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Staff Education for Nurses on Patient Education About When to Call the Doctor

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Walden University

College of Nursing

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Branderly Maliwa

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
2024

Abstract

Staff Education for Nurses on Patient Education About When to Call the Doctor

by

Branderly Maliwa

MS, Walden University, 2016

BS, Western Governors University, 2012

Project Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Nursing Practice

Walden University

May 2024

Abstract

In 2010, nearly 1 in 5 visits to the emergency department (ED) were categorized as potentially avoidable, resulting in a significant \$65 billion increase in health care expenditures and exacerbating ED overcrowding. This project addressed whether a staff education initiative focused on evidence-based patient teaching strategies can enhance nurses' patient education skills regarding when patients should seek medical attention. Utilizing theories, such as the diffusion of innovation theory and transformational theory, a staff education program was developed in this project informed by evidence-based practice. Credible sources, including nursing databases and professional organizations, were used to identify the gap in nursing practice and justify the importance of enhancing patient education skills. The program content focused on educating nurses about effective patient teaching techniques on continuous glucose monitoring device usage and appropriate medical attention-seeking behaviors. The staff education program was evaluated using descriptive statistics to measure changes in knowledge among 10 nursing staff participants. Findings from the project demonstrated a mean 46% increase in knowledge among the participants. The project has significant implications for professional development, patient engagement, and potentially reducing avoidable ED visits and associated costs. This DNP project underscores the potential of evidence-based staff educational programs to enhance nurse practitioners' patient education skills and decrease avoidable ED visits. The substantial increase in knowledge among participants suggests that educating nurses on patient education can lead to positive social change through improved health care delivery and patient outcomes.

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Section 1: Nature of the Project

Introduction

The U.S. health care system is encountering unprecedented challenges due to the aging population, the prevalence of complex chronic diseases, and financial restructuring (American Hospital Association [AHA], 2024). Factors affecting preventable emergency room visits are patient education, income, employment, health insurance coverage, and access to transportation (AHA, 2024). As health care systems shift towards prioritizing preventive and holistic approaches, the importance of patient education has become increasingly evident. Effective patient education empowers patients to take an active role by understanding and managing their chronic health conditions through recognition of symptoms and knowing when to call the doctor. Serving as frontline caregivers, nurses play a pivotal role in promoting health literacy, empowering patients to make informed decisions, thereby reducing preventable emergency room (ER) visits. The purpose of this Doctor of Nursing Practice (DNP) project was to develop a staff education program to improve nursing staff's knowledge, skills, and attitudes regarding effective patient education techniques about when to call the doctor. The project took place at a primary care office in a southern state that offers primary care, urgent care, and home health services.

Problem Statement

There is an increasing trend of overutilization of ER services and preventable complications within the practice due to poor patient education about when to call the provider (Majewski et al., 2022). The patients at the project site were poorly instructed on

when to contact their health care provider about their treatment plans. There are several factors that can lead to the patient's lack of knowledge about when to call the doctor in primary care. The primary identified reason at the project site was that nurses lacked the skill of effective patient education on when the patients should contact a health care provider. Some of the reasons for the lack of knowledge among patients or staff about when to call their provider at the project location were time constraints, language barriers, complex health conditions, and low health literacy that makes it hard to explain health information. Other nurses at the project site assumed that information like when to call the doctor is common knowledge for patients.

Need to Address the Problem

Inadequate patient education and gaps in care coordination increase avoidable ED visits. Unnecessary emergency department (ED) visits burden the health care system due to costs and deplete resources that other individuals with more acute needs may require. Majewski et al. (2022) found that in 2010, 1 in 5 ER visits were potentially avoidable and contributed \$65 billion (about \$200 per person in the United States) to rising health care costs and emergency department overcrowding. The average cost of treating common primary care treatable conditions at a hospital ED is 12 times higher than visiting a physician office (Majewski et al., 2022). At the project site, nurses can play a significant role in patient education due to high patient interaction. I addressed the problem in this project by improving the nurses' skill in patient education.

Effective patient education is a cornerstone of nursing practice, promoting patient autonomy, improving health outcomes, and fostering a collaborative and trusting

relationship between health care providers and patients (Cutilli, 2020). It plays a crucial role in preventive care, adherence to treatment plans, and overall health care management that can decrease health care costs while improving health outcomes.

Purpose Statement

The meaningful gap in practice for effective patient education refers to the disparities in the current approaches to educating patients about when to call their provider about their health and medical conditions. This gap often arises from a range of factors that hinder the effectiveness of patient education. Communication barriers, time constraints, lack of personalization of patient education, and inadequate reinforcement of follow-up care are some of the gaps in practice for nurses at the project site. This doctoral project was conducted to bridge the existing gap among nursing staff in primary care by focusing on improving patient education regarding when to call the doctor. I recognized a deficiency in current practices and sought to address it through comprehensive research and intervention strategies. The project's potential impact lies in enhancing the knowledge and communication skills of nursing staff, empowering them to effectively educate patients on recognizing signs and symptoms that warrant a call to the doctor. The project involved assessing the content, delivery methods, and accessibility of educational materials used by nursing staff. Additionally, I explored any challenges or barriers faced by nursing staff in conveying crucial information to patients.

The intervention strategies proposed in the doctoral project included developing tailored educational resources and training programs for nursing staff as well as implementing communication protocols. I designed these strategies to not only address

the identified gaps but also empower nursing staff with the necessary skills and knowledge to impart valuable information to patients effectively. With this project, I sought to contribute to the overall improvement of patient outcomes in primary care settings by ensuring that patients are well-informed about when to seek medical attention.

The fundamental objective of this staff education project was to facilitate the education of nursing professionals on how to educate patients about when to call the provider in primary care. Due to the gap in nurse practitioner skills for conducting patient education at the project site, the practice-focused question was: Will a staff education project focused on evidence-based effective patient teaching strategies improve nurse practitioners' knowledge, skills, and attitudes towards patient education?

Nature of the Doctoral Project

I obtained evidence-based sources for this project from clinical practice guidelines, research articles, and peer-reviewed journals that address staff education for nurses. Educational materials from regulatory nursing bodies, feedback and evaluations from nurses, and patient case studies illustrating applications of nursing interventions were also used to develop the staff education program.

Because they support evidence-based practice (EBP) for nurses, I used the following databases to complete the project: CINAHL nursing database, Medline, Agency for Health Care Research and Quality, Centers for Disease Control and Prevention, Cochrane Library, Consumers Advancing Patient Safety, Healthy People 2030, Institute for Health Care Improvement, Mayo Clinic Health Information, the National Academies Press, National Institute of General Medical Sciences, National

Institute of Health, National Institute of Nursing Research, National Patient Safety Foundation, PubMed, and World Health Organization. Primary sources that were peer reviewed and published less than 5 years ago were used in this project. The evidence that was used for this project showed that there was a gap in practice for nursing staff, justified the importance of improving patient education skills for nurse practitioners, and provided the content for the staff education program.

A second source of evidence for this project was from the evaluation of the developed education program. I used the outcome measure of pre- and posttest evaluations that assessed if the expected changes in learning occurred. Descriptive statistics were used to measure the changes in knowledge and skills of the participants, determine the effectiveness of the program to provide feedback to the participants, and identify areas for future improvement. The purpose of utilizing evidence-based information for the staff education project was to decrease the disparities in the current approaches to educating patients about when to call their provider.

