

Understanding the Impact of Type 2 Diabetes in the Community

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Type 2 diabetes, also known as non-insulin-dependent diabetes mellitus (NIDDM), has become a prevalent chronic disease worldwide. It is a metabolic disorder displayed by the lack of insulin production and insulin resistance, causing blood glucose levels to increase. It has become a high-priority condition within the healthcare system. This leads to increased hospital costs, hospitalizations, a decrease in quality of life, and unfortunately, increased mortality rates due to the lack of proper management measures. Thus, type 2 diabetes is an elaborate disease to explore for the community to understand its importance, preventative measures, management strategies, and the critical role of the nurse.

Statement of the Problem

As stated before, type 2 diabetes is a chronic condition where insulin is not being secreted effectively, becomes resistant in the body, or there is an increase in hepatic glucose production (ClinicalKey, 2025). The risk factors related to this disease include family history, obesity, and older age. Although this disease typically relates to those who are in the older age range, the onset age is decreasing and becoming more common in adolescents with the expansion of childhood obesity. According to the U.S. Centers for Disease Control and Prevention (CDC), of all the people who have diabetes, 90-95% of them fall under type 2 diabetes (Centers for Disease Control [CDC], 2024). Insulin is a significant hormone used to help regulate blood glucose levels. In normal physiology, food is broken down into carbohydrates and circulates within the bloodstream. As the sugar flows, the beta cells found in the islets of Langerhans of the pancreas sense it and secrete insulin. This helps promote glucose absorption within the cells, which is used to create energy. Insulin can also prompt the liver to store excess glucose into glycogen, which is used during hypoglycemia (Dickinson, 2023). However, insulin can become resistant due to the

insulin receptors on the skeletal muscle, fat, and liver cells becoming defective, or having an insufficient amount. The pancreas could be at fault if the beta cells become overcompensated and fail to respond to increased glucose levels. Finally, the liver could inappropriately produce glucose at a time incompatible with the body's metabolic needs, causing an excessive amount of glucose within the bloodstream, also known as hyperglycemia (Dickinson, 2023).

As type 2 diabetes is a chronic condition, it tends to have a slow progression of symptoms that can go unnoticed. Based on the National Diabetes Statistics Report, 8.7 million adults did not know or report that they developed type 2 diabetes (CDC, 2024). The typical signs and symptoms of hyperglycemia can include polyuria, polydipsia, and polyphagia (Blonde et al., 2022). So, it is critical to interpret the signs and symptoms to provide effective management and treatment of the disease. If type 2 diabetes is left untreated, it can lead to an increase in client hospitalizations with severe complications. This can include neuropathy, coronary artery disease, heart failure, and foot ulcers (Schub, 2024). For hospitalizations, complications, and mortality rates to decrease, nurses need to engage in their critical role of providing patient education to manage glycemic control. Nursing education regimens can include basic concepts such as the specific risk factors, promoting a healthy lifestyle, recognizing the early signs of type 2 diabetes, and medication adherence (Gordon & Hill, 2024).

Risk Reduction/Treatment of the Problem

Preventative and treatment measures are key during the progression of type 2 diabetes to promote the well-being of individuals. Lifestyle modifications and reducing a sedentary lifestyle can significantly improve the complications that are associated with type 2 diabetes (Smith et al., 2024). Nutritional therapy can be complicated for some to adapt to, but it is essential in managing glycemic control and improving health concerns. For example, it is recommended to

have various eating patterns, such as a Mediterranean diet, a low-carbohydrate and sodium diet, or dietary approaches to stop hypertension (DASH) diet to promote weight loss and reduce the risk of complications, such as cardiovascular disease (Blonde et al., 2022). In addition to a healthy diet, exercise and physical activity are important factors in preventing and treating type 2 diabetes. Daily exercise can have the positive outcomes of improving glycemic control and reducing lipid levels, blood pressure, and insulin sensitivity (Smith et al., 2024). The suggested duration of exercise therapy is at least 150 minutes of moderate aerobic exercise per week. It is also encouraged to engage in balance and strength training for at least two days a week (ClinicalKey, 2025).

