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Diabetic Education for Nurses to Enhance Patient Outcomes

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Walden University

College of Nursing

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Jacklyn Obeng

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Walden University
2021

Abstract

Diabetic Education for Nurses to Enhance Patient Outcomes

by

Obeng Jacklyn

MS, Lehman College, 2014

BS, Lehman College, 2006

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2021

Abstract

Diabetes mellitus is metabolic disease that causes elevated blood glucose levels resulting in long-term health complications and medical costs. This project was aimed at addressing the lack of confidence and knowledge staff had when teaching patients diabetes self-management interventions. The purpose of this project was to develop an evidence-based educational program for staff working in an outpatient clinic in the northeastern United States. The analysis, design, development, implementation, and evaluation model and Watson's theory of human caring provided frameworks for the project development and implementation. A diabetic nurse educator, a family nurse practitioner, and the chief medical officer served as content experts to evaluate program content and provide recommendations prior to project implementation. The content experts evaluated the learning objectives related to the staff education curriculum plan, the content and literature review, and pre-/postevaluation questionnaire. The experts were asked to rate the content as 1 = *met* or 2 = *unmet*. All the content experts rated each objective as met. The educational program was presented to six staff nurses at the facility. The results showed a 90% increase in their knowledge and confidence levels from the pre- and posttest evaluation questionnaires. This project promotes social change through enhancing nursing staff knowledge on diabetes self-management, which can lead to improved patient knowledge of diabetes and self-care management as well as foster an appreciation of and for healthy living.

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Section 1: Nature of the Project

Diabetes mellitus has earned the status of a global epidemic with more than 415 million people suffering from the health condition worldwide (International Diabetes Federation, 2015). That number is expected to increase to 642 million by 2024 (Unnikrishnan et al., 2017). Diabetes inflicts a heavy economic burden on the United States, with the American Diabetes Association (ADA; 2017) estimated the cost of diagnosed diabetes in 2017 to be $327 billion, including $237 billion in direct care expenses and $90 billion in reduced productivity. Diabetes is also the seventh leading cause of death in the United States, taking the lives of 270,702 people in 2017 (ADA, 2018). For patients and their loved ones, a diagnosis of Type 2 diabetes may be life altering, frequently causing nervousness and confusion. Factors such as patient education positively influence diabetic self-management (Laursen et al., 2017), therefore, it behooves the health care team to provide reassurance and tailored education to help patients maneuver the complexities of this disease and avoid possible complications.

Metabolic control is the primary objective of health care providers when treating diabetic patients (Fidan et al., 2020). Despite major advancements in diagnosis and care, insufficient metabolic control persists (Fidan et al., 2020). Studies have suggested strong correlations between diabetes self-management education (DSME) and significant improvements in hemoglobin A1C in diabetic patients (Bowen et al. 2016). DSME is the backbone of self-management of Type 2 diabetes and controlling hemoglobin A1C, notably in newly diagnosed diabetics, providing the basis for patients to navigate self-management decisions (Bowen et al., 2016).

The focus of this project was to develop a diabetic education program for the nurses at my practicum site. The project focused on teaching clinic staff the self-care management needs so they can educate newly diagnosed diabetics and their families how to manage hemoglobin A1C. The goal of this staff education project was to assist newly diagnosed diabetic patients better manage their condition to avoid potential complications.

It is imperative that the health care team invest in staff education programs to build the knowledge, practices, and confidence levels of the team providing the diabetic education to these patients (Testerman & Chase, 2018). In Section 1, I discuss the clinical practice problem, the project purpose, and project significance for nursing staff and patients.

Problem Statement

A diagnosis of Type 2 diabetes can be life-changing for patients and their loved ones. Many factors impact diabetic self-management (DSM), with education on healthy eating and lifestyle changes being a significant component (Becket & Tapp, 2016). A patient-centered approach is paramount in teaching DSM guidelines. An educational project to teach staff has the potential to prepare staff to provide appropriate patient DSM education.

Due to time constraints and low nurse/provider-to-patient ratios at the practicum site in New York, the health care team was unable to spend sufficient time with diabetic patients to adequately explain the disease process and importance of self-management in achieving glycemic control. To help newly diagnosed patients grasp the concept of

diabetes as a disease, a nursing assistant was designated as a patient advocate/diabetic educator who saw all newly diagnosed diabetics at the clinic for 30 minutes immediately after diagnosis. The newly diagnosed patient is provided with numerous pamphlets and handouts on diets, exercise, and blood glucose levels. However, a nursing assistant might lack the depth of diabetic knowledge to convey the essence of DSM and answer patients' questions (Becket & Tapp, 2016). Thus, newly diagnosed patients may have received insufficient patient education for good self-management leaving them anxious and overwhelmed (see Becket & Tapp, 2016).

The health care team must provide reassurance and targeted education to help diabetic patients navigate the complexities of the disease. Unfortunately, recent studies have brought to light the inadequacies and ill preparedness of nurses and other health care professionals in providing self-management education to diabetic patients (Kime et al., 2020). The practicum site health care team was aware that DSME is an integral part of disease management for avoiding complications; yet, significant challenges, such as time management and lack of training, prevented the team from achieving this in practice. This project was aimed at addressing this practice problem through staff education.

Purpose Statement

Staff education programs using evidence-based guidelines on the self-management of Type 2 diabetes significantly boosts nurses' knowledge and skills when caring for afflicted patients (Preechasuk et al., 2019). The importance of healthy food choices and exercise in managing Type 2 diabetes among newly diagnosed diabetics have been echoed by organizations, such as the ADA (2018), Healthy People 2020 (ADA,

2018), the Agency of Healthy Research Quality (Tseng et al., 2018), and the Centers for Disease Control and Prevention ([CDC], 2018). Several researchers have discussed the association between staff education and improved quality of care (Smallwood et al., 2017, Siminerio et al., 2019). Despite self-management being a critical component in diabetes care, researchers have found that the number of patients receiving effective DSME remains alarming low, likely due to the low confidence of clinic staff in delivering effective DSME (Siminerio et al., 2019).

Providing evidence-based DSME to nurses may improve health outcomes in patients and generate positive social change by enhancing patient knowledge and self-efficacy as well as fostering an appreciation of healthy living. The self-management changes may decrease complications of Type 2 diabetes (Hailu et al., 2019), such as blindness and kidney failure, which result in reduced quality of life; significant disability; and, ultimately, death (Papatheodorou et al., 2018).

Studies have shown significant improvement in patient outcomes when nurses are empowered to deliver DSME to Type 2 diabetic patients (Smallwood et al, 2017). The evidence is clear that with staff training on diabetes education, health care professionals can effectively provide self-management education to diabetic patients to improve hemoglobin A1C and, ultimately, prevent complications from diabetes (Nikitara et al., 2019). Therefore, the purpose of this education program was to teach clinic staff evidence-based, self-management techniques for Type 2 diabetes, providing them with the necessary guidelines on DSM so they can then educate patients on the lifestyle modifications to improve A1C management and diabetes self-care.

The guiding question for this project was: Will implementing a staff education program on diabetic patient education increase the knowledge and confidence of clinic staff in caring for diabetic patients? By developing and implementing this staff education program, the gap between best practices, as suggested by the evidence and the actual care being provided at the project site, can be bridged.

Nature of the Doctoral Project

To gather the most current and relevant scholarly information for this project, I conducted a literature search using the following databases accessed through the Walden University Library: Medline/PubMed, Cochrane Database of Reviews of Effectiveness, Cochrane Database of Systematic Reviews, Cumulative Index to Nursing and Allied Health Literature, and Educational Resources Information Center as well as the ADA guidelines for DSM and the American Association of Clinical Endocrinologist guidelines for diabetes. Search terms included: *diabetes mellitus and staff support, benefits of diabetes self-management, diabetes management education, staff training for diabetes management, impact of diabetes self-management, self-efficacy, evidenced-based diabetes self-management, the impact of evidence-based diabetes self-management on patients, diabetes education for providers,* and *empowering providers for diabetes education*. I limited the search to English-language, peer-reviewed journal articles published in the past 5 years.

