Type 2 Diabetes Mellitus

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Diabetes mellitus is a prevalent chronic disease that affects millions globally. It is characterized by the body's inability to effectively use insulin or produce it. This leads to high glucose levels in the blood also known as hyperglycemia. Diabetes has 4 different classes but it is mainly known for type 1 and type 2. Specifically in this research paper, I will be talking about type 2 diabetes. Type 2 diabetes is not just a disease, it's a global epidemic silently affecting millions, and its impact is touching every aspect of healthcare and society. Type 2 diabetes has reached epidemic levels with its alarming incidence rise, particularly among older adults, individuals with sedentary lifestyles, and poor dietary habits. Type 2 diabetes needs a comprehensive approach to help others understand the nature of type 2 diabetes, its impact, treatment options, and the crucial role of nurses in its management.

Statement of the Problem

Type 2 diabetes is a chronic metabolic disorder characterized by insulin resistance and/or insulin deficiency, leading to hyperglycemia. Insulin is a storage hormone that is made by beta cells from the pancreas. In an individual without diabetes, insulin is consistently secreted into the blood by beta cells. When we eat our blood sugar rises, so even more insulin is secreted to decrease our blood sugar. Insulin helps maintain our blood sugar levels by facilitating the transport of glucose to its targeted cells in the body such as adipose tissue and skeletal muscles to be used for energy. In type 2 diabetes our body becomes resistant to insulin, or it can't secrete enough leading to increased glucose in the blood and less in the targeted cells. Common signs of hyperglycemia include polyuria, polyphagia, polydipsia, and fatigue. According to the Centers for Disease Control and Prevention (CDC), in the United States, approximately 90-95% of people who have diabetes are type 2 diabetics (CDC, 2023). Individuals susceptible to

developing type 2 diabetes are children and elderly, people who are overweight, and people with a family history of type 2 diabetes (Dickenson, 2023). If left untreated or improperly managed, type 2 diabetes can lead to blindness, end-stage renal disease, neuropathy, cardiovascular disease, hyperosmolar hyperglycemic syndrome, and death (Dickenson, 2023). Hyperosmolar hyperglycemic syndrome (HHS) is a life-threatening syndrome that usually happens in individuals over the age of 60 with type 2 diabetes, or type 2 diabetics with infections, acute illnesses, or a new diagnosis of type 2 diabetes. In HHS there is extreme hyperglycemia with blood glucose levels between 600-2000. Signs of HHS are dehydration, extreme thirst, and an altered level of consciousness (Dickenson, 2023). HHS requires immediate hospitalization because of the need for extensive treatment. This increases the need for knowledge and skills in diabetes management among nurses. Without adequate education and support, nurses may struggle to provide education for type 2 diabetic patients, to further prevent these hospitalizations or provide effective care. Type 2 diabetes requires ongoing management and support. Nurses play a crucial role in educating patients about diabetes management, including medication adherence, blood glucose monitoring, early detection, managing complications, collaborating with other healthcare providers, and lifestyle modifications. This causes a decrease in nurses' confidence in providing education leading to increased workloads, burnout, and potentially compromising patient outcomes (Coonfare, 2020).

Risk Reduction and Treatment of the Problem

Type 2 Diabetes is entirely preventable and manageable mainly by lifestyle modifications. Lifestyle modifications to prevent or manage type 2 diabetes are exercise, diet modification, and regular glucose monitoring. At least 150 minutes of moderate physical activity a week can improve insulin sensitivity, decrease blood sugar, and promote weight loss. The

United States Diabetes Prevention Program has shown that lifestyle modifications decreased the occurrence of diabetes by 58% (Weber, 2021). Nutrition is the hardest part of managing type 2 diabetes. There are no restrictions on types of food but there is a balance in controlling a diet of low fat, low carbs, and low cholesterol. Fats should be decreased to 25-30% of the meal, trans fats should be decreased, and carbs should be counted. Screening for type 2 diabetes includes HGB A1C and blood glucose monitoring. HGB A1C can show if you're prediabetic or how well a diabetic is managing their blood glucose levels in a 3-month period. A normal HGB A1C is below 5.7%, prediabetes is 5.7%-6.4%, and diabetes is 6.5% and above. Blood glucose monitoring is a regular form of screening for diabetes that people can do on their own daily. Checking blood glucose every day before eating and exercising can help with management. Normal blood glucose levels are 70-110. Below 70 is hypoglycemia, and above 110 is hyperglycemia. Knowing if you are hyper or hypoglycemic can help determine what you should do next to correct it. If you're hypoglycemic and see your glucose is under 70 you should eat some simple sugar like orange juice and find somebody to take you to the emergency as soon as possible. Signs of hypoglycemia include cold skin, sweating, shakiness, and hunger. If you find yourself hyperglycemic and your glucose is above 110, exercise and adjusting your next meal can decrease your blood glucose. Exercise and nutrition are the first recommended treatments for type 2 diabetes. Medication management is the next option for managing blood glucose (Dickenson, 2023). Oral hypoglycemic agents, non-insulin injectables, and exogenous insulin are used to decrease blood glucose (Doumas, 2020).

<p style="text-align:center">Planning of Teaching Content</p>

Objectives of learning outcomes for patients with type 2 diabetes should include understanding the importance of managing diet and exercising. The importance of managing blood glucose

levels and recognizing the signs and symptoms of hypo and hyperglycemia should also be educated. To evaluate understanding of diet and exercise you should have a routine for a plan of exercise and meals that are low in fats and carbs. To evaluate understanding of blood glucose monitoring you should be able to know when to check blood glucose, or what the number and signs are for hypoglycemia and hyperglycemia. The teaching strategies I will use to convey information are visual aids, and real-life scenarios using simple language at a 6th grade level. Teaching tools such as food models, glucose meters, and educational handouts will facilitate learning and highlight key points.

Conclusion

In conclusion, type 2 diabetes is a significant public health concern that requires collaborative efforts from the healthcare community and the general community to address. Type 2 diabetes is entirely manageable and preventable. Although it is preventable and manageable it poses significant health complications that can ultimately lead to death if untreated or improperly managed. Nurses play a crucial role in educating and supporting individuals with diabetes to improve health outcomes and reduce the burden of the disease on individuals. Educating on preventative measures, and regular monitoring of blood glucose will go a long way in reducing the prevalence of type 2 diabetes in the world.

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