Significance

Stakeholders

The following stakeholders took part in the project: nursing staff, nurse practitioners, site director, and the manager of the practice. The main group was the nursing staff because they were the target group for the project. The nurses' commitment and engagement was important for the success of the project. The physician/site director owns the practice and his approval and support for the project was crucial. The site director works in collaboration with nurses and is involved in patient education. They

enhanced the project by granting permission for the project and access to records as well as allowing time for meetings within the facility. The manager of the practice is responsible for overseeing the running of the facility, and she effected patient scheduling to allow for meetings and my presence within the facility. The project was conducted to ensure better health outcomes, so the patients are the beneficiaries.

Potential Contributions to Nursing Practice

The potential contributions of a doctoral project to nursing practice include contributions to EBP by adding new knowledge towards nursing practice, development of practice guidelines, and improvement of patient outcomes while reducing health care costs. According to Melnyk (2020), EBP improves the quality and safety of health care, enhances health outcomes, decreases variation in care, and reduces costs. EBP is a key factor in meeting the quadruple aim in health care that is defined as improvement of patient experience of care; improvement of health populations; reduction of cost of health care delivery; and the improvement of work-life balance, thereby decreasing burnout among clinicians (HealthStream, 2024).

The project can be transferred to similar primary care facilities because the staff education improves patient health outcomes and reduces health care costs. According to Majewski et al. (2022), about \$65 billion (i.e., about \$200 per person in the United States) was spent on avoidable ER visits. This project can be implemented in similar practices to decrease avoidable ED use by patients.

This nursing staff education project on when to call the doctor has the potential to create a positive effect within the health care system by impacting health care costs,

improving patient outcomes, and contributing to EBP (see Melynk, 2020). When patients are given specific instructions on when to call the doctor about their health conditions, they can decrease overuse of ER facilities, reducing potential complications while improving their health outcomes. Prompt communication with doctors can prevent adverse events and mitigate potential risks to patient safety. EBP related to the recognition of symptoms that warrant contacting a doctor can improve nurses' confidence and promote evidence-based care that aligns nursing practice with current research and guidelines.

Summary

When patients overutilize the ER, it increases health care costs, causes avoidable complications, and increases hospital stays with poor health outcomes for patients (Majewski et al., 2022). This project's purpose was to educate nurses on patient teaching about when to call the doctor. The project will have a positive impact on health care outcomes because the nurses will gain enhanced skills in educating patients about recognizing signs and symptoms that warrant contacting a doctor. The staff education project will increase the nursing staff's confidence and skills in patient education and improve collaboration with other health care professionals, which can lead to improved patient outcomes because timely communication with health care providers can help address issues promptly, prevent potential complications, decrease health care costs, improve patient engagement in their own health care, and contribute to a more informed and responsive health care system.

Section 2: Background and Context

Introduction

The practice problem for this DNP project was that nurses at the project site lacked the skill of effective patient education on when the patients should contact a health care provider. Fereidouni et al. (2019) stated that nurse practitioners lack training and confidence in conducting patient education. Nurse practitioners at the project site have stated that they lack the skills to conduct patient education for complex conditions or lack the knowledge to conduct patient education because they are newly graduated nurse practitioners and are still transitioning to provider role. Other licensed nurses at the project site stated that their training did not include primary care settings and that they do not have adequate skills to provide patient education for that community of patients. This project enhanced the nurses' skills on how to conduct effective patient education on when patients should call the doctor. Due to the gap in nurses' skills for conducting patient education, the practice-focused question that guided this project was: Will a staff education project focused on evidence-based effective patient teaching strategies improve nurse practitioners' knowledge, skills, and attitudes to provide patient education?

In this section, I discuss the concepts, models, and theories that informed the project; the relevance of the project to nursing practice; local background and context; and the roles of the DNP student and the project team.

Concepts, Models, and Theories

I used the following theories and models to inform this project: the diffusion of innovation theory by Rogers, the transformational theory, and the quality improvement

(QI) model. The diffusion innovation theory began in communication as a concept whose purpose was to clarify how an idea or product slowly garners support and disseminates across a specific population or social system (LaMorte, 2022). The outcome of this dissemination was the adoption of a new idea, behavior, or product by individuals within the social system. For this project, the concept assisted the development of the education program to help the nurses adopt the skills of patient education within the facility.

The transformational theory is a leadership style that empowers individuals to achieve positive change through inspiration (Ugochukwu, 2023). This model invokes changes by connecting with the innovators by motivating them to accomplish something bigger than themselves. Transformational leadership is an approach that focuses on the attributes and behaviors of the leader required to empower and motivate team members (Ugochukwu, 2023). Started by James V. Downton in 1973, transformational leadership was based on political leadership but has been adopted to nursing practice because of its relevance to leadership that inspires and motivates staff or followers to innovate and embrace positive change (Ugochukwu, 2023). The transformational theory of leadership was relevant to this project of educating nurses on patient education because it provided a framework for inspiring and empowering nurses to excel in their roles. This approach can contribute to improved patient outcomes, a positive learning environment, and the development of nursing professionals who are committed to ongoing growth and excellence.

The third model that I used in this project was the QI model, which is a systematic approach that can improve the effectiveness, efficiency and quality of processes within an

organization by following a continuous process of planning, implementing, assessing, and evaluating the impact of a project (Hall, 2023). The QI model or the plan-do-study-act (PDSA) model was started by Dr. Walter Shewhart, an U.S. physicist, engineer, and statistician to improve the industrial production processes in the 1920s (The Deming Institute, 2024). The PDSA cycle was adopted into health care by Edwards Deming, a statistician and quality management expert (The Deming Institute, 2024). Deming developed a concept that led to the adoption of the PDSA in other industries, including health care because of its principle of continuous improvement processes that influences positive changes. Hall (2023) outlined the relevance and steps of how the PDSA can be used for this DNP staff education project.

Relevance to Nursing Practice

The broader problem in nursing practice where nurses lack patient education skills is rooted in historical and systemic challenges within the health care system (Fereidouni et al,2019). This problem can be divided into two: problems among health care professionals and problems encountered by nurses when conducting patient education. The historical traditional hierarchy in health care where physicians were seen as being above nurses led to the assumptions that the nurses' role was to work as assistants who carry out physician's orders; effective patient education often requires a collaborative and interdisciplinary approach (Vazirani et al., 2005). The traditional health care hierarchy may influence patients to notice the hierarchical dynamics within the health care team. If nurses appear to always defer to doctors, it could influence how

patients perceive the credibility and importance of information provided by nurses, which might impact the effectiveness of patient education efforts.

Some of the problems that hinder effective patient education are limited time, resources, heavy workloads, and staffing issues that can make it difficult for nurses to allocate sufficient time for patient education (Havaei & MacPhee, 2020). Poor access to appropriate patient educational materials and the emphasis on clinical skills and technical competencies overshadowed patient education (Havaei & MacPhee, 2020). The combination of these problems has led to a gap in the training and development of nurses' ability to effectively convey health information to patients. Nurses should be knowledgeable about patient barriers to health education due to the shift in patient demographics to an aging population which has resulted in a rise in chronic diseases such as diabetes, hypertension and obesity (Sun., & Li, 2023). In the health care field, the change in thinking towards patient-centered care highlights the need for nurses to possess effective communication and patient education skills to engage patients actively in their care.