The project focus was to develop a diabetic education program for health care professionals at the practicum site, a federally qualified health clinic (FQHC) in New York. The clinic is staffed by seven midlevel and physician providers, a social worker,

two registered nurses, and four nursing assistants. Facility annual reports indicated over 50% of diabetic patients have hemoglobin levels greater than 9%. I used the *Walden University DNP Staff Education Manual* as a guide for project development, resulting in the creation of a staff education program based on current, evidence-based literature and expert review of the content on DSME for newly diagnosed diabetic patients.

Significance

DSME facilitates the knowledge and adeptness necessary for diabetes self-care, serving as the foundation for newly diagnosed diabetic patients to build coping and behavioral skills necessary to self-manage this complex disease (Powers et al., 2017). Since an optimal blood glucose level in patients equals few complications, decreased hospitalizations, and increased quality of life, the results of this project will not only benefit patients and their families but also boost the confidence and skills of the clinic staff when caring for newly diagnosed diabetics.

Summary

In Section 1, I discussed the practice problem, project purpose, and project goal. The section also contained a justification for the need for DSME for staff at a local FQHC in New York, as evidenced by the clinic's lack of patient education for newly diagnosed diabetics. The goal of the project was to provide the staff with guidelines to encourage self-management education among Type 2 diabetic patients. The theoretical underpinnings of the project and supporting literature will be examined in Section 2.

Section 2: Background and Context

With this staff education project, I sought to provide the clinic staff with DSM training consisting of evidence-based, practice guidance for the self-management of Type 2 diabetes. The main aim was to provide the clinic staff with the necessary information to facilitate DSME for newly diagnosed Type 2 diabetics. Diabetes remains one of the most challenging chronic diseases globally given its associated complications and impact on quality of life, cost, and prevalence (Standl et al., 2019). Diabetes requires effective disease-management education to help patients navigate this complex disease (Chakraborty & Das, 2019). In Chapter 2, I discuss the theoretical framework supporting the project, relevance to nursing practice, local background and context, and my role as the doctor of nursing practice (DNP) student.

Concepts, Models, and Theories

Practice models provide a framework to help nurses assess, plan, and implement patient care (Pajnkihar et al., 2017). Watson's theory of human caring provides a framework for practicing patient-centered care (Pajnkihar et al., 2017). Watson's theory of human caring affirms individuals are part of an environment and larger universe, thus cannot be cured as an object (Yeter, 2015). The theory emphasizes the ongoing experience between the caregiver and patient, echoing the healing potential for both the health care team and patients as well as the transpersonal relationship between them (Watson, 2007).

I used the theory of human caring to help clinic staff attain satisfaction in treating their newly diagnosed diabetic patients while finding the balance between health, illness,

and promoting individual and family growth. Watson's theory of human caring has served as the foundation for nursing research, education, and practice for many generations (Riegel et al., 2018). By centering on health promotion and disease prevention, drilling down on nurses' care for patients and how they can provide intentional, patient-centered education to patients, this model is suitable for DSME for staff. Through the 10 caritive steps of Watson's theory, nurses are afforded the opportunity to explore, discover other approaches, move away from standardized ways of caring, and adopt a creative approach to healing. The staff education training based on the theory of human caring will provide the clinic staff with an authentic teaching-learning experience focused on providing the nurses with the tools to build the skills and confidence to enhance their care and support of newly diagnosed diabetic patients (see Riegel et al., 2018). A description of the 10 caritas of Watson's theory of human caring is provided in Figure 1.

Figure 1

Caritas of Watson's Theory of Human Caring

Number	Description	Abbreviation
1	Embrace altruistic values and practice loving kindness with self and others.	Loving kindness
2	Instill faith and hope and honor others.	Faith, hope, and honor
3	Be sensitive to self and others by nurturing individual beliefs and practices.	Sense of self and others
4	Develop helping–trusting–caring relationships.	Establish relationships
5	Promote and accept positive and negative feelings as you authentically listen to another's story.	Authentic presence
6	Use creative scientific problem-solving methods for caring decision making.	Problem solve
7	Share teaching and learning that addresses the individual needs and comprehension styles.	Teach and learn
8	Create a healing environment for the physical and spiritual self, which respects human dignity.	Healing environment
9	Assist with basic physical, emotional, and spiritual human needs.	Human needs
10	Be open to mystery and allow miracles to enter.	Belief in miracles

Source: www.watsoncaringscience.org/index.cfm/category/61/10-caritas. Reprinted with permission.

The use of this theory highlighted the significance of the care and compassion needed by the nursing staff in caring for newly diagnosed diabetics. Watson's theory of human caring provided the clinic nurses with the foundation to awaken their knowledge on the transpersonal aspect of the human caring consciousness (see Crane & Ward, 2016).

I presented all 10 caritas in the staff education, with emphasis placed on Caritas 1 and 3 through 9. Achieving Caritas 1, 3, 4, and 5 is paramount to the nursing care of newly diagnosed diabetic patients who may lack the basic disease knowledge. By endorsing the values in Watson's theory, the clinic staff assumes the opportunity to transcend from "cookie cutter" DSME to more fulfilling, effective, patient-centered diabetic education. Upholding these caritas will enable nurses to focus beyond patients' hemoglobin A1C levels to acknowledging the significance of delivering empathetic care to newly diagnosed diabetic patients and their families (Van, 2017). The caritas can help

the clinic staff decrease the anxiety levels of the newly diagnosed diabetic patients and increase the positive self-management skills of these patients (Ozan & Okumus, 2017). Caritas 6 through 9 emphasize nurses' need for understanding their patients' chronic diseases and prepare the clinic staff to provide effective diabetic education promoting positive patient outcomes (Van, 2017). Caritas 6 through 9 will prepare the clinic staff to eliminate biases while empowering patients to practice self-management care for optimal blood glucose levels (Clark, 2016). Armed with this renewed comprehension of human caring, the clinic staff will be empowered in educating their newly diagnosed diabetic patients (see Crane & Ward, 2016).

Relevance to Nursing Practice

Diabetes mellitus, frequently referred to as diabetes, is a group of diseases characterized by high blood glucose levels (CDC, 2018). Diabetes includes prediabetes, Type 1 and Type 2 diabetes, gestational diabetes, and medication-induced diabetes (ADA, 2020). According to the ADA (2020), 34.2 million people in the United States are living with diabetes, of which 1.5 million are newly diagnosed adults (i.e., those 18 years or older). Type 2 diabetes remains the most common type in the United States, accounting for 95% of cases (CDC, 2018). In Type 2 diabetes, the body's regulation of glucose is impaired either due to insulin resistance or insulin deficiency (ADA, 2020). This impairment results in increased glucose circulation in the blood stream.

Self-Management Training

Diabetic complications, such as blindness, heart disease, kidney failure, reduced quality of life, and death, cannot be ignored (Papatheodorou et al., 2018). Researchers

and health care professionals have agreed that diabetes is a self-care management disorder requiring specific care activities with a multitude of daily self-management decisions, such as consciously choosing healthy food, regular exercise, healthy coping skills, blood-glucose monitoring, and robust patient education on self-care (Bowen et al., 2016).

A diagnosis of Type 2 diabetes can be life-changing for patients and their loved ones. Many factors, including patient education, impact disease self-management, with education on healthy eating and lifestyle changes being significant components of fighting Type 2 diabetes and a patient-centered approach to teaching being paramount. It takes more than asking close-ended questions and checking boxes to combat this disease and its varied impacts.

Health care providers seeking to educate and help their patients achieve optimal hemoglobin A1C levels have unsuccessfully attempted techniques, such as the diabetic plate, meal planning, and carbohydrate counting (Gray & Threlkeld, 2019). Too often, after receiving a diagnosis of Type 2 diabetes, most patients leave their provider's office confused, angry, and overwhelmed, with little capacity to store educational facts. Therefore, it is crucial that health care providers offer more than basic verbal and written educational information to newly diagnosed patients.

A holistic approach to managing Type 2 diabetes is at the core of the healing process. The theory of human caring reminds care providers to focus on the human attributes of struggling with the stressors of work-life balance while dealing with a chronic disease. For instance, instead of focusing solely on hemoglobin A1C levels in

newly diagnosed diabetics, the health care team should focus on understanding the patient's whole life, including environment, culture, and traditions, to provide effective holistic care yielding positive outcomes. Due to lack of knowledge and low confidence levels on DSM care, the nurses at the project site were unable to provide adequate information on the disease process and value of self-management care for achieving glycemic control to newly diagnosed diabetics.

