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An Evidenced-Based Nursing Education Discharge Plan for Prescription Opioids

Josephine J. Messelmani
Walden University

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Walden University

College of Nursing

This is to certify that the doctoral study by

Josephine Messelmani

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.

Review Committee

Dr. M. Terese Verklan, Committee Chairperson, Nursing Faculty

Dr. Amy Wilson, Committee Member, Nursing Faculty

Dr. Tracy Andrews, University Reviewer, Nursing Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2021

Abstract

An Evidenced-Based Nursing Education Discharge Plan for Prescription Opioids

by

Josephine Messelmani

MS, Walden University, 2014

BS, Davenport University, 2006

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

Walden University

February 2022

Abstract

The reported number of prescription opioid overdoses justifies the need for providing patients with opioid discharge information and follow-up care as recommended. To prevent any misuse of prescription opioid drugs, it was critical for patients to receive a thorough review of their medications prior to being discharged. The purpose of the project was designed to educate nurses on the importance of delivering essential information to patients prescribed opioids. Implementation of an opioid discharge plan integrated with the teach back method increased patients' understanding of how to properly take prescription opioids compared to the patients who did not receive opioid education at discharge. The Health Belief Model was selected to guide the project toward accomplishing project goals. Databases from Walden University, Cochrane Library, ProQuest, Google Scholar, and Centers for Disease Control and Prevention (CDC) were used to retrieve evidence-based information to support the project. Nurses (N pre=15 and N post=17) received a 10-question pre/posttest, a 30-minute educational PowerPoint presentation on opioid safety to ensure understanding. The nurses pre/posttest results were compared using descriptive statistics and revealed an 8% increase of the participants' knowledge base regarding the opioid epidemic. Then, nurses began providing patients with opioid discharge instructions. Patients understanding of how to properly take, store, and dispose of opioids increased by 61%. Positive social change occurred as the practicum sites' stakeholders recommended to continue using the DNP project as a segment in their orientation process.

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Section 1: Nature of the Project

Introduction

Prescription opioids have claimed the lives of over 150,000 American citizens from 1994-2014 and opioid abuse has become an epidemic nationwide (Centers for Disease Control and Prevention [CDC], 2016). Costello et al. (2016) revealed that a substantial percentage of patients are being discharged from health care services without a clear understanding of how to properly take prescription opioids. Costello indicated that if patients prescribed opioids are educated at discharge on the risks and benefits of opioid misuse, abuse, improper storage, and disposal negative outcomes could be minimized. The American Nurses Association (ANA, 2017) concluded that because prescription opioid abuse has become so prevalent, nurses should be prepared to translate the recently developed CDC guidelines to their patients. The CDC practice guidelines include an educational component that describes in detail how opioids should be prescribed for acute and chronic pain, which is critical in preventing prescription opioid addiction. In addition, the CDC guidelines are intended to engage patients and their healthcare practitioners in shared decision making by allowing them both to make informed decisions when selecting a pain management program (CDC, 2016).

The selected Doctor of Nursing Practice (DNP) project was an evidence-based opioid discharge plan for nurses to use at my practicum site as a guide to consistently inform patients verbally and in writing how to safely use prescription opioids. In addition, the discharge plan recommended a timeframe for nurses to follow-up at 5-7 days post discharge with patients to answer any questions or concerns related to

prescribed opioids. As a staff development project, nurses at my practicum site became aware of the opioid epidemic and learned how they can assist in eliminating the opioid crisis in their community. The opioid discharge plan was derived from an existing successful evidence-based aftercare plan that has been effective in averting opioid misuse and addiction (Waszak et al., 2018). Preventing addiction aligns with DNP Essential VII, which focuses on clinical prevention and population health to improve the nations' health (Zaccagnini & White, 2017). Section 1 discussed the problem statement, purpose, nature of the project, and the significance of the project.

Problem Statement

Local Nursing Practice Problem

The local practice problem was the absence of an evidence-based discharge plan and follow-up care for patients prescribed opioids. According to Costello and Thompson (2015) lack of discharge planning and follow-up care are directly correlated to the increasing number of preventable overdoses and deaths related to opioids. At the local practicum setting, my preceptor reported that approximately 1.5% of the patient population have overdosed from opioids did not have a documented opioid discharge plan (Shoulders, 2019). Studies show patients who receive information at discharge on how to properly take opioids, have an explanation of their physical affects, and know how to avoid addiction are less likely to overdose or become addicted (Costello, 2016). The reported number of opioid overdoses justified the need for providing patients with opioid discharge information and follow-up care as recommended.

The Local Relevance

My practice site was in a small ambulatory private clinic located in the Midwestern region of the United States. The clinic has approximately 200 patients with ages ranging from 18-60 years. Patients who attended the clinic are diagnosed with chronic diseases (hypertension, diabetes, end-stage renal disease, arthritis), acute onset illnesses, and injuries involving motor vehicle accidents. Consequently, the clinic prescribes opioids for acute and chronic pain (Shoulders, 2019). The current policy at the practicum site required nurses to provide discharge planning and follow up care for patients prescribed opioids; however, there was not a referenceable systematic framework available for nurses to use. The practicum site nursing administrator revealed that some patients reported that they take more than their prescribed dose to alleviate the pain (Shoulders, 2019). Prescribed opioid analgesics are frequently used to control postoperative pain, but must be clinically supervised (Alford, 2016). Manworren and Gilson (2015) warned that any inappropriate use of opioids can result in overdose and death, especially when combined with sedative hypnotic prescription and/or alcohol. To maintain safety, a thorough education is crucial to patients and their family members (if appropriate) when being discharged on opioids (Costello, 2015).

Significance for the Field of Nursing

The DNP project is significant for the field of nursing practice by allowing nurses to expand their role as educators. Nurses are obligated to use education as tool to assist patients in achieving optimal health (Griffiths, 2017). My project has helped nurses improve the nations' health by educating them on the importance of following a

discharge plan for patients prescribed opioids for pain management. Nurses who integrated knowledge and positive behaviors and attitudes into their practice of care can significantly reduce opioid dependency and addiction (Vinson, 2013). Nurses received educational techniques on how to recognize signs/symptoms of opioid abuse versus overdose and when to use Naloxone, which is an opioid antagonist that is very effective in rapidly reversing opioid overdoses (CDC, 2016). These comprehensive evidence-based techniques have proven to be effective in expanding nurses' knowledge of opioids and assisting patients prescribed opioids avoid negative outcomes (Felicilda-Reynaldo, 2015). The profession of nursing practice has gained a unique set of skills that could save lives including becoming familiar with the essential elements required for an effective opioid discharge plan. My DNP project was in direct alignment with DNP Essentials, which clearly dictates doctoral prepared nurses are responsible to advance nursing practice (Zaccagnini & White, 2017).

In the United States opioid addiction has created hardship among families and loss of wages and social connections (Markocic et al., 2016). My DNP project can assist nurses with rebuilding the family structure by integrating healthy behavior changes that produce better coping mechanisms to resist temptations of opioid abuse (Dahn, 2016). The American Association of Critical Care Nurses (AACN, 2017) declared that nurses have a responsibility to protect their communities against this serious public health threat and should be knowledgeable about opioids. The AACN (2017) has also pledged that moving forward, the CDC (2016) opioid prescription guidelines will be incorporated into the nursing curriculum, which was also the intent of this DNP project.

Purpose

Gap in Practice

Patients prescribed opioid therapy are being released from clinical services without receiving discharge instructions (Costello, 2015). At the practicum site, nurses do not have an evidence-based discharge plan to educate patients how to effectively consume opioids. Vinson (2013) indicated that when patients receive an explanation of how to safely use opioids at discharge, opioid dependency and addiction are significantly reduced. Factors that further widen the gap in practice is the inability of patients to afford addiction treatment costs. Without health insurance, or money to pay for an office visit, access to care can become impeded. Socioeconomic barriers produce health inequalities that could be addressed with this project. Nurses are in a unique position to close the gap in practice by ensuring patients have appropriate information at discharge to assist with any complications that might manifest itself secondary to the use of opioids (Dahn, 2016).

Practice-Focused Question

The practice focused question for this project was in a PICO format: Will implementation of an opioid discharge plan along with the teach back strategy increase patients' understanding of how to properly take prescription opioids compared to the patients who do not receive opioid education at discharge?

1. P – nurses working in a clinic setting discharging patients prescribed opioids.
2. I – implementation of an opioid discharge plan and use of the teach-back strategy to educate patients how to properly take opioids.

3. C – current opioid education provided at discharge.
4. O - patients understanding of how to take their prescribed opioids at discharge will increase.