Addressing this problem involves a multifaceted approach, including improvements in nursing education, changes in organizational culture, and ongoing professional development. Efforts to enhance patient education skills among nurses are essential for promoting better health outcomes, patient satisfaction, and overall health care quality.

Role of Nurse as Educators

The nurse's role as a patient educator is crucial in promoting health, reducing complications and health care costs, and improving patient outcomes. Patient education is an integral part of nursing care and involves imparting information, promoting understanding, and fostering behavior change. The main aspects of the nurse's role as a patient educator are conducting thorough assessments of the patient's health literacy; learning preferences; cultural background; any barriers to understanding; and identifying the patient's current knowledge level about their health condition, treatment plan, and self-care. Nurses can achieve their role as patient educators by promoting health literacy, assisting patients in setting realistic goals, motivating patients, recognizing and respecting cultural differences, and evaluating and documenting the education provided. Clinical learning needs to be aligned to the clinical setting to ensure that graduates are equipped to face the challenges of complex and dynamic health care delivery system (Gcawu & van Rooyen, 2022). Nurses should provide education that is simple, patient centered, and multimodal to meet the health literacy needs of patients and caregivers (Cutilli, 2020).

Nurse and Patient Education in Studies

Patient education was emphasized by Florence Nightingale when she created roles for her team that aligned with patient needs, guiding interventions based on her assessments and patient response as well as utilizing best practices to enhance patient outcomes (Matthews et al., 2020). Historically, frontline nurses in collaboration with nursing leadership have engaged in QI initiatives to transform health care (Blok et al.,

2022). The influence of frontline nurse involvement in quality improvement was demonstrated through the Transforming Care at the Bedside program, a collaboration between the Robert Wood Johnson Foundation and the Institute for Healthcare Improvement (Blok et al., 2022). The program showed that creating environments where frontline nurses could identify practice gaps and test solutions from the ground up led to enhanced patient safety and improved overall health care outcomes. Empowering nurses to continue their role as clinical educators by ensuring adequate human resources and appropriate educational skills can enhance patient teaching about when to call the doctor.

Primary care nurses play a crucial role in reducing unnecessary ED visits by implementing various strategies to enhance patient education, preventive care, and self-management strategies (Flaubert et al., 2021). Nurses should use clear communication by employing plain language to ensure patients comprehend their health care instructions. Nurses can provide written materials, such as pamphlets or handouts, that reinforce key health information and instructions. Nurses can also offer education and support for patients to actively manage their chronic conditions, including teaching them how to recognize warning signs and when to seek help. Nurses can incorporate telehealth services for follow-up appointments and routine check-ins to monitor patients' health to ensure that patient conditions are within control as well as refer patients to the ED or clinic as appropriate to minimize complications. The use of remote monitoring devices for patients with chronic conditions to track vital signs and share data with health care providers can decrease avoidable ER visits and improve patient knowledge on when to call the doctor doctor (Dalloul, Miramirkhani, & Kouhalvandi, 2023). Primary care

offices can provide same-day appointments for urgent issues to address patients' concerns promptly.

Health literacy encompasses a range of abilities essential for making informed health decisions and effectively navigating the health care system., including proficiency in reading; writing; numeracy; communication; and, increasingly, the utilization of electronic technology (Santa et al., 2021). Utilizing universal health literacy precautions involves delivering clear and accessible information to every patient, irrespective of their literacy or educational background, which entails avoiding complex medical terminology, simplifying information into manageable steps, restricting the focus of discussions to three key points or tasks, and evaluating patient understanding (Sana et al., 2021). Moreover, written materials should be written at or below a fifth grade reading level. Employing visual aids, graphs, or images can improve patient comprehension, along with presenting numerical information in a more tangible manner. The Agency for Healthcare Research and Quality (2024) Health Literacy Universal Precautions can help primary care practices reduce the complexity of health care, increase patient understanding of health information, and enhance support for patients of all health literacy levels.

At the project site, patient teaching methods and materials used to educate the patients are dependent on the provider that the patient comes into contact with and the amount of time that the provider has. Cutilli (2020) demonstrated how the limitation of resources and time constraints affect the quality of patient education provided by nurses. There is very little extant research on patient teaching about when patients should call the doctor. An internal medicine doctor with Mass General Brigham Integrated Care

discussed the common health conditions that treat and when patients should call their primary care provider or go to the urgent care or an ED for more timely evaluation, stating that the primary care provider may facilitate patients being seeing sooner and also appropriate referral to the hospital (Zdrnja, 2022).

Local Background and Context

The site for the project is a privately owned primary and urgent care clinic that also offers home health services for its patients. The location is in a southern state and serves a diverse population, including individuals who are insured, uninsured, and a part of an underserved community. At the time of starting the project, there were about 400 patients above the age of 65 years old and 3,000 patients of other age groups. The community is diverse, comprising African Americans, European Americans, Hispanics, and a few other nationalities. There are 10 nurse practitioners and five nurses on staff who are either full- or part- time employees. Apart from the regular office visits, the office offers chronic care management for medically qualified patients and remote monitoring whereby patients have Wi-fi enabled devices that patients use to monitor their vitals. The devices are connected to an app that is monitored by the nurses. When patients check their vitals, the information is transmitted to the app and is used to ensure that the patients' blood pressure and glucose remain within acceptable ranges. If the data obtained are not acceptable, the patients are informed to come to the office or go to the ER depending on the situation.

Based on report and clinical observations, I learned from the director of the project site that some of the nurses noticed that nurse practitioners at the site showed poor

patient education skills. The project site reached this conclusion after reviewing patient charts to assess why patients lacked knowledge on when to call the doctor at a primary care facility. When looking at the patients' charts, some patients had reported that they did not understand the instructions given about their treatment plans due to language barriers, that the provider used medical terms that they could not understand, and that they were given prescriptions without education about the new treatment. Some nurse practitioners initiated the education and informed the patients that more teaching would be conducted during follow-up visits when they returned with a log of problem occurrences, such as a headache diary or blood pressure log. Upon return to the office for follow up, patients may be seen by a different provider who did not acknowledge the patient's log but proceeded to give more medication or continue with the medication with little or no further patient education.

Nurse practitioners might not have specific training in the provision of patient education or in the development of appropriate health educational materials for the population they serve (see Billings, 2019). The project site relies mostly on materials that are printed by the specific specialists, such as the American Heart Association or the rheumatology specialists. A test conducted on the readability level of medicine information sheets (MIS) given to patients showed that the content of the materials is at least at the eighth grade reading level (Oliffe et al., 2019). The current patient educational materials that are in use at the project site are written for Grades 7 and 8 reading levels as shown after testing a hypertension education flyer using a reading test tool. One patient's

nurse note stated that the patient did not read the flyer because the information was too long and difficult to understand so they threw the flyer away.