Evidence-based practice integrates clinical expertise and experience with the best evidence, recognizing the unique individual needs of patients (Buckwalter et al., 2017). Clinical practice guidelines are statements of recommendations to improve patient outcomes based on a thorough analysis of evidence and evaluation of benefits and harms of alternative care options (Shekelle & Melin, 2016). The evidence-based staff education program on the self-management of diabetes for newly diagnosed diabetics will help increase the nurses' knowledge and willingness to adopt and combine the best research evidence with clinical expertise and experiences to promote positive patient outcomes.

An evidence-based staff education program can provide the staff with skills to empower patients with Type 2 diabetes to take control of their disease by engaging in effective diabetes self-care (Smallwood et al., 2017). Staff education on delivering DSM training has been shown to decrease readmission rates of diabetic patients, especially when newly diagnosed (Siminerio, 2019). The nursing staff educational program project can provide nurses with the knowledge to better manage patients with diabetes and, therefore, improve clinical outcomes. Nurses' view delivering DSME to newly diagnosed diabetics as survival skills to help these patients manage the complicated disease

(Siminerio, 2019). However, at the practicum site, a gap hindered the delivery of evidence-based patient education for newly diagnosed diabetics. Due to time constraints, a nursing assistant, assigned as the diabetic educator, held a 30-minute appointment with newly diagnosed diabetic patients for education consisting primarily of handing out brochures, leaflets, and magazines on healthy eating and exercise. A nursing assistant acting as a diabetic educator might lack sufficient in-depth knowledge of the disease process to effectively educate and empower patients. Thus, patients may struggle to maintain optimal glycemic control and face complications resulting in decreased quality of life and death.

Importance of Staff Education

Only about one third of diabetic patients report ever receiving diabetic education from a trained professional (Gazzaruso et al., 2016). To maximize access to this critical aspect of the treatment process, effective diabetes education must be made available to patients in the clinic setting. Staff education is important for providers to stay abreast of ever-changing facets of health care. Studies have shown employees who undergo staff education develop confidence and are more productive (Siminerio et al., 2019). Enhancing the role of clinic staff (through diabetes staff education programs) to become more confident and competent in offering diabetes education to their patients may improve patients' blood-glucose levels, thereby improving patient outcomes.

Emphasizing staff education is critical to boosting staff confidence and making them more productive and efficient (Kime et al., 2020). Multiple studies have demonstrated even the most qualified, knowledgeable staff do not perform well

indefinitely after hire, so staff education is an essential tool to sharpen knowledge and keep them up to date with current evidence for safe and effective practice (Nikitara et al., 2019; Sendawula et al., 2018). Health care is constantly changing, so not staying abreast with current research can have detrimental effects on patients.

There are, however, many barriers to effectively implementing a staff education program. Lee et al. (2019) identified time constraints and cost as the major barriers to staff education. Jha (2016) agreed that already understaffed nurses have little to no time for staff education, and health care systems view paid time off for continuing education as an unwanted extra expense. Providing a "lunch and learn" staff education program on DSM was a suitable solution to overcome these barriers. To exercise physical distancing while being cognizant of the busy schedule of the clinic nurses, the staff education program was held during lunch (hence the lunch and learn name). This training program bore no cost to the clinic.

I used the American Association of Diabetes Educators' (AADE; 2020) *Self-Care Behaviors Guidelines* to develop the staff education program. These guidelines emphasized the importance of healthy eating, exercise, self-blood-glucose monitoring, risk reduction, and healthy coping skills (AADE, 2020). The clinic nurses were presented with evidence supporting the positive impact of these recommendations on hemoglobin blood glucose and quality of life. By comprehending the significance of the evidence-based guidelines, the clinic staff would be able to confidently offer patient-centered diabetic education to improve patient outcomes and increase quality of life in newly diagnosed diabetic patients (Beck et al., 2018).

AADE Self-Care Behavior Framework

The curriculum for the staff education program was based on the AADE's (2020) DSM behaviors: (a) blood glucose monitoring, (b) healthy eating, (c) regular exercise, (d) coping, (e) reducing risk, (f) problem solving, and (g) taking medication. Comprehending the effects these behaviors have on blood glucose levels should increase clinic staff confidence in engaging their patients in practicing diabetes self-care.

Martin and Archuleta (2016) noted that of the 392 nurses surveyed in their health care system, only 32% expressed confidence and competence when caring for diabetic patients. After delivering a teaching session on using AAED behavioral skills, they found nurses indicated the training would improve the way they would take care of their diabetic patients. In their posttraining evaluation, nurses described three opportunities to optimize their treatment of diabetics: (a) refraining from categorizing patients as noncompliant and treating every person as a unique individual to understand the reasons behind patient decisions, (b) collaborating more with the care team to increase blood glucose monitoring, and (c) increased confidence when caring for diabetic patients. This study aligns with prior research drilling down to the role of staff education in improving the knowledge and confidence levels of clinic staff in caring for diabetic patients. The use of the AADE curriculum (see Appendix A) as a framework for the staff education will provide knowledge and clarity on the application of self-care behaviors to decrease blood glucose levels in diabetics.

Glucose Monitoring

Self-blood glucose monitoring (SBGM) helps patients gain control over their disease by providing the information to make day-to-day behavioral changes affecting their glycemic state. The principal goal for both patients and nurses in diabetic treatment is to keep the blood glucose in an acceptable goal: 80–130mg/dl before meals and less than 180mg/dl 1–2 hours after meals for diabetics (CDC, 2019). Blood sugar monitoring is an important step patients can take to manage their disease. The instant gratification gained through self-glucose monitoring contributes to the adherence to self-care behaviors, which leads to decreases in diabetic complications, such as heart disease, blindness, kidney failure, and premature deaths (Lee et al., 2019).

Comparing 15 randomized clinical trials comprised of 3383 participants with Type-2 diabetes not treated with insulin therapy Zhu et al. (2016) noted SMBG significantly improved blood glucose levels in the 6 months and 12 months of follow up after study completion. Klonoff et al. (2017) agree on the positive impact of SBGM on blood-glucose levels, crediting the SBGM effectiveness in improving glycemic control to four factors: (a) it affords patients immediate confirmation of their glycemic state, (b) patients learn the essence of healthy food choices, (c) it promotes DSME on dietary recommendations, and (d) it motivates healthy behavior.

Patients should be educated on how to interpret their blood glucose levels, and how to use the interpretation to adjust their carbohydrate intake. Following the educational intervention clinic nurses should empower patients to self-check their blood glucose pre- and post meal and report blood glucose levels below 70mg/dl and over

180mg/dl to the clinic. Blood glucose levels should be checked 30 minutes before meals and 1-2 hours after meals (CDC, 219). The required frequency of SBGM, medication adjustment and carbohydrate intake base on blood sugar levels should be determined through shared decision making between the patient and their provider. Fasting and excessive exercise may cause low blood glucose levels. Patients must be educated on how to interpret the blood glucose levels and what to do when their blood glucose levels are below 70mg/dl (hypoglycemia) or above 180mg/dl (hyperglycemia). For blood glucose levels below 70mg/dl, patients must be educated to consume 15 grams of carbohydrate (example 4 ounces or ½ cup of juice or soda; 1 tablespoon of sugar, honey, or corn syrup), recheck BS check after 15 minutes and repeat the steps if blood glucose remains below 70 mg/dl. Once blood glucose levels return to normal, patients may eat a regular meal or snack. Hyperglycemia or blood glucose levels above 180 mg/dl must also be reported to the clinic nurse. For convenience, patients will have a choice of reporting blood-glucose levels below 70 mg/dl or above 180 mg/dl to the clinic via phone or email. Patient self-monitoring of blood glucose will be beneficial to nurses by helping with early detection and treatment of patients who are struggling to achieve optimal blood glucose and afford patients the opportunity to learn the impact of certain food choices on their glycemic levels. Patients should be educated to avoid spikes in blood glucose levels by consuming consistent amount of carbohydrate at mealtimes throughout the day instead of consuming a large portion of carbohydrates at once. Options to avoid hyperglycemia may include carbohydrate counting, diabetic plate and limiting whole grains, starchy vegetables, fruits, or dairy to a quarter of the plate. Patients should collaborate with their

medical providers regarding appropriate steps to take when they have elevated blood glucose levels.