How the Doctoral Project Addresses the Gap-in-Practice

Nurses are educators and many healthcare institutions rely on them to educate patients during clinical treatment, especially at discharge (Waszak et al., 2018). Costello (2016) indicated that nurses play an essential role in the discharge process and recommended that to maintain opioid universal precautions nurses should conduct opioid discharge planning when patients are prescribed opioids. By introducing a nursing staff development education on opioid discharge planning, I was able to address the general lack of evidence-based knowledge nurses had pertaining to the current opioid crisis. The DNP project provided nurses with a step-by-step discharge procedure for those patients discharged with opioid medications. Nurses became equipped to educate patients on how to avoid the common pitfalls associated with opioids, such as how to prevent opioid dependency, issues of tolerance and when to immediately contact a healthcare provider (Dahn, 2016). As a result, there has been an increase in the number of patients from the practicum site receiving opioid discharge instructions.

Nature of the Doctoral Project

Sources of Evidence

The literature review included gathering current evidence-based information concentrating on five areas of educational content involving prescription opioid analgesics including safe usage, misuse, adverse reactions, proper storage, and disposal.

Each of these areas contained specific information nurses should include in their discharge planning when patients are prescribed opioids. The information used in the project was synthesized from Walden University databases of ProQuest, The Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline/PubMed, Google Scholar, and OVID. The search terms that were used were prescription opioids, opioid abuse, opioid epidemic, opioid discharge plan, opioid storage, opioid overdose prevention, teach back, opioid education. The Boolean operator AND was also used to connect and define the relationship between the nurse and the opioid epidemic. Other forms of evidence that assisted in creating the educational intervention and helped nurses understand the importance of ensuring that each patient receive opioid discharge instructions, included the guidelines for prescribing opioids from the CDC, The Substance Abuse and Mental Health Services Administration (SAMHSA), The Institute of Medicine (IOM), and The National Institute of Health (NIH).

Approach

Providing consistent opioid education at discharge has the potential to improve patients' understanding while encouraging opioid safety, which may reduce opioid abuse and overdoses (Costello, 2016). To measure nurses' pre-existing knowledge of the opioid epidemic and the importance of educating patients prescribed opioids at discharge, nurses at the practicum site was given a pretest to complete on paper. In a classroom setting, a nurse educator administered the pretest questionnaire to each participant. Upon completion, the pretest was collected and placed in an enveloped marked "Pretest." The pretests were secured in a locked office for later comparative analysis with their

upcoming posttest. The pretest entitled “Opioid Safety” consisted of X questions developed from the CDC opioid prescribing guidelines targeted on preventing opioid addiction, proper storage, and disposal. Nurses were restricted from using assistive devices such as phones or computers to complete the survey. Nursing participants were given time to complete the questionnaire. The nursing participants’ identities remained anonymous as they were asked not to place their names on the surveys. The nurse educator gave the sealed envelope containing the pretest to me.

Immediately following the pretest, in the same classroom setting, a nurse educator provided a 30-minute training session comprising of up-to-date information on the opioid crisis in America. The PowerPoint presentation educated nurses on the addictive pharmacology attributes of opioids, clarified safe usage, explained proper storing and disposal of opioids, and taught nurses how to educate patients using the teach-back approach. The teach-back approach has been identified as an evidence based valuable tool to confirm patient education understanding (Waszak et al., 2018).

After the PowerPoint presentation, the nurse educator provided the posttest questionnaire to each participant and collected them in an enveloped marked “Posttest”. The posttest entitled “Opioid Safety” consisted of the same 10 questions as the pretest. Participants were allowed time to complete the posttest questionnaire. The participants’ identities remained anonymous as they were asked not to place their names on the surveys. The nurse educator gave the sealed envelope containing the posttests to me. Descriptive statistics was used to analyze the pre and posttest results which determined the programs comprehension level of the participants. All the information gathered at this

junction was given to my preceptor for evaluation, possible revisions, and approval to continue.

Upon approval from my preceptor to continue, over an 8-week timespan nurses implemented the opioid discharge plan to patients immediately after being prescribed opioids. In the privacy of an examination room, patients were educated on how to appropriately take, store, and dispose of opioids, and why medication should never be shared. The patient education information was formulated using the CDC 2016 opioid prescribing guidelines. Nurses was instructed to ask patients prescribed opioids to repeat the healthcare information back to them. Use of the teach-back strategy allowed nurses to assess how well patients understood the information and determined if further teaching was required (Waszak et al., 2018).

Patients were also given written opioid discharge instructions to take with them as a reminder, both the verbal and written instructions were presented at a fourth-grade level. Nurses documented the encounter in the patients' medical record. A paper checklist (Appendix A) was used by the nursing staff to ensure every patient received the same opioid information at discharge, which maintained consistency, and was used as a quality measuring tool (Byrne et al., 2017). The paper checklist contained four discussion points derived from the CDC 2016 opioid prescribing guidelines. Preventing opioid addiction, proper storage, disposal measures, and the teach back method was framed into a checklist that was completed by the nursing staff at each discharge encounter (Waszak et. al., 2018). The names of the patients were not placed on the paper checklist, their identities

remained confidential. I aggregated the data, and the findings were discussed in Section 4.

Concise Statement

The purpose of the DNP project was to provide nurses with education for opioid discharge planning. The project was designed specifically to educate nurses on what information is critical for patients prescribed opioids to have when being discharged from clinical services. The project was in direct alignment with DNP Essentials VII and VIII which discusses nurses' responsibilities in keeping the nation healthy (Zaccagnini & White, 2017). A substantial amount of opioid related deaths in the United States can be prevented if applicable health information is provided to patients at discharge (CDC, 2016). Costello (2016) indicated that better patient outcomes can be anticipated when relevant education is provided. The expected findings from the analysis of the evidence assures that there was enough current evidence-based information to decrease the gap in practice by developing a nurse-driven discharge plan for patients prescribed opioids.

Significance

Stakeholders

White et al. (2016) explained that stakeholders are individuals or entities that will be affected by a program's implementation or its results. The key stakeholders in the DNP project are the nursing staff and patients receiving prescription opioids. Implementation of a nursing staff educational intervention for opioid discharge planning can have positive effects on nurses' competencies for discharge teaching related to prescription opioid use. Patients can have a better understanding why they require an

opioid, how to properly use the medication, and implications of its use, including the risk of addiction (Stellefson et al., 2013). The project was guided by current scientific evidence related to opioid safety measures that assisted in delivering quality patient care (Kettner et al., 2013).

Potential Contributions to Nursing Practice

Zaccagnini and White (2017) explained that a primary function of the DNP role is to solve practice problems by integrating nursing theory with current published evidence, nursing experience, and patient-family preferences. A nursing staff educational initiative for prescription opioid discharge planning provided nurses with up-to-date information that could change the course of the opioid epidemic, improve nursing practice and lead to better patient outcomes. Another possible contribution to nursing practice could be an increase in job satisfaction. Research has revealed that when nurses receive relevant ongoing job-related in-service education, they gain a sense of professional growth and self-assurance in performing their tasks (Ayaz-Alkaya et al., 2018). A nursing staff development program for opioid discharge planning gave nurses the knowledge needed to be effective in addressing the many noted challenges connected with opioid addiction and overdoses. When nurses are confident in themselves and comfortable in their work environment, the probability of retention increases (Zieber & Sedgewick, 2018).

Potential Transferability of the Doctoral Project to Similar Practice Area

Transferability of this doctoral project began with nurses sharing the evidence with the other team members at the site, such as doctors, patient-care technicians, and pharmacists. As a staff development project, it will be used to educate nurses in other

departments or at other healthcare institutions for patients who are prescribed opioids. In addition, the principles and interventions contained in the project has the potential for transferability to organizations that are forecasting to implement a discharge plan for patients prescribed opioids.

Potential Implications for Positive Social Change

The doctoral project influenced change and improved nursing practice at the site. Nurses were educated on opioid universal safety so they could educate their patients with current evidence-based information on how to use prescription opioids properly, decreasing the risk of addiction and drug seeking behavior (Costello, 2015). Upon receipt of opioid safety education, nurses gained confidence in their ability to communicate to their patients' self-care techniques regarding opioids as they now were able to recognize sign/symptoms of abuse and opioid dependency. In addition, nurses embraced their role as educator and demonstrated knowledge proficiency in preventing opioid addiction as evidence-by improved posttest results. Encouraging positive behavior change with current evidence-base information that promote healthy lifestyles, and prevent disease is essential in rendering objective nursing care (Migone et al., 2018). Nurses have explicit information about opioids that prepared them to care for patients being discharged with prescriptions for opioids. Overall, the project provided a positive social change which included nurses educating patients how to use opioids properly at discharge, decreased the risk for addiction, overdose, and possibly prevent deaths related to prescription opioids (Manworren & Gilson, 2015).