I held a meeting with the director of the site and discussed the concerns that I had encountered from the patients' charts. The meeting with the director led to another meeting with the nurses and the director of the site. Some of the nurses stated that the patients had complex health issues that made it difficult to conduct patient education while some nurse practitioners expressed that they lacked the skills to conduct patient education in a provider role as they had recently graduated as nurse practitioners. Because nurses at the project site lack patient education skills, this project will serve to improve the nurses' patient education skills through this staff education project.

The project site clinic caters for Medicare and Medicaid patients which are Federally regulated insurances. The clinic offers chronic care management and remote patient monitoring (RPM). The RPM involves the use of technology to collect patient health data remotely to develop and manage a treatment plan related to a chronic or acute health condition. The benefits of RPM and chronic care management include improved care, cost savings and improved patient outcomes (Thomas et al., 2021). Medicare advocates for greater use of remote physiologic monitoring devices such as continuous glucose monitoring (CGM) by incentivizing practices that provide such services (Oser et al., 2022). CGM is a wearable device that makes it easier to track one's blood sugar levels over time. It is important for nurses to be knowledgeable about the indications and use of CGMs. Oser et al. (2022) emphasized the necessity for training healthcare providers on CGM due to its increasing prevalence in primary care settings. This training

should encompass the ability to describe CGM and its use, describe the advantages of using CGM and how to monitor and interpret the data from the CGM.

Of the 400 plus elderly patients at the project site, more than 25% are diabetic patients of which half of them are on at least one insulin. The patients that are on insulin would benefit from using the CGM as they can monitor their glucose levels continuously and have the ability to transmit their data to the facility automatically. The staff that is tasked with monitoring the patient's data informs the provider about any negative readings. The nurse practitioner would interpret the data and call the patient to discuss a plan that can improve the patient's glucose control. Staff education about the importance of patient education about how to use the CGM and how to interpret the data is useful for ensuring better blood glucose control. Consistent blood glucose control helps to prevent complications such as heart disease, kidney disease, nerve damage and vision problems;

Role of the DNP Student

The role of a DNP student is to develop and implement a staff education program at the project site. Prior to the project start, a needs assessment was conducted to identify gaps in knowledge and skills among the nursing staff by gathering data through surveys, interviews and chart reviews to determine the educational needs of the healthcare team. I will act as the project manager who plans and executes the project, facilitates collaboration with stakeholders and participants, as well as to assess and evaluate the effectiveness of the educational interventions. The project will be presented to the stakeholders for evaluation. Ensuring timely completion and cost containment for the project are other roles that I will perform for this project. I will use scientific theories to

enhance knowledge to improve nursing practice and patient outcomes by developing and evaluating new practice approaches based on nursing theories and theories from other disciplines (see American Association of Colleges of Nursing, 2006).

I finished my practicum at the project site and now contribute on an as-needed basis to cover staff vacation or illness. While working full-time at the facility, I identified certain gaps in practice. This opportunity allows me to address and mitigate the observed gaps in practice. The participants are registered nurses and nurse practitioners who are currently employed at the site. My motivation for this project is to contribute to the ongoing professional development of nursing staff, enhance quality care of patient care delivery, improve patient safety, empower nurses in their roles by fostering confidence and competence. My other motivation is to foster a sense of cohesion and collaboration among the nurses and to fulfill the requirements for the completion of my DNP program.

The potential biases that could affect this project are in-group bias that focuses more on the needs and preferences of a subgroup among the nursing staff such as focusing more on nurse practitioner needs than other nurses. This bias can be overcome by ensuring that the content experts will include all the subgroups. Another potential bias that I may have is that of assuming that all nurses have similar learning preferences, styles, or needs without conducting a thorough needs assessment and can result in a program that fails to address individual differences. A careful needs assessment was conducted before deciding on the nature of the project to ensure participant buy-in.

Role of the Project Team

The project team comprised the content experts who evaluated the training and provide feedback before the project is rolled out to the rest of the participants. The content experts were chosen from the primary participant group based on specific criteria. This included nurses with over 2 years of experience at the project site, nurse practitioners with more than 5 years of experience in their role, and staff members who expressed concern about the insufficient patient educational skills among nurses. The content experts ensured relevance, and quality of the project outcomes. Providing constructive feedback is important for refining the project and improving overall team performance by offering insights, suggestions and critiques to enhance the project outcomes. New content provided by the content experts was included in the final project.

The projected was presented to the staff by means of emails and letters to select the participants and gain their consent for the project. A meeting was held during the shift briefing to introduce the project to the staff. The volunteers were given questionnaires that were provided in paper. The response to the questionnaire was anonymous. The team members were required to respond within 48 hours for each feedback. New content from the content experts was included in the final project.

Summary

In this project, nursing theory, concepts, and models that align with the scholarly project, that were explored are; the diffusion of innovation theory by Rogers, the transformational theory, and the QI model. The diffusion of innovation theory aids nurses in adopting patient education skills. The transformational theory empowers nurses to

excel in their roles, contributing to improved patient outcomes and a positive learning environment. The QI model, specifically the PDSA cycle, offers a repetitive process, emphasizing continuous learning and improvement by using the content experts, and team members to implement the staff education project. The aim of the project was to enhance the nurses' skill on educating patients about when to call the doctor. The section explores the role of a DNP student, the nurse as an educator. The federal government through Medicare and Medicaid and their support for remote patient monitoring supports the reduction of avoidable hospital visits through the provision of remote patient monitoring services such as the use of continuous glucose monitoring. The context of the project site was discussed. The roles of the team members such as the project manager, content experts and team members were discussed. The purpose of presenting this information was to underscore the significance of patient education, various models and theories, the role of the DNP student, and the CGM system in addressing and closing the gap related to educating nurses on when patients should contact the doctor. In the next section, I will review the methods for collecting and analyzing the evidence with more detail provided about the participants, procedures, and protection.

Section 3: Collection and Analysis of Evidence

Introduction

There is an increasing trend of overutilization of ER services and preventable complications within the project site due to poor patient education about when to call the provider. It was noted that nurses at the project site lacked the skills of effective patient education on when the patients should contact a health care provider about their health conditions leading to overutilization of after-hours services. The purpose of this project was to educate professional nurses on how to instruct patients about when to call the doctor. In Section 3, I present the practice-focused question, describe the sources of evidence that I used to develop and evaluate the educational program, outline the evidence generated from the doctoral project, and discuss the systems used to analyze and synthesize the evidence collected.

Practice-Focused Question

The project site was experiencing overuse of its urgent care services with some patients using other emergency services for avoidable health issues. One of the cited causes for the overutilization of after-hours care was due to poor patient instructions on when to call their provider. Evidence at the project site showed that nurses lacked skills to conduct patient education on when the patients should contact their providers. The purpose of this staff education project was to improve the nurses' patient education skills by providing a education that can be used by each nurse to teach patients on when the call the doctor. Due to the gap in nurses' skills for conducting patient education, the practice-focused question was: Will a staff education project focused on evidence-based effective

patient teaching strategies improve nurse practitioners' knowledge, skills, and attitudes to provide patient education?

Sources of Evidence

The first source of evidence for this project was from the literature. I developed a staff educational program after reviewing literature and evidence from the project site. I utilized evidence-based resources and peer-reviewed research from reputable journals as well as information from authoritative professional organizations, such as the Agency for Healthcare Research and Quality. The studies obtained and reviewed served to justify the project and support the content that was chosen to compose the educational program developed for the project.