Healthy Eating

Diet is a critical component in managing Type 2 diabetes. It is a modifiable component contributing greatly to complications such as coronary artery and vascular diseases, kidney, and heart failures (Sauter, 2017). Evidence suggests diets consisting of heavy consumption of red and processed meat, sugar sweetened food and beverages, as well as fried foods are linked to insulin resistance, high cholesterol, and pro-inflammatory state, all of which contribute to diabetic complications (Archundia et al.,2017). Sami et al. (2016) agrees noting consumption of healthy food choices, such as vegetables, fruits, whole grains, fish, and low-fat dairy products, have been associated with delays in disease progression and decreased morbidity and mortality. However, it is worth noting foods high in fat and sugar are more affordable than the healthier options.

In a longitudinal study of adults aged 45-84 from six cities across the United States, Kem et al. (2017) found higher prices for healthy foods are the major drive for consumers choosing unhealthy alternatives. Some researchers and policy makers have called for higher taxes on unhealthy foods and the provision of tax subsidies on healthy foods to help increase accessibility to healthy food options (Afshin et al., 2017). Although increased access to heathy foods has occurred through programs such as Supplemental Nutrition Assistance Program, it behooves the healthcare team to not only educate patients on the impact of diet on their health but also direct patients to food banks, farmer's markets, and community resources available for healthy food options.

Patients must be encouraged to do meal planning, manage their portion size, carbohydrate counting, the plate method, learning how to read food labels to determine the fat and calories in a food product. Patients should be encouraged to use measuring cups and food scales for meal planning. Apps on their phone may be used to evaluate carbohydrate and fat in food with meal images especially when dinning in restaurants.

Exercise

Although studies demonstrate the positive effect of good diet on blood glucose, it is important to note multiple studies have proven healthy food choices in conjunction with regular exercise significantly decreases incidence of diabetic complications (Hemmingsen et al; 2017; Torres et al., 2018; Wahid et al., 2016). Although the benefits of regular exercise have been touted in recent years, most patients cite lack of time as the major barrier to regular exercise (Margie et al., 2018). Most patients believe seeing results requires setting aside an extensive amount of time for exercise. However, Krustrup and Randers (2018) argued just 2.5 hours per week or 30 min/day for 5 days of aerobic exercise, promotes glycemic control. This assertion was echoed by Geidl et al., (2020) who demonstrated muscle contraction during exercise increases blood glucose uptake to the cells which helps to decrease blood-glucose levels. It is important patients understand there is no threshold for the positive effect of regular exercise. Thus, engaging in even low levels of exercise, relative to being sedentary, has a positive impact on mortality rate. Patients must be encouraged to engage in simple physical activities (30 minutes a day for 5 days a week) such as walking, jogging, swimming, yoga, and riding bicycles to work to facilitate DSC and help patients avoid deadly complications from

Type 2 diabetes. Patients should be encouraged to obtain medical clearance from their medical team before starting any exercise regimen.

Risk Reduction

Diabetes can seriously impact major organs of the body causing complications such as retinopathy, atherosclerosis, kidney failures, and peripheral neuropathy which may cause diabetic foot infections leading to lower extremity amputations. Many studies have identified heart attack and stroke as the leading cause of death in Type 2 diabetics (Besic, 2017; Cornell et al., 2017). Nevertheless, these may be avoided by careful self-management of the disease. As significant a role diet and exercise have in preventing these complications, equally important is changing behaviors such as smoking cessation, receiving all recommended vaccines, attending recommended health checks including annual eye and foot exams, and taking all medications as prescribed.

Retinopathy

Diabetes retinopathy is a diabetes complication that damage the retina of the eye causing eye problems such as glaucoma, cataracts, and blindness. Diabetics have a greater risk of blindness compared to non diabetic patients; however, this risk is greatly decreased with optimal blood glucose control and regular eye exams (ADA, 2020). Patient education on the importance of regular eye care is critical for early detection and treatment of diabetic retinopathy (Azami et al; 2018). Thus, a nurse led DSME will encourage patients to not only strive to achieve blood glucose control but also healthy lifestyle.

Neuropathy

Diabetic neuropathy occurs when the nerves in the body are damaged because of elevated blood glucose in diabetic patients (ADA, 2020?). Thus, educating diabetics on how to maintain an optimal blood glucose level, daily foot care and routine appointments to the podiatrist may lead to the detection of early signs and symptoms of nerve damage and help delay the risk of nerve damage. Diabetics must be educated to do daily feet inspections, bath feet in lukewarm water, avoid treating their callouses and corns and clipping their nails (CDC, 2019).

Nephropathy

Diabetic nephropathy is a term used to describe damage to the kidneys because of long-standing uncontrolled blood glucose levels. Educating patients about how the body breaks down protein and filters waste and the importance of maintaining an optimal blood glucose level (70 mg/dl before meals and 180after meals) will reduce the risk of developing diabetic nephropathy. Screening for kidney disease contributes to the avoidance or delay of diabetic related complications such as nephropathy.

Atherosclerosis

High blood glucose level increases the risk of plaque accumulation in the arteries. As a result, blood circulation to the arteries is impeded resulting in coronary disease such as stroke and heart disease.

Smoking cessation

The pancreas is an organ in the body responsible for insulin production. Nicotine from tobacco use can cause damage to the pancreas causing the pancreas to stimulate less

insulin thereby causing an increase in the blood glucose (Thaane, et al. 2019). Smoking can cause vasoconstriction and impede circulation resulting in microvascular problems, cardiovascular diseases, and premature death (Thaane, et al. 2019). It is therefore imperative for the nurses to educate diabetic patients who smoke on the benefits of smoking cessations to avoid these diabetic complications.

Coping Skills

Patient-centered DSME promotes quality of life and psychological wellbeing in diabetic patients, especially newly-diagnosed patients who may lack the basic knowledge of the disease process and struggle to cope with its management. These patients are at increased risk for diabetes distress (DD), the emotional pressure from diabetes, the meticulous demands of DSM, the potential for complications, and the lack of support (Mushtaque et al., 2016). Since diabetic patients who suffer from DD often lack the ability to engage in effective self-care management, screening, early detection by using the Hospital Anxiety and Depression Scale (HADS), and appropriate counselling of newly diagnosed diabetic patients at risk of DD is critical to achieving optimal glycemic control, increased quality of life, and decreased hospitalizations (Indelicato et al., 2017). HADS is a screening tool to measure symptoms of anxiety and depression in patients being treated for chronic diseases such as diabetes mellitus (Khan et al., 2019). A score of ≥8 should prompt further evaluation of coping mechanism whereas a score of ≥11 should prompt referral to a mental health professional for further evaluation (Wisting et al., 2018). Newly diagnosed diabetics often have anxiety about the complex management of the disease, fear of losing control, and the fear of long-term complications. The clinic

staff will be encouraged to use the HADS assessment quarterly. Nurses will explore the emotional needs of patients with the score of ≥8 and offer targeted DSME to address the patient's specific needs. Emphasis on the importance of multidisciplinary collaboration will be part of the staff-education program. Clinic staff will be encouraged to collaborate with the psychiatrist, psychologist, and social workers and to refer patients with HADS score of ≥11 to mental health professionals for further evaluation and treatment.

Staff education on diabetes self-management is necessary to sustain behavior changes, such as healthy food choices, regular exercise, blood glucose monitoring and coping skills, promoting optimal blood-glucose levels, and reduced long term diabetic complications of diabetes (Hailu et al., 2019). in by the clinic staff, the ongoing DSME should help newly diagnosed diabetic patients identify and reduce risk of complications from Type 2 diabetes using the acquired problem-solving skills. Patients who participate in the clinic's nurse-led DSME program should be more likely to engage in recommended risk reduction activities, such as receiving influenza and pneumonia vaccines or smoking cessation, and engage in problem-solving skills, such as determining the most cost-effective way to obtain preventative health care.