Summary

Prescription opioid analgesic medication possesses the ability to reduce pain, but their use may result in serious complications, including misuse, abuse, and death when used inappropriately. The local practice problem was the absence of an evidence-based discharge plan and follow-up care for patients prescribed opioids. The objective was to provide nurses with education for opioid discharge planning. Among the sources of evidence used were the CDC 2016 guidelines for prescribing opioids, SAMHSA, IOM, and NIH. The project holds significance for patients prescribed opioids, health practitioners, the field of nursing practice, and has transferability to other healthcare organizations that are anticipating implementing a discharge plan for patients prescribed opioids. Positive social change can manifest itself with educating nurses to teach patients at discharge how to remain safe while taking opioids. In Section 2, I discussed the context, concepts, models and/or theories related to my doctoral project. Further, I explained my DNP project relevance to nursing practice, local background, and my role as a DNP student.

Section 2: Background and Context

Introduction

The practice nursing problem was the absence of an evidence-based discharge plan and follow-up care for patients prescribed opioids. According to Costello and Thompson (2015), lack of discharge planning and follow-up care are directly related to the increasing number of preventable overdoses and deaths related to opioids. The practice-focused question for the doctoral project was: Will implementation of an opioid discharge plan along with the teach back strategy increase patients' understanding of how to properly take prescription opioids compared to the patients who do not receive opioid education at discharge? The DNP project purpose was to develop an opioid discharge plan for nurses to educate patients how to maximize the benefits and minimize the harmful effects of prescribed opioids (Alford, 2016). In Section 2, I outline the health belief model (HBM) and concepts selected to guide the project, discussed the relevancy to nursing practice, local background and context, and my role as the DNP student.

Concepts, Models, and Theories

The Health Belief Model

The HBM was selected to inform my DNP project. As a theoretical model, the HBM was used to guide the health promotion and disease prevention curricula. The HBM also provided a theoretical framework for nurses to explain and predict individual changes while motivating patients to engage in safer healthcare practices (McEwin & Wills, 2014). The HBM asserts that people fear disease and when properly educated on how making healthier choices could prevent disease, they will gain self-confidence in

their ability to strive for better health (McEwin & Wills, 2014). The theory was originally developed in 1950 from a social psychology perspective to primarily improve health through preventive services and examine why people did not participate in health-screening programs (Rosenstock, 1966). McEwin and Wills (2014) explained that the HBM is a widely used social psychology theory that explains health behavior in terms of six conceptual constructs derived from two major premises. First, an individual should believe optimal health is achievable through disease prevention education. Secondly, an individual readiness to participate in a tailored therapeutic regimen while believing their health is highly valued. In essence, both foundational premises need to be present for the model to be effective.

Each construct of the HBM functions independently, but collectively assists individuals in believing that they can change their behavior by understanding that their personal health practices and choices can positively influence their health, lead to self-improvement, and better health outcomes (Rosenstock, 1966). The HBM theoretical paradigm predicts health behavior and influences change by using the following six constructs: perceived susceptibility of the health problem, perceived severity, perceived benefits, perceived barriers, self-efficacy, and cues to action. The constructs can be modified by variables such as demographics (age, gender, race, and culture), sociopsychological (locus of control (core-self-evaluation), socioeconomic status, and referenced group/peer pressure), and structural (education level, past experiences, and motivation). In sum, when individual perceptions and modifying factors are used appropriately, they can influence risky/unhealthy behavior (Stellefson et al., 2013).

Perceived susceptibility refers to ones' personal belief or opinion of acquiring an illness or disease. An individuals' perception of a health threat is dependent on awareness of the evidence-based risk factors (Bastable, 2013). For nearly two decades, pharmaceutical companies deceived the American citizens by claiming prescription opioids were nonaddictive (Dahn, 2016). This false marketing campaign assisted in people developing delusions of grandeur, as for example, believing recreational use of prescription opioids was harmless and would only cause negative consequences for others, not them. Despite the psychological and physical cravings for the drug, many people believed they were invulnerable to addiction (NIH, 2016). The HBM can be useful in pointing out the potentially dangerous outcomes of misusing prescription opioids, premature death, and dispelling any myths or beliefs that they are immune.

Perceived severity is when people begin to develop concerns related to the seriousness of an illness and understand the impending medical or social consequences (Bastable, 2013). The medical consequences associated with opioid abuse could result in sustaining a disability or dying from an accidental overdose. A social consequence could involve loss of employment, family disconnection, or imprisonment (Manworren & Gilson, 2015). When nurses educate people about the seriousness of using prescription opioids, they can understand the importance of completely adhering to prescribed practitioners' orders (Dahn, 2016).

Perceived benefits refer to ones' perception or belief that the offered preventive treatment option(s) will be effective in reducing or eliminating the threat (McEwen & Wills, 2014). Through education nurses can demonstrate both the perceived susceptibility

and benefits of abstaining from opioid abuse/misuse. Then, the person may be able to view the recommended health action as a benefit, which can influence the opinion that changing ones' negative behavior(s) may also reduce risk factors (Bastable, 2013). For example, when people believe that misusing/abusing prescription opioids could lead to overdose and death they understand the benefits of self-discipline (Markocic et al., 2015).

Perceived barriers consist of ones' feelings about the challenges and/or obstacles they could be faced with when attempting to perform the recommended health action (Bastable, 2013). Perceived barriers can be counteracted by providing a cost/benefit analysis. Using this approach will allow a person to weigh the health change(s) benefits against the temporary opioid withdrawal symptoms that may be unpleasant and painful. For instance, when under medical supervision medication-assisted treatment (MAT) can be prescribed to ease the unpleasantness of physical withdrawals (SAMHSA, 2016).

Cues to action is a stimulus that is needed to prompt the decision to change negative health behaviors. Cues to action could be internal or external. Internal cues to action could be chest pain, difficulty breathing, or a guilty conscience after consuming opioids. External cues to action maybe manifested from parental/practitioners' advice, a friend's death related to an opioid overdose, or the media reporting the spread of the opioid epidemic across the United States (McEwen & Wills, 2014). Overall, cues to action are a trigger or something that could make a person aware that a health risk is apparent, and action is required to alleviate the threat (Bastable, 2013).

The last construct is self-efficacy, which refers to ones' belief and confidence that they have the capabilities of changing unhealthy behavior(s). Self-efficacy is directly

related to the individual performing the anticipated behavior(s). In addition, during this stage people accept and recognize that by adopting healthy practices can positively influence their health (McEwin & Wills, 2014). An initial step toward self-improvement is believing in yourself (Stellefson et al., 2013).

Definitions of Key Terms

The following key terms have been defined to clarify any terms that may have multiple meanings in relationship to the opioid epidemic.

Acute pain: Pain that begins suddenly and is associated with an injury or surgical procedure. The pain usually subsides as the body heals, and last not more than three months (CDC, 2016).

Chronic pain: Is characterized by pain lasting three months or more and is typically produced by a disease process or injury related (CDC, 2016).

Drug misuse: According the National Institute on Drug Abuse (NIDA, 2018), use of prescribed medication without a prescription or taken other than prescribed by a doctor. Taking someone else prescription medication and/or taking medication to obtain the effects euphoria is known as drug misuse.

Drug abuse or addiction: Also, referred to as opioid use disorder. A chronic disease characterized by compulsive, or uncontrollable, drug seeking and use despite harmful consequences and long-lasting changes in the brain A dependence on prescription or illicit drugs that causes significant impairment usually resulting in social and/or crime related problems and an inability to fulfill daily activities (NIDA, 2018).

Overdose: Consuming an excessive amount of a drug, poisoning. An overdose can be fatal or nonfatal (NIDA, 2018).

Physical Dependence: Symptoms of withdrawal when the drug is stopped (CDC, 2016).

Tolerance: The failure or reduced response to a drug with repeated or excessive use (CDC, 2016).

Prescription Drug Monitoring Programs (PDMPs): State specific electronic databases that monitor controlled substance prescriptions. PDMPs assist prescribers identify patients at risk of opioid misuse, abuse and/or overdose due to overlapping prescriptions, high dose prescribing, or co-prescribing of opioids with Benzodiazepines (CDC, 2016).

Medication-assisted treatment (MAT): Treatment for opioid use disorder that combines medication with counseling and behavioral therapies (NIDA, 2018).

Naloxone: A prescription medication that can reverse the effects of opioid overdoses (CDC, 2016).