Published Outcomes and Research

I conducted a literature review through the use of databases that included the CINAHL nursing database, Medline, and Agency for Health Care Research and Quality. The keyword search terms used were *healthcare communication*, *patient communication skills*, *patient education*, *symptom awareness*, *when to call the doctor*, *timely medical intervention*, and *patient engagement*. I limited the searches to full text articles that were published within the last 5 years. The focus of the literature review was on strategies for educating nurses about effectively educating patients on when to call their health care provider. The evidence used for this project showed that there was a gap in practice for nurses and justified the importance of improving patient education skills for nurses and nurse practitioners.

Evidence Generated for This Project

Participants

The participants consisted of two groups: the content experts who conducted an initial review of the materials, and the staff who participated in the training. I invited three nurses to participate as content experts. The content experts were selected from nurses based on their expressed awareness of a deficit in patient education, their experience working at the project site clinic for more than 2 years, and being among the most experienced staff at the project site. These content expert project team members reviewed the project for accuracy and usability before the project was implemented with the rest of the participants. I revised the project based on the review from the content experts.

I invited the participants to attend the training session. The participants consisted of 10 nursing staff that were employed at the project location. The participants were invited to complete pre- and posttest assessments anonymously, which provided another source of evidence to answer the practice-focused question. All the participants who completed the project were licensed nurses and nurse practitioners working at the project site. The staff participation was voluntary and handled anonymously.

Procedures

The first step in the project was to complete the literature review and determine the content for the education program. I administered a pretest questionnaire before the commencement of the educational program, which served as a baseline evaluation to gauge the existing knowledge levels of the participating nurses. This initial measurement

provided insights into their understanding and proficiency before any educational intervention took place. After developing the education program, I shared it with the content experts for their review and suggested changes as necessary for content validity. After the intervention was delivered, I assessed the participants' perceptions of the learning intervention by conducting a survey after the training. I administered a posttest following the completion of the learning program that was designed to appraise the acquired knowledge and competencies of the participating nurses, thereby facilitating an evaluation of the program's effectiveness in enhancing their understanding and skill set. The participants were required to complete the tests within 48 hours of receiving them.

I presented the project during a lunch break as a lunch-and-learn to the nurses and nurse practitioners at the project site. The PowerPoint presentation (Appendix) took about 15 minutes. I gave the staff the opportunity to ask questions at the end of the presentation prior to completing the posttest. Participation in the educational program was voluntary and anonymous.

Protections

Prior to implementing the staff education program, I secured approval from the Walden University Institutional Review Board (#04-02-24-0427836) in accordance with the guidelines outlined in the Walden University DNP Staff Education Manual. The participants signed a consent form that stated that their participation was voluntary and that their names would be kept anonymous. I informed the staff that they could withdraw their participation from the project at any time without any penalties. The manager and

owner of the practice were not given the names of the participants. I used the data collected for this project and will destroy it when the project is completed and approved.

Analysis and Synthesis

The primary objective of this educational program was to enhance the proficiency of nursing professionals in imparting guidance to patients regarding the appropriate circumstances under which the patients should seek prompt medical consultation from their health care providers. After completing a literature search and review, I synthesized the evidence and used it to develop a staff education program with clearly defined, measurable learning objectives. Both qualitative and quantitative measures were used to analyze and synthesize the questionnaire results. I used descriptive statistics to summarize the results for comparing the pre- and post results. I used a qualitative summary approach for open-ended questions to determine any themes in responses.

Summary

The purpose of this DNP project was to develop an educational program to enhance the professional nurses' skill set of educating patients on when to contact their health care providers about their health care issues in primary care. In this section, I presented the practice-focused question, described the sources of evidence utilized to develop the educational program, outlined the evidence generated from the doctoral project, and discussed the systems used to analyze and synthesize the evidence collected.

Section 4: Findings and Recommendations

Introduction

The project site had noticed that there was an increase in the number of patients utilizing its urgent care and other emergency care facilities for avoidable health issues. Nurses at the project site lacked the skill of effective patient education on when the patients should contact a health care provider when using a CGM. The gaps in practice that I found at the project site were communication barriers, time constraints, lack of personalization of patient education, and inadequate reinforcement of follow-up care among nurses and nurse practitioners. The purpose of this staff education project was to educate nurses on how to educate patients about when to call the provider in primary care. The practice-focused question that guided this project was: Will a staff education project focused on evidence-based effective patient teaching strategies on CGM improve nurse practitioners' knowledge, skills, and attitudes to provide patient education?

I delivered the education presentation during lunch where the staff completed pre- and posttests to assess their level of knowledge before and after the education was provided. The total participants consisted of eight registered nurses and five nurse practitioners. Among the participants were the three content experts who were a registered nurse and two nurse practitioners. The content experts attended the teaching program, but they did not complete the questionnaires. The learner participants were all female: seven were registered nurses and three were nurse practitioners. In the participant group, two nurse practitioners had less than a year of experience while the third had more

than a year of experience. The registered nurses were seasoned nurses but new to primary care.

The education program was a PowerPoint presentation that was followed by a discussion and an assessment of the presentation. The staff was instructed to pick a number from a jar that contained pieces of folded paper. I used the numbers on the pieces of paper for identification of the participants. The same number was used for pre- and posttest feedback as well as the assessment of the presentation to maintain anonymity. After completing the feedback, the participants' responses were placed in a box which I collected at the end of the presentation. I quantitatively analyzed the responses from the pre- and posttests to assess the effectiveness of the education provided.

Sources of Evidence

The sources of evidence that I used for this project were the literature review, content experts' evaluations, and learners' pre- and posttest results. According to Azhar et al. (2020), use of blood glucose monitoring using a CGM allows for real-time monitoring and is safe and effective. The purpose of the project was to explore the sources of evidence to guide the development and implementation of a program educating nurses on patient education about when patients should call their provider to reduce avoidable use of the ED and after-hours clinic.

Studies have shown that health literacy in the United States is at 12% for adults 16 years old and older (Williams & Haffizulla, 2021). Patients with limited health literacy have more than twice the number of preventable ED visits and higher rates of preventable hospital admissions compared to those with higher health literacy (Williams

& Haffizulla, 2021). When deemed effective, an effective education program provided to nurses about CGM devices has the potential to be transferred to education on other products, such as the blood pressure machine or any other devices that require patient education in primary care. The complete set of staff education project materials can be seen in the Appendix.

Findings and Implications

Findings From the Content Experts

Three content experts reviewed the educational program and gave feedback that I used to improve on the project before implementing it with the other participants. The following changes to the PowerPoint were made following the content experts' review. One of the content experts who uses a CGM made valuable observations that facilitated changes to the slides, including notification of airport security personnel of the presence of the device when going through the security system, downloading the CGM application, the placement of the sensor at least an inch away from the insulin pump or insulin injection site, and for patients to avoid scarred areas or areas with tattoos and areas where the body bends because that may result in dislodging the device. There were more signs and symptoms of hypoglycemia and hyperglycemia that were added per the suggestion of another content reviewer. The educational slides were also revised for any spelling errors before the presentation to the participants.

