and get the information they need to know since the more you know, the more confident you become, and it becomes easier to control your condition. Also, I would recommend them to be honest and give honest information about their health and how they are really feeling, and also set goals that you will be practicing every day to better yourself and your health. I would also recommend that people living with diabetes healthy condition work closely with the diabetes healthcare team to support them in self-managing their condition.

6. Conclusion

In conclusion, the National Institute for Clinical Excellence(NICE) (Whicher, 2020) has regulatory sets for diabetes where they have put HbA1c targets and urges people with diabetes to keep the values of HbA1c below 48 mmol/mol. However, diabetic people should have their

target to consider factors such as lowering their risk of developing complications presented by hypoglycemia by doing daily activities. Individuals who have type 1 diabetes should have blood pressure below 135/85mmHg, while type 2 diabetes people's blood pressure should be less than 140/80mmHg. NICE guidelines do not feature the target of blood cholesterol levels for individuals with diabetes. However, the cholesterol degree of diabetic people should be measured yearly by health experts to assess the risk of heart attack and other diabetes complications. The UK Charity Diabetes listed some blood cholesterol targets to help people with diabetes. They included; that total cholesterol should be below 4.0mmol/l.

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