Opioid: Is a natural or synthetic chemical that interact with opioid receptors on nerve cells in the body and brain. Opioids reduce pain and produce euphoria. Opioids are classified as illegal (heroin), and legal drugs such as fentanyl, oxycodone, hydrocodone, codeine, and morphine (Meyer et al., 2014).

Discharge planning: A service that provides patients' information on self-care and considers their needs after discharge from clinical services. Discharge planning is

also an effective tool in supporting continuity of healthcare and affords an opportunity for follow-up care after clinical discharge if applicable (Costello, 2015).

Relevance to Nursing Practice

Despite the many initiatives to decrease the morbidity and mortality rates associated with the opioid epidemic in the United States, the number of overdose deaths continues to raise annually (CDC, 2016). Educating patients prescribed opioids prior to clinical discharge is an indispensable component to preventing overdoses and death (Costello, 2016). According to Costello et al. (2016), most healthcare providers agree that educating patients on opioid safety is very important. However, many patients are consistently discharged without receiving instructions on how to properly take prescription opioids. Nurses represent the largest segment of the healthcare workforce and are strategically positioned to provide evidenced-based opioid education during the discharge process (Waszak et al., 2018).

Although prescription opioids are effective in reducing pain, the healthcare costs associated with abuse and overdoses in the United States has become a concern. The annual cost related to opioid abuse is estimated at roughly \$10,000 to \$20,000 per patient (Kirson et al., 2017). American citizens are paying billions of dollars each year which poses a substantial economic burden that could be reduced with proper opioid discharge planning (Waszak et al., 2018). As nurses become more involved in educating patients at discharge on how to prevent opioid dependence, it is projected that opioid addiction will begin to decline (Costello, 2016). In addition, nursing schools are becoming proactive in educating nurses on the importance of providing patients with knowledge to safety use

opioid prescriptions (Alford, 2016). As a quality improvement measure, nurses are also beginning to receive on the job training concerning opioid safety and how to properly educate patients using a preformulated discharge tool (Waszak, Mitchell, Ren, & Fennimore, 2018).

Finding solutions to the opioid crisis will require a multifaceted approach to be successful in ending this manmade catastrophe. The CDC (2016) has pledged to create and assist in any possible venture that could decrease and eventually prevent overdose deaths. In addition, the CDC (2016) has committed to aid in increasing opioid prevention techniques in the community. Nurses are in a unique position to prevent opioid abuse, addiction, improper storage, and disposal. Political engagement, community support, and education all have demonstrated that nurses are making a positive social change toward opioid safety (Painter, 2017).

According to Murphy, Goodman, Johnson and Terplan, (2018), the U.S federal government has responded to the opioid use disorder crisis by developing readily available resources at the community-based levels. The Comprehensive Addiction and Recovery Act (CARA) legislation enactment was signed into law (Public Law 114-198) in 2016. CARA is an all-inclusive grant program aimed at prevention and providing education strategies that will guide treatment and support recovery (Painter, 2017). The provisions of CARA give advanced practice registered nurses (APRNs) the authority to prescribe an opioid antagonist which suppresses withdrawals, lessens desires for opioids, and decreases the risk for possible relapse. CARA has included special considerations for

APRNs' in treating both pregnant women (pre/postnatally) and infants demonstrating withdrawal symptoms (Murphy, Goodman, Johnson, & Terplan, 2018).

Costello (2015) espoused that education is the most effective method to preventing opioid abuse and agreed with the AACN (2016) to enhance APRN students' education regarding safe opioid prescribing practices. The CDC's (2016) newly developed guidelines for prescribing opioids for chronic pain has been introduced in hundreds of nursing schools across the nation so nurses can be educated on how to assist in abating the opioid epidemic. The knowledge nurses possess regarding opioids has a direct impact on what information patients receive at discharge. Once nurses improve their knowledge base and skills generated from best clinical practices, they will more likely provide opioid education at discharge (Costello, Thompson, Aurelien, & Luc, 2016). Development of an opioid discharge plan for nurses to provide patients is the reason for this doctoral project.

The bridge from theory to practice using education is a very important strategy. Nurses are expected to facilitate learning and implement interventions based on the identified needs to ensure the public's safety and well-being (Zaccagnini & White, 2014). Costello, Thompson, Aurelien and Luc (2016) declared that prescribed opioids are effective in managing pain but recognizes the need for nurses to be properly educated regarding the possible risk factors and be able to teach patients about them. The appropriate teaching tool selection requires careful consideration and should be based on the audience level of understanding and needs (Bastable, 2013).

Pretests were administered prior to the teaching process which assisted in identifying the learners' existing knowledge-base and specific needs regarding the subject

matter. Using pretests also prevented repetition of information already known by the learner. Furthermore, the pretest scores were compared with post-test scores, allowed the educator to determine if the teaching module was successful or not (Bastable, 2013).

Another important nursing strategy was use of the focused groups. A group discussion in an environment that is non-judgmental and conducive to learning solicited information concerning nurses' attitudes and any ethical issues related to substance abuse they may have been experiencing. Additionally, the nurse educator gained valuable insights from the focus group discussions from non-verbal cues such as lack of eye contact, facial expressions and/or body posturing to assist in evaluating nursing staff acceptance of the educational training (Bastable, 2013).

In response to the opioid crisis, the CDC (2016) developed clinical practice guidelines for clinicians prescribing opioids to patients with chronic pain. The guidelines are recommendations and are not prescriptive standards. Using the most current evidence-base practice publications available, the guidelines were formulated using the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) framework. According to Guyatt et al. (2011), the GRADE model is a scientific approach to advance healthcare by categorizing bodies of evidence obtained from randomized clinical trials and placed in a hierarchical position (numbered 1-4), in order of importance. In conjunction with individual practitioners' pain management strategies, the CDC (2016) recommendations includes information on when to start or stop opioids, which opioids and dosages are appropriate to prescribe, how to assess risk factors, and to educate clinicians about opioids.

As a comprehensive nursing staff development program concentrated on the prescription opioid epidemic, advanced nursing practice by increasing the knowledgebase of the nursing participants as evidenced by posttest results. The DNP project reinforced the importance of following a discharge protocol in order to maximize the benefits and minimize the harmful effects of prescribed opioids. The educational program covered evidence-based information on the fundamentals of the prescription opioid epidemic in the United States, patterns of use, dependency, addiction, and effective communication techniques. The project became a helpful prevention strategy for reducing the prevalence of opioid misuse. The opioid discharge plan conceptualized from the current evidence contributed to closing the gap in research regarding the role of opioid discharge practices by nurses who are employed in high-risk communities.

Local Background and Context

The practicum site clinic is a small privately-owned ambulatory clinic which serves a low-income community. Most patients seen at this clinic are Medicaid recipients or do not have any health insurance at all. The clinic delivers healthcare to approximately 200 adult patients ranging from 18 to 60 years of age. The clinic schedules 20 patients a day and make allowances for five or so walk in patients daily. Approximately 80% of patients receiving healthcare at the clinic site have been diagnosed with chronic conditions including hypertension, diabetes, end-stage renal disease, arthritis, and acute injuries. Many patients are prescribed opioids as part of their post-discharge pain management. Because opioid abuse is a well-known problem in this community, proper administration, detectable drug adherence, and discharge management is particularly important (Waszak,

Mitchell, Ren, & Fennimore, 2018). The mission of the clinic is to provide quality cost-effective, pain free healthcare to the community in which it serves. The strategic vision of the clinic is to educate its patients how to be healthy and live productive lives, free of disease and addiction.

The Department of Health and Human Services (DHHS, 2017) brought forth initiatives to assist with the opioid crisis. The CDC (2016) Guidelines for Prescribing Opioids for Chronic Pain is intended to educate practitioners on safe prescribing practices. Electronic prescription drug monitoring programs became available in many states, allowing practitioners to start adding patient demographic information each time a controlled substance is ordered. A tracking mechanism allows clinicians and pharmacies to monitor for possible abuse. The DHHS supports the widespread use of Naloxone (Painter, 2017), now made available to clinics, police, and correctional officers, and in some cases, is sent home with the patient. Another federal government initiative to aid in eliminating the opioid epidemic was to increase the medication assisted treatment (MAT) programs that are available at the state levels. The MAT program treats opioid addicted individuals holistically on a volunteer basis by incorporating behavioral therapy and medication to assist with withdrawal symptoms (CDC, 2016).