Findings From the Participants

The mean result from the 10 participants' pretests was 2.7 out of five questions or 54% total correct score. After the training, all the participants answered the questions 100% correctly as shown by the results from the posttest (see Table 1).

Table 1

Pre- and Posttest Results

Participant	Pretest raw score	%	Posttest raw score	%	Change from pretest to posttest
1	5	100%	5	100%	0%
2	4	80%	5	100%	20%
3	2	40%	5	100%	60%
4	2	40%	5	100%	60%
5	3	60%	5	100%	40%
6	1	20%	5	100%	80%
7	3	60%	5	100%	40%
8	2	40%	5	100%	60%
9	2	40%	5	100%	60%
10	3	60%	5	100%	40%
<i>M</i>	2.7	54%	5	100%	46%

The findings indicated a significant improvement in the participants' knowledge and understanding of the subject matter after the training. For a group of 10 participants, achieving a 100% mean score posttraining suggests that the training was highly effective because the participants improved from answering only 54% of the questions correctly to achieving a perfect score.

The staff reported that the program was effective in teaching them how to instruct patients on CGM devices and that they would apply the new knowledge to patient education. The staff also reported increased confidence and knowledge in conducting patient education on CGM devices, interpretation of data, and when to call the doctor.

Limitations or Outcomes

When conducting a nurse training project on patient education for using CGM devices and knowing when to call the doctor, several unanticipated limitations or outcomes may arise, such as the ability for the nurses to fully adopt and utilize the training, long-term assessment of the effectiveness of the training, willingness of the staff to adhere to the guidelines for patient education on when to call the doctor, and patient instruction on how to use a CGM device. Another potential limitation is that the staff's personal beliefs, experiences, and cultural factors could influence their behavior toward the education provided. Limited time to conduct patient education can lead to rushed training sessions that may not be effective in decreasing the use of emergency services. The metrics used to evaluate the effectiveness of the training may not capture all aspects of patient education, such as long-term adherence to the guidelines provided during the training may be limited due to staff turnover at the facility. The potential impact of these limitations on the findings could include a lower-than-expected improvement in patient outcomes and possible underreporting of issues that require medical attention.

Implications from the Findings

The findings of this project focused on teaching nurses how to educate patients on the use of CGM devices and when to call the doctor can have wide-ranging implications for various stakeholders.

Implications of Individual Nurses and Patients

The implications of this project for nurses are significant and can affect their professional practice and personal development. Receiving training on educating patients

about when to call the doctor and interpreting CGM data will enhance nurses' teaching abilities, enabling them to effectively convey complex medical information to patients. The training can enhance the knowledge and skills of nurses, thereby increasing confidence in their ability to educate patients. Participation in the project and subsequent training programs provides nurses with valuable opportunities for ongoing professional development and learning. Nurses who demonstrate proficiency in patient education and the use of medical devices may be recognized for their expertise and have opportunities for career advancement within their health care settings.

The implications for patients include improved patient engagement and participation in their health care. Through the project, nurses can gain skills that can facilitate timely interventions by providing individualized patient education that is based on the patient's specific needs. Patients who receive thorough education from nurses on CGM device usage and data interpretation are more likely to effectively manage their condition, leading to improved health outcomes (Lee et al., 2019). Patient education on when to call the doctor allows community members to recognize warning signs early, facilitating timely intervention and potentially preventing the progression of health issues and decreasing the use of avoidable ER visits.

Communities

Providing education on CGM devices and when to seek medical assistance can decrease health care disparities related to disease management and health care utilization, leading to more equitable health outcomes across the community. Through this education, patients can gain better control over their diabetes management, potentially

leading to improved health outcomes and quality of life. The dissemination of knowledge by trained nurses can increase awareness in communities of the importance of monitoring health parameters and seeking medical assistance, and when necessary, community members can be empowered to take control of their health and make informed decisions. Communities with access to well-educated nurses are better equipped to manage chronic conditions, such as diabetes, leading to improved health outcomes and reduced health care costs. Community members who receive education from nurses can also serve as peer educators, sharing knowledge and skills with others in their communities, thus expanding the reach and impact of the educational interventions.

Implications for Institutions

The findings of this project on teaching nurses how to educate patients about when to call the doctor and how to use and interpret data on CGM devices have significant implications for health care institutions, such as enhanced patient care; reduced complications for patients; and decreased use of emergency care, hospital readmissions, and associated costs. Effective patient education reduces misunderstandings and unnecessary inquiries, streamlining communication between patients and health care providers. Effective training for nurses can lead to more efficient use of health care resources and staff time, consistency, and standardization in teaching methods across the institution, contributing to overall quality improvement efforts and data-driven decision making on patient outcomes and health care utilization to assess the effectiveness of patient education initiatives. Institutions that prioritize patient education and adherence to best practices for teaching patients about health care management

demonstrate compliance with regulatory standards and accreditation requirements.

Institutions known for providing high-quality patient education and proactive health care services attract patients seeking comprehensive care and contribute to a positive institutional reputation. Patients who feel empowered and well-informed about managing their health are more satisfied with their health care experience, leading to positive feedback and increased loyalty to the institution.

Implications for Health Care Systems

The findings of this project on teaching nurses how to educate patients about when to call the doctor and how to use and interpret data on CGM devices include improved patient outcomes, optimization of resource allocation for patient education, and improved efficiency of health care delivery (see Miller, 2020). Health care systems can leverage data from CGM devices to identify trends and patterns in patient health, enabling proactive interventions and personalized care plans to improve population health outcomes. Integrating CGM data into electronic health records allows health care providers to access real-time patient data, facilitating informed clinical decision making and continuity of care. Health care systems can utilize patient portals and mobile health applications to empower patients to monitor their health data, communicate with health care providers, and access educational resources on managing their health conditions. Implementing standardized protocols for patient education on when to call the doctor and how to use CGM devices ensures consistency and quality of care across health care systems, contributing to patient safety and quality improvement initiatives. Health care systems can establish performance metrics related to patient education outcomes and

CGM device utilization to assess the effectiveness of interventions and identify areas for improvement. Health care systems can promote interdisciplinary collaboration and team-based care models to optimize patient education efforts and deliver comprehensive, coordinated care to patients with complex health needs.

Implications for Social Change

This project has implications for social change including the promotion of health literacy among individuals by enabling patients to actively participate in their health care decisions, leading to greater autonomy and control over their health. The project also contributes to positive social change by reducing health disparities through effective patient education and support for a diverse population, including marginalized communities. Another implication for social change is that the project can increase access to comprehensive health care education and resources and help bridge the gap in health outcomes between different socioeconomic groups. Educating patients on recognizing the early signs of health issues and utilizing CGM devices encourages a proactive approach to health care. This shift from reactive to preventive care can lead to improved health outcomes and reduced health care costs in the long term. Educating nurses on how to conduct patient education promotes patient-centered care by emphasizing the importance of patient education and shared decision-making. Patients who are well-informed about their health conditions are more likely to actively engage in their care and collaborate with health care providers to achieve optimal outcomes (Bhattad, & Pacifico, 2022). The project can also contribute to changing cultural and social norms surrounding health and health care utilization by encouraging open discussions about health issues and

empowering individuals to seek timely medical assistance, which helps break down stigmas and barriers associated with illness and health care access.