Local Background and Context

The project setting is a federally qualified health clinic (FQHC) in New York City. Over 70% of the patients at this clinic have Type 2 diabetes mellitus or impaired glucose tolerance. A small clinic, the staff consists of four mid-levels and three physicians, a social worker, two registered nurses and 4 nursing assistants. To help

diabetic patients, the health care team designated a nursing assistant a “patient advocate” and “diabetes educator” for newly diagnosed patients.

After a careful evaluation of activities and informal interviews with the health care team, frustration about the inability to optimally manage blood-glucose levels in many of the diabetic patients was found. The team acknowledged a possible lack of confidence by the staff surrounding patient education may contribute to this problem. The clinic staff voiced readiness to explore a change by participating in staff education to enhance patient outcomes. This is significant since a nursing assistant may lack the depth of diabetic knowledge to convey the importance of diabetic self management and answer patients’ questions (Becket & Tapp, 2016). As a result, newly diagnosed patients may receive insufficient patient education for good self-management leaving them anxious and overwhelmed (Becket & Tapp, 2016). Therefore, the healthcare team must provide reassurance and targeted education to help diabetic patients navigate the complexities of the disease. Staff education had not been explored before the beginning of this project.

Role of the DNP Student

My role in this project was to lead and collaborate with the clinic staff and administrators to provide an effective, evidence-based staff education to promote confidence and sharpen clinical staff skills in managing newly diagnosed diabetics. I developed a pre-postquestionnaire to assess the staff’s perceived knowledge on diabetes patient education before and after the program. The anonymous responses were incorporated in developing an evidence-based staff education program for newly diagnosed diabetics. The chief medical officer at the clinic (CMO), a master’s-prepared,

diabetic nurse educator, and a nurse practitioner will serve as content experts, reviewing and approving the education plan prior to its initiation. My interest in developing this project stemmed from working as a family nurse practitioner at a primary care center serving the underserved population in the community. Based on hemoglobin A1C-level data, it was clear the usual printed materials on healthy eating and exercising were insufficient to boost diabetic self-management among the newly diagnosed patients. Newly diagnosed diabetics benefit from individualized, patient-centered education as opposed to blanket diabetic education (Navathe et al., 2019). If adopted, the staff-education program will be included in the new-hire orientation and annual staff development programs.

Role of the Project Team

DSME facilitates the knowledge and adeptness necessary for diabetes self-care by serving as the bedrock for newly diagnosed diabetics to build the coping and behavioral skills necessary to self-manage this complex disease (Powers et al., 2017). The clinic staff participating in the project were informed of the project purpose, objectives, and relevant information needed to make informed decisions (Pal et al., 2019).

- A discussion with the clinic CMO, the clinic director, charge nurse, and the healthcare team on the importance of staff education programs about diabetic self-management was held prior to developing the program.
- A master's prepared diabetic nurse educator, family nurse practitioner, and the clinic CMO will served as content experts to review educational materials.

- Pre- and postevaluation questionnaires were used to determine effectiveness of the staff education program.

Summary

Section two outlined how Watson's theory of human caring model applies to this project. Current evidence on the significance of patient education for self-management of Type 2 diabetes to achieve optimal blood glucose levels is discussed. This section also examined the positive impact self-management of Type 2 diabetes has on clinical outcomes among the newly diagnosed diabetic patient's quality of life. Diabetes self-education may decrease the complications potential from uncontrolled diabetes thereby decreasing hospitalization, disability, and health care expenses for these patients.

Section 3: Collection and Analysis of Evidence

Successful management of Type 2 diabetes requires patients to engage in proactive DSM care involving careful blood glucose monitoring, healthy food choices, regular exercise, effective coping strategies, and risk reduction. Type 2 diabetics require ongoing self-management education and support from the health care team. Lack of DSM care has been linked to adverse effects on organs, such as the brain, eyes, heart, and kidneys (Papatheodorou et al., 2017). However, studies have shown staff education improves staff confidence and promotes patient adherence to DSM care (Azami, 2018). Nurses at the local clinic site expressed a lack of confidence and knowledge in providing DSME to their patients. In section 3, I describe the process used to collect, organize, and evaluate the data related to the staff education program.

Practice-Focused Question

At the clinic where this project was implemented, the nursing staff lacked effective DSME, so patients were not receiving adequate education on how to manage their diabetes. Thus, the project question was: Will implementing a staff education program on DSM increase the knowledge and confidence of nurses caring for diabetic patients?

Sources of Evidence

To gather the most current and relevant scholarly information for this project, I conducted a search for literature using the following databases accessed through the Walden University Library: PubMed, Cochrane Database of Review of Effectiveness, Cochrane Database of Systematic Review, Cumulative Index to Nursing and Allied

Health Literature, Educational Resources Information Center, and the ADA guidelines for DSM. Databases were searched using the following Boolean search terms: *diabetes mellitus and staff support, benefits of diabetes self-management, diabetes management education, staff training for diabetes management, impact of self-management of diabetes, self-efficacy, evidenced-based diabetes self-management, the impact of evidence-based diabetes self-management on patients, diabetes education for providers, empowering providers for diabetes education,* and *American Association of Diabetes Educators guidelines for diabetes*. The results were limited to articles published within the past 5 years in English-language, peer-reviewed journals.

I defined the practice problem for this project through informal interviews with the nursing staff at the project site. Staff acknowledged a lack of patient education for newly diagnosed diabetics. The clinic's CMO indicated over half of the clinic's diabetic patients have hemoglobin A1C levels greater than 9%. To help newly diagnosed patients grasp the concept of diabetes as a disease, a nursing assistant was designated a patient advocate and diabetic educator to see all newly diagnosed diabetics at the clinic for 30 minutes immediately after diagnosis. Because a nursing assistant may lack the depth of diabetic knowledge to convey the significance of DSM and answer patients' questions, the newly diagnosed patients may receive insufficient patient education for successful self-management. The lack of comprehensive diabetes self-care education may be contributing to the increased hemoglobin A1C levels in clinic patients (see Warshaw et al., 2019). Thus, a staff education program on the diabetic self-care management needs of newly diagnosed diabetics may help patients manage their diabetes and prevent related

complications. Investing in staff education to target the views, practices, and confidence levels of the nursing team who will spend more time with these patients during visits to the clinic is paramount to the successful management of blood glucose in newly diagnosed diabetic patients. The nurses' role includes triaging, performing vital signs, and checking blood glucose levels as well as reviewing the discharge instructions after patients visits. Incorporating diabetic self-care teaching at these encounters is necessary for the care of diabetic patients.

Project Approach

I followed the Walden University *Staff Education Manual* while developing the DNP staff education project. The project approach is explained in the following subsections.

Participants

I asked the two registered nurses and four nursing assistants at the clinic to participate in the education program. Participation was voluntary, and evaluations remained anonymous. The participants were not identified by name but were assigned a numeric identifier instead to facilitate deidentification.

Setting

I invited all the nursing staff to participate in the project by posting flyers with the date and time for the education session in the locker room and lunchroom as reminders. The training consisted of a PowerPoint presentation, conducted during lunch hour. It was a live session, and all COVID-19 protocols were observed. I used paper-based, pre- and postevaluation questionnaires to determine the effectiveness of the staff education

program (see Appendix A). Participants were asked to place completed questionnaires in an interoffice envelope in my office mailbox. The staff education program was based on Watson's theory of human caring and current evidence on diabetes self-care management collected from the literature review.

Role of Key Stakeholders

- The expert panel consisted of the CMO, a master's prepared diabetic educator, and a nurse practitioner specializing in diabetes care.
- The staff education project and the pre- and postquestionnaires were presented to the expert panel.
- The expert panel provided verbal feedback on the project content and applicability to the clinic setting and staff.
- As the project leader, I evaluated the feedback and modified the educational content based on the experts' recommendations.