In the Midwestern region of the United States nurses are required to renew their nursing licenses every two years. In addition, nurses are mandated to complete 25 hours of approved continuing education (CE) for license renewal. The CE license renewal process also requires nurses to obtain at least one hour in pain and pain symptom

management (Pendergast, 2017). The news of the opioid epidemic is rapidly spreading, hopefully, there soon will be a mandate requiring nurses to attain CE specific to opioids.

Role of the DNP Student

I am employed as a Clinical Nurse Leader/Educator for a large inner-city privately owned clinic. My responsibilities include designing, implementing innovative interventions, evaluating the effectiveness of those interventions, revising them as necessary, and providing continuing education programs for the nursing staff. As a DNP student, I have been receiving training to identify problems, research the current evidence-based literature and translate the information into a practice design (Zaccagnini & White, 2011). During one of my practicum site rotations as a DNP student, I encountered patients who were prescribed opioids and discharged from clinical services without a systematic opioid discharge plan. Due to the current devastation of the opioid epidemic in the United States, I have a dedicated interest in developing an opioid discharge plan that may assist in preventing further hardship.

As a DNP student, I bridged the gap in nursing service by educating nurses to teach patients how to properly take prescription opioids. My role in the doctoral project consisted of being the team leader, synthesizing the current evidence-based information related to opioid discharge plans and implementing an opioid discharge plan. In addition, an interprofessional collaborative practice (IPCP) approach was used to prevent biases and ensure ongoing input from the organizations' primary stakeholders was provided until project completion. IPCP is the process by which health care providers with

different areas of expertise work together to identify needs and problems, then find ways to meet the needs and solve the problems (Cooper-Duffy & Eaker, 2017).

As team leader and nurse educator, I provided a verbal 30-minute PowerPoint presentation with discussion points to the practicum site nursing staff regarding the extent of the current opioid epidemic in the United States. The PowerPoint presentation included evidence-based information obtained from the CDC (2016), explaining the addictive pharmacology of opioids, safe usage, proper storing, proper disposal of opioids, and usage of the teach-back method. Nurses play a pivotal role in educating patients to use prescription opioids safely. When nurses understand opioid safety so will their patients (Costello, Thompson, Aurelien, & Luc, 2016). Furthermore, I provided nurses with written fourth-grade material (Appendix E) for patients to take home as an important reminder how to use opioids safely, and how to properly store and dispose of them (Waszak, Mitchell, Ren, & Fennimore, 2018).

Motivations for this Doctoral Project

Opioid addiction has created hardship for so many people within my community, as well as many communities across the nation (CDC, 2016). Opioids have made thousands of individuals vulnerable to its pharmacological components causing overdoses and deaths. DNP students are obligated to select projects that can increase nurses' clinical judgement and deliver an evidence-based project that can improve patient outcomes (Terry, 2015). The opioid discharge plan promoted patient safety by providing patients with information that could prevent tragic outcomes related to opioids. In

addition, the DNP project advanced nursing practice by expanding our knowledgebase regarding opioid universal precautions.

Potential Biases and Steps to Address Them

Nurses have been known to develop negative connotations when working with opioid addicted individuals, as many of the patients addicted to opioids demonstrate a manipulative behavior as evidenced by drug seeking, diversion, and non-compliance with healthcare recommendations (Alford, 2016). Nurses are trained to remain objective and be sensitive to patients' needs, however, managing patients on opioid therapy can be difficult, especially when opioid misuse issues become apparent (Painter, 2017). Potential bias was minimized by asking my preceptor and trusted colleagues to review my synthesized evidence to make certain my DNP project was not biased. The practicum site is not my place of employment, and the DNP project has no connection to my employment responsibilities.

Role of the Project Team

The project team will consist of the practicum sites' primary stakeholders who are the Clinic administrator (my preceptor), Director of Nursing (DON), and Nurse Educator. Each project team member held an ongoing active role in the project from the start and is expected to continue participation for the life of the project. The Clinic Administrator has committed to a monthly meeting to disclose the progress of the project. During the monthly meetings, project team members were informed of the literature-evidence that supported and sustained the existence of the project. Upon project completion, and approval from Walden University's Internal Review Board (IRB) to move forward with

the project, I was able to implement the opioid safety discharge plan. The timeline when nurses were educated on the opioid discharge plan is represented in Table 1 below.

Table 1*Staff Education on Opioid Discharge Planning*

Step 1	Step 2	Step 3	Step 4	Step 5
Opioid Safety Pretest	PowerPoint Presentation	Opioid Safety Posttest	Implement Opioid Discharge Plan	Appraise Teach-Back Method Effectiveness
Date: 12/1/2020	Date: 12/1/2020	Date: 12/1/2020	Began 12/7/2020	Began 12/7/2020

Summary

The aim of the DNP project was to set strong precedents that clearly define the importance of producing evidenced based nursing knowledge to bridge the gap in education through educating nurses to teach patients prescription opioid safety at discharge. As identified in the relevance to nursing practice, educating patients how to properly take opioids can reduce the financial burden and hardships prescription opioid addiction has caused. It is critical that nurses and other health care professionals receive updated evidence-based information on the prescription opioids epidemic and to understand the importance of discharging patients with opioid safety discharge instructions (Costello, 2015). The doctoral project utilized the evidence to help minimize the gap in nursing practice and strengthen participating nurses' knowledgebases regarding the current opioid epidemic in the U.S. In addition, multiple government initiatives have begun to assist in decreasing the vulnerabilities associated with opioid usage by funding programs throughout the nation that could save lives. My role as the DNP student, team leader, and nurse educator was to translate the researched evidence

into nursing practice by providing the practicum site with an evidenced-based opioid discharge plan. In Section 3, I discussed the practice-focused question, sources of evidence, evidence generated for the doctoral project, and analysis/synthesis.

The practicum site clinic is located in a low socioeconomic area, providing affordable healthcare to nearly 200 patients diagnosed with chronic and acute health care problems for which opioid prescriptions are necessary for pain control. Both the CDC (2016) and DHHS (2017) agree that prescription opioids are essential in relieving pain but requires healthcare professionals to educate consumers how to properly take, store and dispose of them. Now that nurses have an improved knowledgebase and skills generated from best clinical practices, they are competent in teaching patients how to safely take prescription opioids outside of the healthcare setting (Costello et al., 2016). In Section 3, I outlined the practice-focused question for the DNP project and described the collection and analysis of evidence which guided by the CDC opioid prescribing guidelines.

Section 3: Collection and Analysis of the Evidence

Introduction

CDC (2016) reported that prescription opioid abuse has become an epidemic in the United States. Thousands of American citizens have become dependent on prescription opioids leading to overdoses and deaths. Costello et al. (2016) revealed that multiple patients nationwide are being discharged from clinical services without a clear understanding of how to properly take prescription opioids. Costello (2015) indicated that if patients prescribed opioids are educated at discharge on the risks and benefits of opioid misuse, abuse, improper storage, and disposal negative outcomes could be minimized. The purpose of the DNP project provided nurses at the practicum site with an evidence-based discharge plan that would assist them into educating patients how to effectively consume opioids. Section 3 discussed the practice-focused question, revealed the sources of evidence, and how the evidence was collected and analyzed.

Practice Focused Question

A university hospital emergency department study revealed that only 56% of patients prescribed opioids received discharge instructions on how to use opioids properly. The lack in consistent opioid discharge education provided to patients prescribed opioids has contributed to the United States opioid epidemic (Waszak et al., 2018). The opioid abuse outbreak has caused devastation in many communities across the nation. For example, opioid abuse, addiction, and overdoses has led to avoidable deaths, and has caused children to grow up without parents (Manworren & Gilson, 2015). In

addition, increased healthcare cost, creation of treatment programs, and loss of productivity has drained economic resources (CDC, 2016).

Nurses at the practicum site experienced a gap in practice, they were not providing current evidenced-based information to patient on the components of how to appropriately take prescribed opioids at discharge. The purpose of the DNP project was to bridge the gap in practice by providing nurses with information to educate patients at discharge as to how to take opioids safely, and properly store and dispose of them. It has been determined that when patients understand these essential elements of opioids, adversities are minimized (Costello, 2015). Likewise, when nurses are well-informed of the opioid epidemic, they can become empowered with awareness and behavioral shifts needed for supporting the appropriate use, prevention/reduction of prescription opioid misuse among discharged patients receiving prescription opioids for pain control (Costello et al., 2016). The practice focused question selected to address this situation was: Will implementation of an opioid discharge plan along with the teach back strategy increase patients' understanding of how to properly take prescription opioids compared to the patients who do not receive opioid education at discharge?