The project findings may inform policymakers and health care stakeholders about the importance of patient education in improving health outcomes and reducing healthcare disparities. This advocacy can lead to policy changes aimed at promoting patient-centered care and enhancing access to health care education and resources for all individuals.

Recommendations

My recommendations following the implementation of the project are to integrate the training into standard practice, implement continuing education programs, implement quality improvement initiatives, and develop patient education materials.

The staff education program can be conducted during staff orientation and as a refresher training for the staff at least every 6 months. The training can be conducted as group training or individualized training according to educational policies for the individual facilities to ensure that all nurses are trained and regularly updated on the protocols for teaching patients about when to call the doctor and how to use CGM devices. Another recommendation is to implement ongoing continuing education programs for nurses to keep them updated on advancements in CGM technology, changes in healthcare guidelines, and best practices for patient education. This ensures that nurses remain knowledgeable and proficient in their teaching roles.

Developing and regularly updating patient education materials by using pamphlets, videos that can be placed in the patient waiting areas, or facility website can

be effective by accommodating different learning preferences, and literacy levels among patients and different audiences. The facilities should establish mechanisms for patient follow-up and support to reinforce the education provided by nurses. This can be achieved by enrolling patients in chronic care management programs that facilitate monitoring of patients remotely with regular check-ins, and telehealth support. A facility can collect data on patient adherence to CGM usage, frequency of doctor calls, and health outcomes to identify areas for improvement and optimize patient care processes.

Contribution of the Doctoral Project Team

Working with the doctoral project team involves a collaborative process that integrates the expertise of various stakeholders, including content experts, to develop and implement a staff education project focused on teaching patients about CGM devices. The process began with an initial planning phase where the project team identified the need for staff education on CGM devices and determined the goals and objectives of the education project. The content experts contributed their specialized knowledge to assess the content of the educational material that I developed and facilitated in the improvement of the project. Their expertise helped in developing an education that is relevant for their staff and they offered suggestions that I incorporated in developing the staff education project.

Strengths and Limitations of the Project

Strengths

The strengths of this doctoral project are that it met the need to improve the nursing staff's knowledge, skills, and attitudes to provide evidence-based patient

education. The project was supported by the site director and the senior nursing staff which increased the buy-in for the project. Another strength of the project is that it enhances EBP, with educational materials and interventions based on the latest research and clinical guidelines in diabetes management and patient education. The nursing staff education initiative emphasizes the practical application of patient education by providing nurses with the knowledge and skills they need to effectively teach patients about CGM devices and when to seek medical assistance. This translates theoretical knowledge into real-world practice. The project addresses a critical need in health care by focusing on patient education, which is essential for empowering patients to manage their health effectively and make informed decisions about their care.

Limitations

The findings of the doctoral project have limited generalizability to other healthcare settings or patient populations due to institutional differences, different patient demographics, and the number of participants. Implementation of educational interventions may be limited by resource constraints, such as staffing shortages, time constraints, or budget limitations for printing the materials. This could affect the scalability and sustainability of the project in larger health care settings or underserved communities. Evaluating the effectiveness of the educational interventions may pose challenges, particularly in measuring patient outcomes such as CGM adherence or health care utilization. Collecting reliable data and demonstrating causality between the interventions and outcomes may be difficult due to lack of time and human resources. The success of patient education relies on active engagement and participation from

patients. However, motivating patients to engage in self-management behaviors and adherence to CGM monitoring may be challenging, particularly for individuals with low health literacy or limited access to resources. Ensuring continuity of care beyond the educational interventions is essential for sustaining the impact on patient outcomes. However, factors such as staff turnover, or limited follow up may impede continuity of care and the long-term effectiveness of the interventions.

Section 5: Dissemination Plan

I will share the project findings, outcomes, and educational materials with the project site director, office manager, lead nurse, and nurse practitioners at the project site to increase awareness, promote understanding, and facilitate application, and implementation of the education. I would like to incorporate the project materials into the practice's continuing education curriculum and utilize them for onboarding new employees.

I will offer workshops on this topic in collaboration with the sales representatives for the various CGM devices, diabetic medication workshops, and the local chapter for advanced practice registered nurses. I will develop pamphlets that can be distributed to similar practices within the area and publish an educational article with the findings in a nursing journal to ensure that the project reaches a wider audience and contributes to EBP within the nursing field.

Analysis of Self

As a practitioner, my direct involvement in patient care provides invaluable insight into the challenges and opportunities surrounding patient education. My clinical experience allowed me to identify gaps in current practices and devise innovative solutions that are not only theoretically sound but also practical and feasible for the project site and similar establishments. By applying evidence-based approaches and leveraging my experience working at the project site facility, I ensured that the DNP project remained rooted in the realities of patient care deficits and enhanced the clinical skills and relevance of the staff education initiative for the nurses. This hands-on

experience allowed me to bridge the gap between theory and practice, ensuring that the project outcomes are relevant and applicable in clinical settings.

In my role as a scholar, I am committed to advancing the field of nursing through rigorous research, critical analysis, and lifelong learning. Throughout the DNP project, I have engaged in scholarly inquiry by reviewing existing literature, conducting needs assessments, critically analyzing the current trends regarding patient education and gaps in knowledge for the nurses, and synthesizing evidence to inform project development. By critically evaluating research findings and integrating them into the project, I contributed to the project evidence by supporting effective patient education practices. This scholarly approach not only enhances the quality and credibility of the project but also fosters a culture of continuous learning and improvement in nursing practice. I strove to elevate the credibility and significance of the DNP project by laying the groundwork for future advancements in patient education and nursing practice.

As a project manager, I orchestrated the various components of the DNP project, including the planning, implementation, and evaluation of the DNP project, ensuring that it stayed on track and achieved the objectives. Conducting this project helped to improve my organizational effective communication skills as well as my ability to collaborate with stakeholders. Throughout the project, I have demonstrated leadership by coordinating team efforts, managing resources, and problem solving as challenges arose. By effectively managing the project, I ensured its successful completion and maximized its impact on nursing practice. My management ensured that the project progressed smoothly toward its objectives in a timely and sustainable manner. I adhered to Walden

University guidelines for maintaining the anonymity of the facility and the staff that participated in the project.

While reflecting on my roles as a scholar, project manager, and professional, I recognized the relationship between my personal growth and the advancement of nursing practice. In the present state, this DNP project served as a platform for me to enhance my skills and expertise in patient education, contribute to the advancement of nursing knowledge, and demonstrate leadership in health care innovation. My involvement in the DNP project catalyzed continual learning and professional development and equipped me with the skills, knowledge, and experiences necessary to effect positive change in health care. Looking ahead, my aspirations include ongoing scholarly research, leadership in nursing innovation, and advocacy for EBPs that enhance patient outcomes and promote health equity. By embracing the roles of practitioner, scholar, and project manager and aligning them with my goals, I am committed to developing a similar project for blood pressure monitoring.