Ethical Considerations

The site agreement form was signed by the CMO at the project site. I provided the Walden University Institutional Review Board (IRB) with the site agreement form along with Form A for project approval, and the implementation of the project occurred only after I received Walden IRB approval (IRB Approval No. 06-11-21-0725688). Participation in the project was voluntary, and all participants were free to withdraw at any time without facing any punitive actions. The rights and privacy of the participants were protected throughout the course of the project. No patients were used in the project or included in the report. I provided participants with the informed consent form and

made them aware of the purpose, objectives, and relevant information about the project. Pre- and postsurvey results remained anonymous. Public health guidelines for COVID-19 were enforced, so 6 feet of physical distance and face coverings were required for all in-person attendees of the education session. Hand sanitizer stations were also accessible for in-person attendees.

Budget

The budget for the staff education program was $40.00, which I provided. Since the staff education was conducted during lunch hour, the money was used to provide lunch/snacks for the nursing staff attending the live sessions.

Analysis and Synthesis

The pre- and postevaluation questionnaires (see Appendix B) contained 18 questions using a 5-point, Likert-type scale to measure the staff members' confidence level on DSM patient education. Each question was rated on a scale of 1–5, with 1 being *not at all confident* and 5 being *extremely confident*. I developed the questionnaire based on the staff education program content. The same questionnaire was employed before and after completing the education program for comparison.

The expert panel reviewed the educational program content and questionnaire for applicability to the clinic staff and provided me with verbal feedback on the trends identified. I incorporated their feedback into the final presentation.

Before starting the staff training session, I asked attendees to complete the pretest questionnaire to assess their confidence level and knowledge in teaching DSME to newly diagnosed diabetic patients and exited the room. Exiting the room afforded participants

privacy to complete the questionnaires without intimidation or pressure when answering the questions. The same procedure was repeated at the end of the training session. I asked participants to submit both forms in a single, interoffice envelope. To identify which copy of the questionnaire was the pretest versus the posttest, they were printed on different colored paper with each participant labeling their questionnaire using a unique number. The participants were asked to put their questionnaires in two separate, big, brown envelopes clearly labeled pre-/postevaluation questionnaires. The charge nurse placed the two envelopes in my office mailbox.

I used the analysis, design, development, implementation, and evaluation model to develop the curriculum for the staff education on DSM care (see Almomen et al., 2016). The results of the pre- and postevaluation questionnaires were analyzed by me and used to generate descriptive statistics. I used a Wilcoxon Signed Rank test to assess statistical significance in changes between the pre- and postevaluation questionnaires. The summary of the results was shared with the clinic leaders and clinic staff.

Summary

In Section 3, I discussed the approach to develop, collect, and analyze evidence from the staff education project. The role of the expert panel, project development, ethical considerations, and budget were also explained in this chapter. In Section 4, I will discuss the findings, my interpretations of the collected data, the project implications, contributions from the project team, recommendations, and the strengths and limitations of the project.

Section 4: Findings and Recommendations

The practice problem in this project was the nurses' lack of knowledge and confidence to teach self-management care to the newly diagnosed diabetics in the clinic. This practice problem was evidenced by the clinic designating a nursing assistant as a diabetic educator to provide diabetes education to newly diagnosed diabetics. A nursing assistant may not have the in-depth knowledge to effectively provide diabetic education to patients. This created a gap in practice between the lack of EBP used when educating diabetic patients and the lack of knowledge of current research on the topic. The purpose of this staff project was to develop a staff education program for DSM care to increase the knowledge and confidence of the clinic staff. This project included (a) the staff education curriculum based on the AADE DSM behaviors (see Appendix A), (b) the evidence-based staff education training (see Appendix A), and (c) the pre- and posttest evaluation questionnaires (see Appendix B). I reviewed evidence from studies in the English language published within the past 5 years that demonstrated positive outcomes from evidence-based diabetes staff education training for strategies used to increase staff knowledge and confidence.

In Section 4, I provide the evaluation and findings of the project, discuss the implications of the project and the strengths and limitations, and present a self-analysis.

Findings and Implications

Findings

Summary Curriculum Evaluation by Content Experts

The content experts comprised the CMO, a master's prepared diabetic educator, and a nurse practitioner specializing in diabetes care. They reviewed the education curriculum and the pre- and postquestionnaires and offered their recommendations. The learning objectives were that the participants will be able to: (a) describe the impact of Type 2 diabetes on patients, (b) describe the effects of DSME on blood glucose, and (c) understand their role in supporting diabetic patients achieve a normal blood glucose level. I expected the curriculum to expand the knowledge of the nursing staff. and increase their confidence in educating patients on DSM care.

The content experts evaluated the learning objectives related to the staff education curriculum plan, the content, and literature review. I asked the experts to rate the content as 1 = *met* or 2 = *unmet* (see Appendix C). They expressed their understanding of the content curriculum plan and validated the contents on the pre- and postquestionnaires by marking met on all objectives (see Appendix D). I incorporated their verbal feedback and recommendations in the development of the staff education curriculum and the pre- and postquestionnaires.

The staff education curriculum was presented to the CMO of the clinic, the diabetic educator, and nurse practitioner for content evaluation. Their responses were positive. Two of the content experts were concerned about the sample size and recommended I encourage all six participants to be present even if they were off from work on the training day. The charge nurse assisted with scheduling to ensure all staff were present at the time of training session, and all the staff were happy to attend.

I used a PowerPoint presentation to deliver the staff education program (see Appendix A). Before starting the staff training session, I asked attendees to complete the pretest questionnaire to assess their confidence level in and knowledge of teaching DSME to newly diagnosed diabetic patients and exited the room. Exiting the room afforded participants privacy to complete the questionnaire without intimidation or pressure when answering the questions. The same procedure was repeated at the end of the training session. Participants were asked to submit both forms in a single, interoffice envelope. To identify which was the pretest versus the posttest, they were printed on different colored paper with each participant labeling their questionnaire using a unique number. I asked the participants to put their questionnaires in two separate, big, brown envelopes clearly labeled pre- and postevaluation questionnaires. The charge nurse placed the two envelopes in my office mailbox.

Pretest/Posttest Change in Knowledge Results from Presentation

Before starting the staff education training, I provided the nurses with an 18-item pretest evaluation that used a 5-point, Likert scale to rate their knowledge of and confidence levels with DSM education from 1 = *not at all confident* to 5 = *extremely confident*. The results of the pretest are provided in Table 1.

Table 1

*Pretest Questionnaire (*N = *6)*

Questions	1 = Not at all Confident	2 = Slight Confident	3 = Moderately Confident	4 = Very Confident	5 = Extremely Confident
1. How confident are you in educating patients about diabetes?	5 (83%)	1(17%)	0	0	0
2. How confident are you that teaching self-management care will contribute to achieving optimal glycemic control in diabetics?	5(83%)	0	(1)17%	0	0
3. How confident are you as a nurse to empower your diabetic patients to achieve optimal glucose levels?	5(83%)	1(17%)	0	0	0
4. How confident are you in teaching diabetic patient's diabetic self-management?	5(83%)	0	0	1(17%)	0
5. How confident are you in identifying 6 DSM non-pharmacological diabetes interventions?	5(83%)	0	1(17%)	0	0
6. How confident are you in teaching blood glucose monitoring in diabetic patients?	0	4(66%)	0	0	2(34%)
7. How confident are you in identifying diabetes-related stress and anxiety in patients?	5(83%)	0	1(17%)	0	0
8. How confident are you in your knowledge of recommending immunizations for preventable diseases to the diabetic patients?	0	0	0	6(100%)	0
9. How confident are you in your knowledge of the food groups that are associated with delays in disease progression in diabetes patients?	5(83%)	0	0	1(17%)	0
10. How confident are you in recommending physical activities for the diabetic patients?	0	0	5(83%)	1(17%)	0

Questions	1 = Not at all Confident	2 = Slight Confident	3 = Moderately Confident	4 = Very Confident	5 = Extremely Confident
11. How confident are you in recognizing food groups that contribute to increase blood glucose levels?	0	5(83%)	0	1(17%)	0
12. How confident are you in recommending available resources for healthy food options to diabetic patients?	5(83%)	0	1(17%)	0	0
13. How confident are you in encouraging diabetic patients to seek preventative care (e.g., podiatry, eye care)?	0	4(66%)	2(34%)	0	0
14. How confident are you in the impact of diabetic complications to patients?	4(66%)	0	2(34%)	0	0
15. How confident are you in identifying five complications of diabetes mellitus?	0	5(83%)	1(17%)	0	0
16. How confident are you in using the AADE framework to educate diabetic patients?	6(100%)	0	0	0	0
17. How confident are you in using the Hospital Anxiety and Depression Scale (HADS)?	6(100%)	0	0	0	0
18. How confident are you in counselling the anxious diabetic patient?	6(100%)	0	0	0	0

Table 1 clearly shows the lack of knowledge and confidence level of the six nurses at this FQHC. Fifty-two percent of the nurses reported they were not at all confident, 18.4% reported they were slightly confident, 13.1% were moderately confident, 9.3% were very confident, and 2% expressed being extremely confident. I gave the same 18-item questionnaire to the nurses to complete as the posttest. The results of the posttest evaluation are shown in Table 2.