The practice-focused question provided distinct direction in the search of relevant and precise information to answering the question (Zaccagnini & White, 2014). The staff development program guided by the practice-focused question enhanced nurses understanding of the opioid addictive properties. The project also produced self-care evidence-based strategies that could promoted healthy lifestyle choices for patients discharged with prescription opioids. In addition, use of the teach-back strategy measured

patients' understanding of how to properly take, store and dispose of opioids (Waszak et al., 2018). The staff development program consisted of a verbal PowerPoint presentation. The primary stakeholders or attendees included the clinic administrator, nursing staff, and physicians. Each participant was allowed to keep the paper PowerPoint presentation for future reference. A pretest was given to each participant in order to establish their fundamental knowledge base and a posttest to validate understanding. To alleviate any misunderstandings, time was set aside to discuss any questions or concerns after the presentation (Waszak et al., 2018).

Sources of Evidence

The databases used to gather information included the Cochrane Library, National Guideline Clearinghouse, Joanna Briggs Institute, CINAHL, EBSCO host, ProQuest, MEDLINE, Science Direct, Nursing & Allied Health, Google Scholar and Ovid Nursing Journals. Public websites such as CDC, the Center for Research Quality, NIDA, IOM, NIH, and SAMHSA were also searched. The search terms used were prescription opioids, opioid abuse, opioid epidemic, opioid discharge plan, opioid storage, opioid overdose prevention, teach back method, opioid education. The Boolean operator AND was also used to connect and define the relationship between the nurse and the opioid epidemic. The publication years selected ranged from 2011-2020. Both systematic review articles and peer-reviewed journals were reviewed from numerous databases. The literature search yielded 30 articles, of which 20 were used in the DNP project.

A literature review matrix was created to organize and effectively synthesize the information collected from the databases to answer the research question (Appendix B).

The Melnyk Hierarchy of Evidence Decision-making Matrix allowed for classifying the data linked to prescription opioid discharge planning (Melnyk & Fineout-Overholt, 2015). The Melnyk matrix was used as a guiding tool to identify evidence-based data and evaluate its relevancy (Melnyk & Fineout-Overholt, 2011). The literature review consisted of data originally published in the English language primarily about opioid discharge planning and excluded publications related to opioid use. The literature matrix also served as a pathway into translating the evidence into nursing interventions that could directly bridge the gap in nursing practice by educating both healthcare staff and patients about opioid discharge planning (Melnyk & Fineout-Overholt, 2011).

Nursing practice is addressing the opioid epidemic with different educational venues. A descriptive study presented as a nursing quality improvement project was selected because it concentrated on nurses receiving opioid safety education that could empower them to provide discharge instructions to patients prescribed opioids at discharge from the Emergency Department using teach-back methods (Waszak et al., 2018). The study revealed that over 50% of patients prescribed opioids were not consistently receiving discharge instructions by the physicians. The responsibility to provide opioid safety discharge instructions was shifted to the nursing staff. Nurses received training on opioid safety, learned how to effectively educate patients using the teach-back method which assessed their understanding. As a key finding, nurses and patients gained a better understanding of the benefits and risk associated with prescription opioids as evidenced by the pre/posttest results. The study concluded that proper delivery of opioid discharge education can positively improve patients' knowledge and prevent

negative outcomes (Waszak, 2018). The study is in direct alignment with my DNP project because it supported education using the teach-back method allowing evaluation of program participants comprehension.

Costello et al. (2016), used a pre/posttest to evaluate nurses' knowledge of the current opioid epidemic, risk factors associated with opioid addiction, signs and symptoms of overdose, proper use, storage, and disposal of opioids. After the pretest, the nurses ($n=53$) received a 40-minute educational program derived from the pretest questions. In addition, patients who were being discharged on oral pain analgesics were provided with opioid instructions during hospitalization and at discharge ($n=93$), and a follow-up telephone survey was conducted a week after discharge to answer any questions or concerns. There was a substantial increase in the nurses' knowledge after receiving education regarding opioids per their posttest results, and based on the subsequent telephone survey results, the patients' knowledge increased as well. The overarching conclusion indicated that education is the key component to preventing opioid misuse and abuse (Costello, Thompson, Aurelien & Luc, 2016). The evidenced-based information contained in this study supported and provided an applicable pathway into addressing my DNP projects practice-focused question.

The teach-back method was implemented to improve communication in an emergency department. Fifty-one semi-structured in person interviews were conducted using a grounded theory approach until the interviewers were satisfied no new information could be obtained. The following themes were identified: confirmation of learning and avoid forgetting, concerns about distraction and time, concerns about

provider profiling and bias, concern about admitting lack of understanding, and suggestions for introducing teach back methods. As a recognized specific theme, it was concluded that a lack of participants' understanding is paralleled to miscommunication, which therefore, requires a more simplified approach in creating the teach-back questions (Samuels-Kalow et al., 2016). The insight gained from this study benefited my DNP project by ensuring that the teach-back questions be based on a fourth to sixth grade reading level.

Understanding the mechanisms of opioids can be a complex endeavor. In order for non-prescribing nurses to care for patients receiving opioids, they should be familiar with the benefits, risk, and how to effectively manage overdoses. A study was developed to evaluate nurses' pharmacological knowledge of opioids. A validated survey was given to nearly 600 nurses in a large medical institution. The findings indicated that the nurses were well informed of opioids multifaceted components ranging from pain reliever to overdose death and understood how to clinically address them. Used as an educational tool, the study concluded the information can assist nurses in delivering opioid informed care (Kaiser, 2020). Enhancing nurses' knowledgebase regarding opioids is also the desired goal of the DNP project.

The purpose of assessing an integrative review was to investigate how programs were educating nurses regarding opioid use disorder. In addition, the study examined what evaluation tools were being used to evaluate learning outcomes. Multiple empirical articles were reviewed, excluding those that did not meet the inclusion criteria. Among various evaluation methods, it was found that pre/posttest was used as self-assessment

tools to ascertain if participants grasped the program content. It was concluded that further research was needed to determine what teaching strategies and evaluation methods are best to optimize the knowledge of both nurses and patients (Fournier & McCurry 2020). The DNP project aim was in direct alignment with this study because the intention for both revolves around enhancing nurses and patients understanding of the opioid epidemic.

Evidence Generated for the Project

The participants participating in the DNP project were 23 Registered and Licensed Practical Nurses from an ambulatory clinical care setting. Nurses at the clinic provide patient care utilizing the nursing process by focusing on problem assessment, establishing plans to meet the identified needs, delivering patient centered nursing interventions, and confirming successes based on the designated evaluation method. Despite the hiring criterion of having at least one year of clinical experience, each nurse working at this clinic has 10 or more years of medical-surgical knowledge. The clinic hours are from 0900 to 1700, Monday through Saturday. Nurses are employed fulltime, part-time, and as needed. There were no nursing exclusion criteria because each nurse is qualified to participate in the intended quality improvement DNP project. Nursing support staff was not included.

Procedures

In a classroom setting, I administered a paper and pencil pretest entitled “Opioid Safety” to each participant (Appendix C). The pretest consisted of six questions developed from the CDC 2016 opioid prescribing guidelines targeted on preventing

opioid addiction, and how to properly store and dispose of opioids. Participants were given time to complete the questionnaire and were restricted from using assistive devices, such as phones or computers, to complete the pretest. Once the nurses completed the pretest, they were placed in an envelope marked “Pretest.” The pretests were numbered 1-23 to ensure that each staff member participated in the learning event. The participants’ identities remained anonymous as they were asked not to place their names on the pretests. I collected the “Pretest” placed them in an envelope and secured them in a locked private office for later comparison to the posttest responses. For the clinics’ purposes, all participating nurses were required to sign in as evidence they attended the class. The sign in sheet was given to the nursing director.

Immediately following the pretest, in the same classroom setting I provided a 30-minute training session comprised of up-to-date information on the opioid crisis in America. A PowerPoint presentation was developed from peer-reviewed articles, including the CDC guidelines for prescribing opioids (2016). Using the PowerPoint presentation titled “The Opioid Epidemic: A Nursing Staff Development Program” I educated nurses on the addictive pharmacology attributes of opioids, clarified safe usage, proper storing, disposal of opioids, and how to educate patients using the teach-back approach. The teach-back approach has been identified as an evidence based valuable tool to confirm patient education understanding (Waszak, Mitchell, Ren, & Fennimore, 2018). After the educational session, there was time set aside for questions and answers.

