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**Diabetes Mellitus: Analysis of Type 2 Diabetes and its Public Health
Implications in the United Kingdom and in the Global.**

Introduction

Diabetes is a chronic metabolic disorder with high blood glucose levels which causes insufficient insulin production within the body making it unable to use Insulin fully. The Pancreas produces Insulin and its main role is to regulate the amount of sugar levels within the body. Insulin is very important in the body since it regulates the amount of sugar within the human cells to facilitate the formation of enough energy. Usually, diabetes exists in three types; type 1, type 2, and the last one gestational diabetes. The one which is most reported in the world is type. This report will mainly focus on type 2 diabetes and show statistics across the United Kingdom and the world.

Diabetes has been increasing for a long time across the world creating tension across healthcare centres. According to the report which was published in 2021 by the International Diabetes Federation, the result indicated that more than 463 million people aged between 20 years to 79 years were living with diabetes globally (Chan et al., 2023). The number is expected to increase to around 700 million people by 2045 since more cases are reported yearly. On top of that only in 2021, more than 4.2 million died due to this disease, which seems very dangerous to people globally (Sun et al., 2022). In recent days, type 2 diabetes has become a health issue in the United Kingdom and the world in general. As of April 2023, the number of people diagnosed with type 2 diabetes in the United Kingdom was standing at five million and this number seems to keep growing (Chan et al., 2023).

Public health measures

Health promotion campaigns have played a big role in controlling the increase in the number of people diagnosed with the disease. Public health campaign has helped create awareness of the main aspect that brings this disease to society. Some aspects they teach include diabetes risk factors, symptoms associated with the disease and the need for people to take precautions (Whyte et al., 2019). The campaign has been using media channels, providing education programs and having community events to reach more people. Some of the recommendations they give include how people are supposed to live healthy lifestyles, the importance of balanced nutrition, doing physical activities, and knowing how to manage their body weight since these are some of the things which bring this type 2 diabetes. The presence of NHS, non-government organizations and community events has been of great help in creating awareness in society.

Another recommendation given as a controlling measure is early screening and diagnosis (Peto & Tadros, 2012). One needs to go for an early screening to determine their health status. NHS usually provides this screening to allow people to understand their status. Another important measure is providing diabetes education and self-management support. Usually, society needs to provide some form of education to those people affected by the disease on how they are supposed to manage their condition so as they avoid a lot of complications that the disease might cause. NHS has been very helpful to the affected people by giving them education-like ways to maintain a low disease level.

Another important measure put in place by NHS in the UK and worldwide is technology integration (Currie & Finnegan, 2009). NHS has incorporated digital health technologies to help diagnosed people live good life as they try to regulate the level of diabetes in their bodies. Mobile applications, telemedicine services and other digital technology have helped the health of the diagnosed people to maintain the level of their infections. In addition, these digital services have made it easy for the diagnosed people to have remote consultations on what they can do to ensure that the level of the disease is controlled and maintained at low levels. NHS also does advanced research and innovation to implement proper care and some prevention strategies. Different research outcomes have helped practitioners in this field determine the right way to control the rise of the affected people in society.

Key Determinants/Risk Factors

The development of type 2 diabetes is created considering a combination of genetics, lifestyle, and the environment in which the affected person is situated. Understanding these determinants is important since it will help one know how to control themselves from this type of infection. The first determinant is Obesity and a sedentary lifestyle. There is a high chance that when one is obese, it is easy to contract type 2 diabetes (Barbosa et al., 2019). Excess accumulation of body fat around the abdomen called adiposity, is one aspect that leads to the disease's development. A sedentary lifestyle is another aspect that brings type 2 diabetes to the human body. Regular exercises are necessary to control the development of this problem.

Family history and genetics are other determinants found to bring type 2 diabetes. A person with a family history of diabetes will likely have this problem as they age (Rasooly et al., 2022). Genetics plays a big role in this case, but this can be modified by changing the people's lifestyle to avoid being dragged into the family's history. Some of the lifestyle interventions include taking

a good diet that ensures that there is no excess fat within the body. Regular physical activities will also help control this factor even if an individual is aligned with the family history of diabetes.

Age and ethnicity are also determinants that contribute to the development of type 2 diabetes. It is clear that as people continue to age, they get exposed to the development of type 2 diabetes since their body organs get weak and cells can't continue functioning strong (Eraso et al., 2014). This is because their Insulin weakens, causing an elevation in blood glucose levels (Jack Jr, 2004). Coming to ethnicity, there is a belief that most Africans, south Asians, and African-Caribbeans are at high risk of developing type 2 diabetes compared to other parts of the world. This is due to their lifestyle habits and genetic factors associated. It is important to note that this can be controlled through culturally tailored diabetes prevention programs that help address different disparities in these societies.