Table 2

*Postevaluation Questionnaire (*N = *6)*

Questions	1 = Not at all Confident	2 = Slightly Confident	3 = Moderately Confident	4 = Very Confident	5 = Extremely Confident
1. How confident are you in educating patients about diabetes	0	0	0	0	6(100%)
2. How confident are you that teaching self-management care will contribute to achieving optimal glycemic control in diabetics?	0	0	0	0	6(100%)
3. How confident are you as a nurse to empower your diabetic patients to achieve optimal glucose levels?	0	0	0	0	6(100%)
4. How confident are you in teaching diabetic patient's diabetic self-management?	0	0	0	0	6(100%)
5. How confident are you in identifying 6 DSM non-pharmacological diabetes interventions?	0	0	0	0	6(100%)

Questions	1 = Not at all Confident	2 = Slightly Confident	3 = Moderately Confident	4 = Very Confident	5 = Extremely Confident
6. How confident are you in teaching blood glucose monitoring in diabetic patients	0	0	0	0	6(100%)
7. How confident are you in identifying diabetes related stress and anxiety in patients	0	0	0	2(33) %	4(67%)
8. How confident are you in your knowledge of recommending immunizations for preventable diseases to the diabetic patients?	0	0	0	0	6(100%)
9. How confident are you in your knowledge of the food groups that are associated with delays in disease progression in diabetes patients?	0	0	0	0	6(100%)
10. How confident are you in recommending physical activities for the diabetic patients?	0	0	0	0	6(100%)
11. How confident are you in recognizing food groups that contribute to increase blood glucose levels?	0	0	0	0	6(100%)
12. How confident are you in recommending available resources for healthy food options to diabetic patients?	0	0	0	1(17%)	5(83%)

Questions	1 = Not at all Confident	2 = Slightly Confident	3 = Moderately Confident	4 = Very Confident	5 = Extremely Confident
13. How confident are you in encouraging diabetic patients to seek preventative care (e.g., Podiatry, eye care)	0	0	0	0	6(100%)
14. How confident are you in the impact of diabetic complications to patients?	0	0	0	0	6(100%)
15. How confident are you in identifying 5 complications of diabetes mellitus	0	0	0	0	6(100%)
16. How confident are you in using the AADE framework to educate diabetic patients?	0	0	0	1(17%)	5(8)3%
17. How confident are you in using the Hospital Anxiety and Depression Scale (HADS)?				2(33%)	4(67) %
18. How confident are you in counselling the anxious diabetic patient?				2(33%)	4(67)

After the education session, 92% of the staff reported they felt extremely confident and knowledgeable in teaching diabetes self-education and 7.6% of the group felt very confident. The change in the pre- and posttest results showed staff education can help increase nurses' confidence and knowledge on DSM care. The results amplify the

importance of using staff education to help nurses deliver evidence-based care to their patients.

All six nurses reported their knowledge and confidence levels significantly increased after receiving the DSME training. On the posttest, five out of the six nurses rated their knowledge and confidence levels as extremely confident on all 18 questions. One nurse rated two questions ("How confident are you in using the Hospital Anxiety and Depression Scale (HADS)? and How confident are you in counselling the anxious diabetic patient") as very confident and rated the other 16 questions as extremely confident. These results showed the training intervention was successful in attaining its goal.

I successfully met the project's aims, objectives, and outcomes. The pre- and posttest results showed an increase in the knowledge and confidence levels of the participants on DSM care. The goal was for the nurses to incorporate the AADE self-management care guidelines in their daily encounters with diabetic patients. The CMO of the clinic who was also a member of the expert panel could continue to engage and encourage the nursing staff to adopt this evidence-based DSME. If adopted, the current and aspiring nurses in all eight locations of this FQHC will have the opportunity to continually increase their knowledge and confidence levels. The community served by the clinic will also become healthier.

I intended for this staff education on DSME to improve health outcomes for Type 2 diabetics by increasing the staff nurses' knowledge and confidence levels when educating Type 2 diabetics on DSM care. The data are clear that Type 2 diabetic patients

benefit from self-care management. This project was intended to narrow the gap between the recommended evidence-based diabetic education and the current practice of delivering diabetes education at the practicum site.

Implications

If this project is adopted by the clinic, the education sessions will be incorporated into the new hire orientation in all eight locations of this organization to increase the knowledge and confidence of new nurses. Seasoned nurses will have the opportunity to refresh their memories and stay up to date with current guidelines on DSME. The diabetic patients and community served by this clinic will be healthier. Awareness of the impact of lack of evidence-based DSME on the local and national economy as well as the negative ramifications on society may lead to widespread adoption of the AADE standards by health care facilities.

Recommendations

The ADDE7 diabetes self-care behavior guidelines should become part of standard practice for all federally qualified health clinics (QHC). These clinics which serve mostly the underserved population sees a high number of patients with chronic diseases most notably diabetes mellitus. The AADE7 curriculum may be used to develop a template to serve as a quick reminder or resource for nurses to use when educating diabetic patients. The template may be built into the electronic medical records as a hard stop when nurses are triaging or discharging newly diagnosed diabetics and at their quarterly clinic visits.

Plans to Extend the Project Beyond the DNP Doctoral Project

This project may be extended beyond the DNP project by the chief medical officer of the practicum site. The CMO in collaboration with other clinic leaders may build on this project to incorporate it in the new hire orientation curriculum for nurses and as part of annual competence and performance improvement requirement. This will help keep the nurses up to date with current AADIE recommendations and continue to boost their confidence when educating diabetic patients on self-management care.

Strengths and Limitations of the Project

Strengths

The multidisciplinary collaboration between professionals was a major strength for this project. Multidisciplinary approach to care occurs when experts from different disciplines come together to provide evidenced based holistic care to patients (Radder et al; 2020). The knowledge, experience and skills of the expert panel and their ongoing engagement in the project contributes to the strength of this project. The clinic nurses' readiness to increase their knowledge and embrace change was also paramount to the success of this project. If adopted by the clinic leaders, this project will be added to the new hire training for nurses.

Limitations

The major limitation of this staff education project was the small sample size which will make this project not generalizable (Tipton et al., 2017). Another limitation of the project was implementing the project in a pandemic and designing the project to meet the CDC's COVID-19 guidance. I had to ensure that face coverings were always worn

during the education training, six feet social distancing were maintained, prepackaged snacks and hand sanitizers were available according to public health guidance.

Suggestions for Improvement

Four of the staff indicated on the provided blank area their concerns with the lunch and learn. They stated feeling they had to work through lunch. They would have preferred an extra 30 minutes after the presentation to relax and regroup before returning to work. If this project is adopted by the clinic, the education sessions will be incorporated in the new hire orientation therefore it will not be a lunch and learn session.

Summary

Section 4 discussed the findings and implications, recommendations, strength, and limitations of the project. In section 5 I will discuss the dissemination plan and analysis of self.

Section 5: Dissemination Plan

The aim of my dissemination plan was to facilitate the application of the AADE DSM care guidelines as the standard of care for nurses when educating diabetic patients. I delivered the staff education project at the project site as a PowerPoint presentation to the clinic staff and disseminated it as an electronic file to the expert panels. The CMO volunteered to share the information and files with the clinic leadership team.

This DNP project will be submitted to the ProQuest database per Walden University requirements for graduation. After graduation, I would like to submit a journal article based on the project to the *Clinical Diabetes Journal* for publication consideration.