After the PowerPoint presentation, as Nurse Educator I administered a paper and pencil posttest entitled “Opioid Safety” to each nursing participant (Appendix C). The

posttest consisted of ten questions developed from the CDC opioid prescribing guidelines targeted on preventing opioid addiction, and proper storage/disposal recommendations (2016). Participants was given time to complete the questionnaire and were restricted from using assistive devices, such as phones or computers to complete the posttest. The posttests were numbered 1-23 to ensure that each staff member participated in the learning event. Once the nurses completed the posttest, they were placed in an envelope marked "Posttest". I collected the envelope and secured them in a locked private office for later comparison with the pretest. The participants' identities remained anonymous as they were asked not to place their names on the posttests.

Over an 8-week period nurses implemented the opioid discharge plan immediately following the decision for a patient to receive opioids. In the privacy of an examination room, patients received education from the nursing staff on how to appropriately take, store, and dispose of opioids, and why medication should never be shared. Nurses gave patients an educational opioid fact sheet (Appendix D) developed by the CDC (2016) to take with them as a reminder of what was explained. Nurses was instructed to ask the patients to repeat the opioid related information back to them. Both the verbal and written instructions was presented at a fourth to six-grade level. To maintain consistency, the opioid fact sheet will be used by the nursing staff to ensure every patient receives the same opioid information at discharge (Byrne, Sierra, & Tolhurst, 2017). Use of the teach-back strategy allowed nurses to assess how well patients understood the information and determine if further teaching was required (Samuels-Kalow, Hardy, Rhodes, & Mollen, 2016). The patients' identities remained confidential. A computed tally of the patients

who participated was kept by the nursing administrator and the numeral amount was given to me at the end of the 8-week period. The nurses documented each patients' opioid discharge instructions in their electronic medical records, noting if patients were able to recite what was explained and how well they understood the information provided. The Information Technology (IT) department provided me with unidentified data of the patient opioid discharge instructions two months before and two months after the educational program delivery. The IT department printed off the unidentified data and gave it directly to me. The data was uploaded into an Excel file and maintained on my personal password protected computer and the data on paper was shredded immediately afterwards. A data comparison was made to determine how many patients prescribed opioids received discharge instructions before and after the educational program. The data was then analyzed to ascertain if the patients' understanding of how to properly take prescription opioids increased after receiving the opioid discharge instructions.

The data from the pre/posttest questionnaires was uploaded into an Excel file and maintained on my personal computer that is password protected. The actual paper questionnaires were destroyed when the data was entered into the computer. The data collected did not contain any demographic information, only numbers to visually maintain an accurate account of the 23 nursing participants. Descriptive statistics was used to evaluate the pretest and posttest results.

Analysis and Synthesis

The data gathered from the pre/posttest was analyzed using descriptive statistics, and the findings were synthesized. The pre/posttest scores of the nursing participants

were entered into a Microsoft Excel spreadsheet. Careful attention was made in collecting the pre/posttest forms at the end of each session, ensuring they were placed and sealed in the correct envelopes entitled pretest or posttest. The results of the pre/posttests were compared to determine if the posttest scores increased to a minimum of 5-10% after participating in the educational program. In addition, two months of unidentified retrospective nurses' documentation was evaluated to determine how many patients received opioid discharge instructions and how well they understood the information prior to the educational experience. Prospective data examining the nurses' documentation of opioid discharge instructions was also analyzed two months after the participants received the evidenced-based education on prescription opioids. Both retrospective and prospective data was entered into an Excel spreadsheet, analyzed, and synthesized using descriptive statistics. The goal was to have at least 10-20% increase in patients' understanding of how to properly take prescription opioids as compared to the patients who did not receive opioid education at discharge.

Summary

Patients prescribed opioids without receiving evidenced-based opioid discharge instructions could have a devastating outcome (Costello, 2015). The DNP project provided nurses with information and strategies to teach patients prescribed opioids how to properly take, store and dispose of them. Nurses received a pretest prior to the PowerPoint presentation and a posttest after the educational session. A question-and-answer period was held for nurses after the posttest. Electronic documentation of nurses' clinical encounters of patients who received opioid discharge instructions two months

before and two months after the educational program was provided to me by the organizations' IT department. Data collected from the pre/posttests along with the retrospective and prospective information was uploaded to an Excel spreadsheet in my password protected personal computer, then analyzed and synthesized using descriptive statistics. Section 4 explained the DNP project findings, recommendations, strengths, and limitations.

Section 4: Findings and Recommendations

Introduction

CDC (2016) reported nearly 100 people die daily from an opioid overdose in the United States. Patients being discharged from clinical services without being properly educated on prescription opioid safety measures have been recognized as a major contributing factor to a significantly high number of overdoses and preventable deaths (Costello & Thompson, 2015). Thus, the need to address patient education regarding prescription opioids at the time of discharge continues to be relevant in addressing the gap in nursing practice (Costello & Thompson, 2015). Nurses at the practicum site was unfamiliar with evidenced based strategies that could assist patients prescribed opioids understand how to safely consume, store, and dispose of unused opioids. An opioid staff development DNP project was created to teach nurses about the opioid epidemic and how to educate patients who are prescribed opioids prevent adverse reactions. The practice-focused question was: Will implementation of an opioid discharge plan along with the teach-back strategy increase patients' understanding of how to properly take prescription opioids compared to the patients who do not receive opioid education at discharge?

The DNP project goal was to implement an opioid discharge plan to increase nurses' awareness of the opioid epidemic in the United States so they could properly educate patients during clinical discharge how to reduce the risks associated with prescription opioids. The opioid discharge plan was extrapolated from the CDC 2016 opioid prescription guidelines to ensure healthcare providers were educating patient with consistent evidence-based information. Various sources of evidence were used to help

achieve the desired outcomes and create a literature matrix (Appendix B) to prevent article search duplications. As outlined in Section 3, a host of databases from Walden University, Cochrane Library, ProQuest, Google Scholar, to the CDC (2016) were used to retrieve evidenced-based information relevant to addressing the practice-focus question. Specific keywords were used in the search engines to simplify the process. For example, opioids, opioid epidemic, overdose, produced articles that was applicable to the project. To delve deeper into locating appropriate data, the Boolean operator AND was necessary to use to show the correlation between the nurse, prescription opioids, the opioid epidemic, and the patient. Additionally, to show trends of the existing concerns, the publication years ranged from 2011-2020, where 20 of the 30 articles searched were incorporated in the DNP project. The evidence gathered from the extensive literature search produced a pre/posttest, PowerPoint presentation, opioid fact sheet, and an opioid safety sheet. Section 4 reviewed the projects findings and implications, the contribution of the doctoral project team, as well as the strengths and limitations of the project.

Summary of the Findings

The objective of the DNP project was basically twofold. First, increase the nursing participants understanding of the opioid epidemic in the United States by 5-10%. Studies have demonstrated that educating nurses on prescription opioids increases their knowledge base and the content they teach their patients (Costello, 2016). Secondly, the primary goal of the project was to enhance patients' cognizance of how to properly take prescription opioids by 10-20%. Educating patients on the risk factors related to taking prescription opioids can improve outcomes and help minimize opioid abuse (Alford,

2016). The practice-focused question was: Will implementation of an opioid discharge plan along with the teach-back strategy increase patients' understanding of how to properly take prescription opioids compared to the patients who do not receive opioid education at discharge?

Objective 1: Increase the nursing participants understanding of the opioid epidemic in the United States by 5-10%

On December 1, 2020, I provided the opioid discharge planning educational intervention for all employed nurses in a classroom setting lasting approximately two hours. The staff development educational program began evaluating participating nurses' existing knowledgebase of the opioid epidemic, risk factors associated with opioid addiction, signs and symptoms of overdose, proper use, storage, and disposal of opioids. Nurses ($n=23$) received a 10-question pencil and paper questionnaire as a pretest with correct answers was worth 10 points each. Nurses were instructed to remain anonymous and not to put their names on the test, each test was numbered in order from 1-23. After test completion, the pretests were collected, placed in an envelope labeled Pretest and secured in a locked private office with access to only the Director of Nursing (DON) and me. The pretest results were 92%, which demonstrated an intelligence of the opioid epidemic, but a few nurses were not aware of the documented negative consequences of improper storage and disposal of opioids could have (Table 2). For example, leaving opioids unattended could lead to adolescent diversion and possible addiction (Fogger & McGuinness, 2015). In addition, some nurses were not aware of the signs/symptoms of

opioid dependence, and the difference between opioid dependence and addiction. The results from the pretest supported the need to provide the educational intervention.