Pharmacological approaches used as a preventative measure for type 2 diabetes have grown in popularity. A well-known example is metformin, which is medically classified as a biguanide. This medication is commonly used to decrease glucose production by the liver. Metformin was clinically tested by the Diabetes Prevention Program (DPP) to determine the effectiveness of this medication for people with prediabetes. According to the study, type 2 diabetes incidence decreased by 31% compared to the used placebo (Majety et al., 2023). This shows that metformin can have a positive role in preventing the development of type 2 diabetes. Metformin is also the first-line treatment used and is initiated right after diagnosis. Other medication treatments that can be used to lower glycemic levels include oral and noninjectable agents, as well as exogenous insulin therapy for critical conditions (Blonde et al., 2022).

Another preventative measure that can be used is adding screenings to regular physician checkups. Screenings are significant because they enable early detection and set an outline for the treatment options needed. Screening is primarily pertinent in those who are at high risk, such as family history, obesity, and inactivity, or even Native American, Hispanic, Black, or Asian

ancestry (Schub, 2024). The primary screening test that is done to determine the diagnosis and progression of type 2 diabetes is the A1C level. The A1C level depicts the trends of chronic hyperglycemia over three months and is considered the gold standard for the assessment of long-term glycemic control and the potential risk of complications (Blonde et al., 2022). The diagnostic A1C level for type 2 diabetes is greater than or equal to 6.5%, meaning 6.5% of the total circulating hemoglobin has glucose attached to it. If the A1C level is managed properly, “21% of the risk is reduced for any DM-associated complication and its related deaths with a 1% decline in HbA1c” (Asmat et al., 2022, Discussion section). Another relative screening test is the fasting plasma glucose test, which involves non-caloric intake for eight hours. If the value is greater than or equal to 126mg/dL, it serves as a definitive diagnosis of type 2 diabetes (Blonde et al., 2022).

Finally, blood glucose monitoring is a valuable treatment option for managing the disease. Blood glucose monitoring is a way for patients to determine appropriate meal options dosages of their drug therapy, evaluate the fluctuations of their daily glucose, and highlight notable signs of hypoglycemia or hyperglycemia that should be reported to the physician (Dickinson, 2023). It should be checked as often as needed to achieve glycemic goals and if there are suspected signs of hypoglycemia, such as excessive sweating, dizziness, and hunger. In this case, the action of eating a 10-15 carbohydrate snack is a necessity. Patient education about the proper steps to perform glucose monitoring, such as using the lancing device, is essential to receive adequate blood glucose values. The combined use of lifestyle modifications through exercise and nutrition, ongoing screening tests, and medication therapies can notably improve the comfort and health of an individual managing type 2 diabetes.

Relating to patient care, the emphasis on signs and symptoms, education, and treatment

options can help improve the quality of life for people experiencing type 2 diabetes. Not only do patients need to be educated on these measures, but nurses do as well. Nurses must become competent and knowledgeable with ongoing education and training about the disease to support patients during a time of need (Gordon & Hill, 2024). The more knowledgeable nurses are, the more resources they can provide for patients and families, which could help decrease the prevalence and onset of the disease.

Planning of Teaching Content

Learning objectives community members can obtain include having the ability to name at least three preventative measures and name the typical signs and symptoms of hyperglycemia. These objectives will allow learners to understand the significance of type 2 diabetes management. The teaching strategies that will be utilized are a questionnaire about common signs and symptoms, and a simple demonstration of blood glucose monitoring. The teaching tools that will be utilized are visual aids, information pamphlets that include critical points about type 2 diabetes, and an interactive game that community members can enjoy and appreciate.

Conclusion

Conclusively, type 2 diabetes is a high-priority concern that should be addressed. It is a manageable and preventable disease when treated accordingly. Education is vital because it enables patients to think critically about lifestyle improvements. Based on evidence-based practice, this information prioritizes the risk assessment and screenings, helps incorporate the importance of reducing the number of complications, and highlights the necessity of nurses during diabetic management. Overall, discussing the crucial topics of type 2 diabetes helps provide pertinent information and health concerns to community members. It also promotes health recommendations that will help individuals in the community one by one.

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