Self-Analysis

Scholar

My journey in the DNP program has been challenging and rewarding and has made me a better practitioner. The knowledge and skills gained during this project will serve as the foundation to become a lifelong scholar. The completion of this project highlights the integration of nursing knowledge with the ability to incorporate research into practice to achieve best practices. This project has deepened my desire to increase the confidence and knowledge of health care professionals. My leadership skills have also been enhanced by completing this project. I have gained better grasp on promoting EBPs to enhance patient outcomes and help health care practitioners practice at the top of their skills.

Practitioner

The main goal of pursuing my DNP was to acquire knowledge to improve and promote effective, evidence-based patient care. As a family nurse practitioner, I have already started incorporating the knowledge I have acquired through this project in my patient care. I am certain this wealth of knowledge will help improve the outcomes of my diabetic patients. Through my research of the topic, I gained valuable knowledge on the impact of diabetes on patients and the benefits of DSM care. I am a better educator of my patients because of this acquired knowledge.

Project Manager and Leader

As a project manager, I learned to lead and engage professionals from multidisciplinary backgrounds to come together and pursue a common goal of increasing nursing knowledge and confidence. While planning and executing this project, I was faced with the challenge of implementing a training program for nurses with busy professional and private lives. The major challenge I encountered as a project manager was time management. Coordinating with the professionals with busy schedules was daunting; however, frequent, remote communications with the team instead of in-person meetings made the project a success.

Through this project, I learned the courage and the Furness needed to be a leader and promote evidence-based research. I learned how to use good communication skills to collaborate with multidisciplinary professionals to promote optimal patient outcome. The major lesson I learned was to be flexible and plan for last minute changes due to unforeseen circumstances on the part of participants.

I achieved three DNP Essentials recommended by the American Association of College at the completion of the project: DNP Essential I—Scientific Underpinnings for Practice, DNP Essential II—Organizational and Systems Leadership for Quality, and DNP Essential VIII—Advanced Nursing Practice. DNP Essential I encourages DNP graduates to use nursing theories as a solid foundation to engage in evidence-based care (American Association of College of Nursing, 2006). By using Watson's theory of human caring in this project, I met this DNP essential. The theory of human caring was used in this project to emphasize the importance of treating every patient as a unique individual by tailoring the diabetes education to the specific needs of the patients and doing away of the standard way of educating diabetic patients. DNP Essential III affords practitioners the opportunity to create innovative responses to challenges facing the current health care systems by evoking organizational leadership and system level thinking (American Association of College of Nursing, 2006). Acknowledging the gap in practice and implementing the staff education as a response to the identified local practice gap accomplished DNP Essential III. DNP students are entrusted with the ability to contribute to the nursing science by evaluating, translating, and disseminating research into practice. The staff education project met DNP Essential III by ensuring that the clinic patients received evidence- based, quality DSME. DNP Essential VIII emphasizes the goal of nurses' improving patient outcomes through critical thinking, comprehensive system thinking, and assessment (American Association of College of Nursing, 2006). Through providing the diabetes self-education program for the nurses to increase their knowledge and confidence to guide patients through navigating the complexities of a

diagnosis of Type 2 diabetes in this project, DNP Essential VIII was met. The scholarly awareness and knowledge gained during my journey conducting this DNP project provided me with valuable ideas for using evidence-based care to improve patients' outcomes.

Summary

The aim of the project was to provide the clinic nurses with the necessary resources to educate patients on DSM behaviors. The staff education training, which was based on Watson's theory of human caring, afforded the clinic staff an authentic teaching-learning experience focused on sharing the tools to build their skills and confidence to enhance their care and support of newly diagnosed diabetic patients. A total of six nurses who work in a FQHC in New York participated in the program. The participants included two registered nurses and four nursing assistants. The participants each completed a pre- and postevaluation questionnaire consisting of 18 items measured using a 5-point, Likert scale. The nurses acknowledged the training increased their knowledge on and confidence with teaching diabetes self-education care. This project will foster social change by enhancing patient knowledge and self-efficacy as well as fostering an appreciation of healthy living, thereby decreasing diabetes-related complications and the corresponding burden on society.

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Appendix A: Staff Education Curriculum and Program

Problem: The focus of this staff education program is to address the practice problem at my practicum site. The nurses at this site lack knowledge and the confidence to teach self-management care to the newly diagnosed diabetics in the clinic. This practice problem is evidenced by the clinic designating a nursing assistant as a "diabetic educator" to provide diabetes education to newly diagnosed diabetics. A nursing assistant may not have the in-depth knowledge to effectively provide diabetic education to patients.

Purpose: The purpose of the staff education is to provide a comprehensive information on the importance of diabetic self-education training to the nursing staff.

Goal: The objective of the staff education program is to boost the knowledge and confidence level of the nursing staff to provide diabetes self-education to newly diagnosed diabetics.

Appendix A: Staff Education om DSMC

Staff Education on DSME 5_2_2021.jackly

Appendix B: Diabetes Education Pre- and Postquestionnaire

Please read each question and mark the response that best measures your confidence level and perceived knowledge for each question. You will answer a Pre- Questionnaire prior to the educational program and the post-Questionnaire after the presentation. All responses will be anonymous. Please write your comments in the blank spaces provided on the postquestionnaire

Questions	1 = Not at all Confident	2 = Slightly Confident	3 = Moderately Confident	4 = Very Confident	5 = Extremely Confident
1. How confident are you in educating patients about diabetes					
2. How confident are you that teaching self-management care will contribute to achieving optimal glycemic control in diabetics?					
3. How confident are you as a nurse to empower your diabetic patients to achieve optimal glucose levels?					
4. How confident are you in teaching diabetic patient's diabetic self-management?					

5. How confident are you in identifying 6 DSM non-pharmacological diabetes interventions?					
6. How confident are you in teaching blood glucose monitoring in diabetic patients					
7. How confident are you in identifying diabetes related stress and anxiety in patients					
8. How confident are you in your knowledge of recommending immunizations for preventable diseases to the diabetic patients?					
9. How confident are you in your knowledge of the food groups that are associated with delays in disease progression in diabetes patients?					
10. How confident are you in recommending physical activities for the diabetic patients?					
11. How confident are you in recognizing food groups that contribute to increase blood glucose levels?					
12. How confident are you in recommending available resources for healthy food options to diabetic patients?					
13. How confident are you in encouraging diabetic patients to seek preventative care (e.g., Podiatry, eye care)					
14. How confident are you in the impact of diabetic complications to patients?					
15. How confident are you in identifying 5 complications of diabetes mellitus					
16. How confident are you in using the AADE framework to educate diabetic patients?					

17. How confident are you in using the Hospital Anxiety and Depression Scale (HADS)?					
18. How confident are you in counselling the anxious diabetic patient?					

Please provide your comments:

_____

_____

Appendix C: Curriculum Plan Evaluation by Content Experts

Student: Jacklyn Obeng

Content Reviewer:

Product for Review: Curriculum objective, Curriculum Content, Literature Review

Please review the provided documents curriculum objective, content, and literature review, if the content, plan, and literature review meet the objectives of the project mark 1 =met, otherwise please mark 2=unmet. Please provide your comments in the blank space.

Objectives Number	Objective Statement	Met	Not Met	Comments
1	Describe the impact of type II diabetes on patients			
2	Explain the effect of DSME on blood glucose			
3	Understand nurse's role in supporting patients achieve optimal blood glucose			
4	Increase the knowledge of nurses on the importance of DSME			
5	Boost confidence levels of nurses when educating on DSMC			

Appendix D: Summary Curriculum Plan Evaluation by Content Experts

1=Met 2=Not Met

Objectives Number	Evaluation A	Evaluation B	Evaluation A	Average Score
1.Describe the impact of type II diabetes on patients	1	1	1	1
2. Explain the effect of DSME on blood glucose	1	1	1	1
3. Understand nurses' role in supporting patients achieve optimal blood glucose	1	1	1	1
4. Increase the knowledge of nurses on the	1	1	1	1

importance of DSME				
5. Boost confidence levels of nurses when educating on DSMC	1	1	1	1