Completing the Project

Completing a DNP project focused on nursing staff education in a primary care setting is a significant milestone that entails overcoming various challenges, implementing effective solutions, and gaining invaluable insights throughout the scholarly journey. The challenges required finding ways to balance the project requirements with academic and clinical requirements and responsibilities.

Challenges and Solutions

One of the primary challenges faced in this project was securing buy-in and engagement from the nursing staff. When I introduced the idea of educating nurses about CGM devices, the response from some of the staff was that the patients are taught by the pharmacy staff about how to use the device and that teaching patients at the clinic will be time consuming. Ensuring active participation and engagement from the nursing staff was a challenge given their demanding schedules and varying levels of experience with patient education. Conducting thorough needs assessments and collaborating with the site director and the nurses at the facility helped to overcome the challenge of implementing the project that met the goals for the facility and the requirements for the staff education project. Limited resources, such as access to different CGM devices for hands-on training, posed a significant hurdle. Some staff members were less technologically savvy, which made training on the use of CGM devices and data interpretation more difficult. The site has a freestyle libre device, and I obtained a Dexcom device from one of the sales representatives for the project; these two devices were used for demonstration during the teaching. Using interactive modules and simulations encouraged staff participation and helped overcome technological barriers.

Another challenge was to develop effective training that met the diverse learning needs of the nursing staff while aligning with EBPs and organizational goals. Including the content experts ensured that the project was relevant and usable at the project site.

Insights Gained on the Scholarly Journey

Throughout this scholarly journey, I gained insights into the complexities of implementing educational initiatives in a health care setting. I also developed a deeper understanding of adult learning principles, change management strategies, and the importance of stakeholder engagement in driving successful educational interventions. Additionally, the project provided opportunities to hone my leadership and project management skills while navigating various stages of planning, implementation, and evaluation of the project. I learned to adapt the project based on feedback from the content experts.

Summary

The purpose of this DNP project was to determine if an evidence-based staff educational program focused on effective patient teaching strategies improved nurse practitioners' knowledge, skills, and attitudes to provide patient education. An analysis of the participants' pre- and posttests showed a 46% increase in their knowledge. This result shows that the project supported learner knowledge gain, which increases the potential of decreasing avoidable ER visits while improving patient outcomes with better patient education. The project can be adopted for other patient education aspects, such as blood pressure monitoring.

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Appendix: Staff Education Materials

Continuous Glucose Monitoring Devices

LEARNING OBJECTIVES:

- Describe continuous glucose monitor (CGM) device options
- Describe how CGM helps improve diabetes management.
- Discuss nursing implications in caring for patients using CGM device
- List 2 advantages of using CGM.
- Describe how the CGM is used
- List three patient education strategies to teach patients about when to call the doctor

What is a CGM Device

- A continuous glucose monitor (CGM) is a wearable sensor that automatically measures the amount of glucose in interstitial fluid.
- CGM delivers readings all day and night compared to blood glucose fingersticks that give results after a finger stick.
- CGM devices comprehensively optimize diabetes management by reviewing activity levels, medication and insulin dosing, food intake, and stress to provide patients with information about how self-care decisions affect glucose levels.
- The American Association of Clinical Endocrinology (AACE) and the American Diabetes Association (ADA) recommend CGMs for all patients with diabetes who administer 3 or more insulins per day.
- Any discrepancy between symptoms and sensor numbers requires a finger stick.

Hypoglycemia vs Hyperglycemia

Signs and symptoms of hypo/hyperglycemia

hypoglycemia

- Shaky
- Dizzy
- Fast hear beat
- Hungry
- Sweating
- Blurred vision

hyperglycemia

- Extreme thirst
- Frequency of urination
- Blurred vision
- Hungry
- Dry skin
- Drowsy

Blood Glucose Target Range

1. **Fasting Blood Glucose (FBG):**
 - Target range: 80 to 130 mg/dL (4.4 to 7.2 mmol/L)
2. **Postprandial Blood Glucose:**
 - Target range: Less than 180 mg/dL (10 mmol/L) two hours after starting a meal
3. **Hemoglobin A1c (HbA1c):**
 - Target: Less than 7% (53 mmol/mol)

CGM Device Options

DEXCOM G5 or G6:

- Sensor wear; 7-10 days, audible alerts, integrates with an insulin pump, real-time data sharing and monitoring
- G5 needs to be calibrated twice daily
- Dexcom G6 is factory calibrated

GUARDIAN CONNECT:

- Sensor wear 7 days, audible alerts, not approved for insulin dosing, limited data sharing, calibrated 2x daily

EVERSENCE:

- Implanted sensor wear; 90 days, audible alerts, not for insulin dosing, vibrating alerts

FREESTYLE LIBRE:

- Sensor wear 10-14 days, no alerts, factory calibrated, cannot integrate with an insulin pump, factory calibrated, the user must scan the sensor to obtain data

How CGM Works

A CGM has three parts- a **sensor**, a **transmitter**, and a **receiver**

1. **Sensor**- It is inserted under the skin with a sticky patch that helps to keep it in place.
 - a) CGM sensors estimate the glucose level in the fluid between the cells, which is very similar to the glucose level in the blood.
 - b) Sensors must be replaced at specific times, depending on the type of CGM used.
2. **CGM transmitter**- transmits information wirelessly to the software stored in a **cellphone, insulin pump, or a receiver**.
 - It provides glucose values 24 hours a day.

Patient Instructions

1. Before opening the sensor package, wash and dry your hands.
2. Do not touch the adhesive area on the sensor.
3. Choose a flat and pinchable site for insertion such as the arm- avoid irritated skin.
4. Clean the area with alcohol and let it dry. Skin prep may be used for oily skin before inserting the sensor.
5. Place the sensor on the area and push on the plunger to remove the introducer needle leaving the sensor under the skin.
6. The supplies are included in each CGM package. Most patients feel only a slight pinch when inserting the sensor. A dressing is applied over the sensor to protect it from rubbing on clothes or surfaces.

Advantages of a CGM Device

- Better management of glucose levels every day
- Have fewer low or high blood glucose emergencies
- Need fewer finger sticks
- The CGM trend/graph shows whether your glucose level is rising or dropping
- Keeping your glucose levels in the healthy range helps patients stay well and prevent diabetes complications
- Blood glucose monitoring helps patients understand the interrelationships among food, activity, and medication to achieve their glycemic targets.
- Blood glucose monitoring aids in the assessment of treatment effectiveness

Patient Selection

- Patients who have difficulty maintaining target glucose levels
- Patients who are at increased risk for hypoglycemia or hyperglycemia
- Patients with type 1 or 2 diabetes with or without insulin use
- Patients with type 1 diabetes (with or without an insulin pump)
- Patients who experience large fluctuations in blood sugar levels
- Patients with hypoglycemia unawareness (asymptomatic)
- Patients with dexterity issues or visual loss, which can make it more difficult to manage diabetes

When should a Patient Call their Provider

- Call the doctor if you think your machine is not working well
- Reach out to your provider if you have any questions about how to use a CGM device safely.
- Call your provider if you have any symptoms that worry you such as more frequent urination (peeing), more thirst than usual, nausea, vomiting or abdominal pain, fruity breath, dizziness, or have problems thinking clearly.
- Call the doctor if your other providers start you on new medications
- Ratings of 60 or less or 180 or more three times during the day.