Gestational diabetes usually happens in pregnant women when the body finds it hard to produce enough Insulin required in the body (Salazar & Salazar-Espinosa, 2021). The research in this field shows that women with a history of gestational diabetes are at risk of developing type 2 diabetes as they age (Das, 2009). Those children who are both from such kinds of mothers have a high chance of contracting this type of diabetes and Obesity compared to their mothers. Once one realizes this, they need to start practicing good health practices like doing physical exercises to avoid being obese and practicing balanced nutrition in their daily life.

Short-term Public health consequences

Diabetic Ketoacidosis (DKA). People who show this consequence are those who have developed type 1 diabetes. It is also vital for people to understand that this outcome can be seen in type 2 diabetes. The main cause of this complication is severe insulin deficiency (Umpierrez, Murphy & Kitabchi, 2002). Breaking down the fats within the body leads to the formation of ketones which causes an accumulation within the blood flow hence reading to the formation of acid. This condition can cause severe body pain and may be read to death if not well noted. To avoid further bodily damage, different steps can be taken to control this situation.

Hyperosmolar Hyperglycemic State (HHS). This complication is usually associated with people having type 2 diabetes like older people (Hameed et al., 2020). It usually occurs when the amount/level of blood glucose within the body is very high. The result of this is dehydration

within the body and also hyperosmolarity (Pasquel et al., 2020). It occurs due to infections, and various medications, which lead to an increase in blood glucose levels. The symptoms associated with this complication can be seen before or after getting some medicines.

Hyperglycemic crises. This complication is experienced by people diagnosed with type 2 diabetes (American Diabetes Association, 2001). Once one has this kind of disease in their body, they are likely to experience some challenges which may lead to death instantly like diabetic coma (Benoit et al., 2020). Different kinds of medications which affect people with diabetes may cause the level of blood glucose to rise to an uncontrollable level.

There is a high chance that those affected by the disease will be highly hospitalized and regularly visit emergency rooms. Proper control of both types of diabetes needs to be done correctly; if not well controlled, they can be very costly to control (Huerta et al., 2007). Most of the affected people's regular visits to the emergency rooms can be caused by acute complications and exacerbated chronic situations. Regular visits to the healthcare centre at some point will become very expensive for one to withstand (Kerr et al., 2019). As the affected people continue receiving medication, their quality of life will decrease since the body cannot sustain what is produced in controlling the disease. This shows that it is important for one with diabetes to understand what they are required to do to maintain low levels.

Long-term public health consequences

Cardiovascular Complications. For a long time, diabetes has been the main cause of cardiovascular diseases such as coronary artery disease, heart attacks and strokes among society (Zhang, 2014). This situation causes the flow of blood within the arteries not to be smooth hence the amount of blood going to the heart and the brain reduce. The process exposes one to the dangers of experiencing heart attack and stroke. Diabetes also can cause peripheral vascular disease that affects blood flow within the body parts which will cause gangrene.

Diabetic Nephropathy. This is a common complication brought by diabetes and it affects the kidneys. As the level of blood glucose increases and the blood pressure of the diagnosed people increases, the blood vessels in the kidneys will be damaged since it will be difficult to filter wastes within the blood (Forbes & Thorburn, 2018). As this continues, the functionality of the kidneys reduces, leading to proteinuria. If the situation is not controlled early can lead to damage to other parts of the kidney completely leading to kidney transplantation for one to survive (Edwards et al., 2008).

Neuropathy and Retinopathy. These are also two complications brought about by diabetes in the human body. Neuropathy causes damage to the nerves in the feet and legs, causing sensation loss and some foot complications (Asmat, Abad & Ismail, 2016). Retinopathy affects the retina, which increases one to see clearly (Lamoureux, Hassell & Keeffe, 2004). When the blood glucose level is high within the body, there is a high chance that the blood vessels will be damaged, causing long-term consequences.

Conclusion

Diabetes Mellitus in the recent years has been considered a global crisis. These diagnosed people have been increasing in the UK and the world. The prevalence rates in the UK have raised concern for the local authorities to devise ways to control the situation immediately. Addressing these challenges posed by diabetes needs comprehensive strategies that will produce positive results for those diagnosed and those without the disease. Local authorities worldwide have put in place measures to ensure the condition is regulated correctly and those infected are given the required care. Different public health initiatives and programs have been put in place to help create awareness for people on how they can control being diagnosed with the disease.

Obesity, unhealthy dietary habits, and sedentary lifestyles are known to cause diabetes and for the public to control this they need to practice proper hygiene like doing physical exercises, reducing body fats, and having balanced nutrition to ensure that they are not exposed to type 2 diabetes. Proper management is required for individuals to ensure they are safe from being diagnosed with the disease. Early detection diagnoses are ways in which one can manage the disease. Health and social care services need to be well-equipped in hospitals to ensure that patients are well-treated once they need public services. The UK has put in some measures to control both short- and long-term consequences of diabetes. Collaboration between health and social care services has played a big role in ensuring a good environment for the affected people. Most government services are provided for free to ensure that patients with diabetes get the services at low prices.

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