Table 2

Pretest

Test number	Results
Test # 1	90
Test # 2	100
Test # 3	80
Test # 4	90
Test # 5	90
Test # 6	100
Test # 7	70
Test # 8	100
Test # 9	90
Test # 10	90
Test # 11	100
Test # 12	80
Test # 13	90
Test # 14	100
Test # 15	100
Test # 16	90
Test # 17	100
Test # 18	100
Test # 19	100
Test # 20	90
Test # 21	100
Test # 22	80
Test # 23	90
Average=92%	

A 30-minute PowerPoint presentation followed the pretest, addressing each question on the pretest. The teach-back method was introduced, explaining the importance of summarizing information provided to patients in clear plain language and asking patients to repeat the information back in their own words. Participants were allowed time to ask questions and or voice concerns. Then, the same test as the pretest

was administered, and labeled posttest (Appendix D) to evaluate the knowledge gained. The tests were collected upon completion, placed in an envelope identified as Posttest, and placed in a securely locked private office for later comparison to the pretest results. Only the DON and I had access to the office.

The posttest data was carefully transcribed and entered into a Microsoft Excel spreadsheet on my password protected computer. Using descriptive statistics, the posttests were analyzed and compared to the pretests. The posttest results yielded to a 100% (Table 3). The first objective of the DNP project was met, nurses' knowledgebase of prescription opioids increased by 8% after participating in the training.

Table 3*Posttest*

Test number	Results
Test # 1	100
Test # 2	100
Test # 3	100
Test # 4	100
Test # 5	100
Test # 6	100
Test # 7	100
Test # 8	100
Test # 9	100
Test # 10	100
Test # 11	100
Test # 12	100
Test # 13	100
Test # 14	100
Test # 15	100
Test # 16	100
Test # 17	100
Test # 18	100
Test # 19	100
Test # 20	100
Test # 21	100
Test # 22	100
Test # 23	100
Average=100%	

Objective 2: Increasing Patient Knowledge of How to Take Prescription Opioids by**10-20%**

The next step of the educational intervention entailed nurses educating volunteered patient participants prescribed opioids at discharge how to avoid negative adverse outcomes. Each patient participant received a semi-structured in-person private teaching session. The opioid safety checklist was used with each patient to ensure all the intended information was covered (Appendix A). The teach-back method was utilized to

improve communication and ensure patients were able to understand by repeating the information provided (Samuels-Kalow, Hardy, Rhodes, & Mollen, 2016). In addition, patients were given a take home copy of the opioid fact sheet (Appendix E) to reference the information later and possibly share with family/friends.

The director of nursing provided me a paper computer generated copy of deidentified documentation which reflected 8 weeks of retrospective data of patients who received opioid discharge planning education and whether or not they voiced understanding. The data was entered onto an Excel spreadsheet on my password protected personal computer and shredded after uploading the information. The retrospective data was analyzed using descriptive statistics to formulate results. The retrospective data (09/01/2020-10/31/2020) displayed that 27% of patients (n=15) received opioid discharge education and none had documentation reflecting they understood the education received (Table 4).

Table 4

Retrospective Data (n=15)

Questions	Yes	No	%
Did the patients receive opioid education at discharge?	4	11	27
Were the patients understanding documented at discharge?	0	0	0

The director of nursing also provided a paper computer generated deidentified documentation of prospective data. This data was 8 weeks post nurses receiving the opioid discharge planning training, and every patient prescribed opioid medications

during the identified timeframe was included. The data was recorded onto an Excel spreadsheet on my password protected personal computer. The hard copies of data were shredded immediately afterwards. The prospective data (12/07/20-02/07/2021) represented that 88% of patients ($n=17$) received opioid education at discharge and each of them had documentation voicing understanding (Table 5). Unfortunately for unknown reasons, two of the patients prescribed opioids during the agreed timeframe did not receive opioid education at discharge. The DON indicated they would contact those individuals and request that they return to the clinic to receive prescription opioid awareness education. Nurses verbally expressed that the main ingredient that heightened patients' awareness of universal opioid precautions was the teach-back method, which was solely designed to assist patients remember the information (Samuels-Kalow, Hardy, Rhodes, K., & Mollen, C. 2016). As evidenced by the increased results of patients receiving opioid discharge education and voicing comprehension confirmed the DNP project effectiveness, the second project objective was met. The patients' cognizance of how to properly take prescription opioids increased by 61%, succeeding the projected increase of 10-20%.

Table 5

Prospective Data (n=17)

Questions	Yes	No	%
Did the patients receive opioid education at discharge?	15	2	88
Were the patients understanding documented at discharge?	15	2	88

Findings and Implications

Discharge planning is the first key metric discussed in Section 4. Discharge planning is a strategy used to prepare patients and their family members (if applicable) how to care for themselves and recognize adverse warning signs that need to be shared with their healthcare provider (Waszak, Mitchell, Ren, & Fennimore, 2016). The opioid discharge plan used in the DNP project provided evidenced based information related to outcomes experienced by patients prescribed opioids. The peer-reviewed information obtained from various articles was articulated in easy-to-understand language, both verbal and in writing. The DNP project provided a safer transition for patients prescribed opioids with evidenced based educational tools that provided predictable plausible outcomes (Costello, 2015). Because of the usability of the structured opioid discharge plan, nurses educated their patients on opioid universal precautions, engagement of patients in the teach-back method, and allowed time for questions/answers in 15-20 minutes. The stakeholders and nursing staff at the practicum site agreed that using the opioid discharge plan captured patients' attention and assisted with mediating the opioid epidemic in the neighboring community.

The second metric discussed in this section pertained to usage of pre/post testing. Pretests was designed to determine the DNP project participants pre-existing knowledge of the national opioid epidemic. I was able to obtain quantifiable data from the pretest to later compare with the posttest results using descriptive analysis. The results from the pretest were an informative guide into understanding what components of the educational session required more in-depth conversation prior to administering the posttest. The

pretest results demonstrated that nurses were aware of the opioid epidemic (Table 2) but required additional information on the importance of educating patients prescribed opioids during the discharge process. In addition, the results of the participants pretest guided me to spotlight on the evidence of how educating patients at discharge about prescription opioids minimized adverse reactions (Costello, 2016).

The data collected from the posttest revealed that nurses became better equipped to educate patients prescribed opioids. The posttest results increased to 100% (Table 3), validating the effectiveness of the educational intervention.

The retrospective data was collected 8 weeks prior to the nurses' receiving education on opioid discharge planning, and the prospective data was obtained 8 weeks after nurses were educated. The data were analyzed, and the metrical results were used to determine if the patients' prescribed opioids received opioid discharge planning increased after nurses participated in the opioid educational intervention. The comparative results of the retrospective and prospective indicated that the practicum site nursing staff executed the opioid discharge plan successfully. The two questions presented in both areas were the same: (a) Question 1: Did the patients receive opioid education at discharge? and (b) Question 2: Were the patients understanding of prescription opioid education documented at discharge? The retrospective data for Question 1 was 27% and Question 2 revealed 0%. The prospective data findings yielded 88% for both questions. The last metric consisted of a follow-up telephone survey which was conducted a week post discharge to address any questions or concerns with participating patients ($n = 17$). Thirteen patients answered and denied questions or concerns, one patient requested

another opioid fact sheet which was mailed and no answer for the remaining three. The findings concluded a considerable increase in patients receiving opioid education at discharge and using the teach-back method voiced understanding of how to properly take, store and dispose of prescription opioids. Based on the outcomes, the DNP project answered the practice-focused question of: Will implementation of an opioid discharge plan along with the teach-back strategy increase patients' understanding of how to properly take prescription opioids compared to the patients who do not receive opioid education at discharge? The answer was yes.

Institution

The practicum site stakeholders highly endorsed implementing the opioid discharge plan. The DNP project results changed how the institution conducted discharging patients prescribed opioids. Due to the institution not having an official prescription opioid discharge plan, the nursing staff was mandated to adhere to the DNP project guidelines by ensuring that every patient ordered opioids received opioid discharge instructions. The organization sponsors viewed the results obtained from the pre/posttest, and the retrospective and prospective data and concluded that the DNP project was a key step towards preventing negative outcomes related to prescription opioids. The information nurses acquired from participating in the project assisted them in becoming confident in their approach to teaching patients' opioid universal precautions. Another crucial component of the project was reminding nurses of how and why clear documentation is important to the educational process. Bastable (2013) explains that nurses are obligated to describe in the patients' medical record the quality of

care provided and how the patient responded to that care. Proper documentation also serves as a tool in protecting the institutions integrity, maintain compliance, and demonstrates professionalism (Dahn, 2016). An additional positive impact the project had on the institution was increasing nurses job satisfaction as ongoing learning opportunities at work are linked to employment retention (Pendergast, 2017).

Individual

The patients all were willing participates in the opioid discharge training session. Nurses were able to engage patients in the educational process by using the teach-back method as a two-way conversation while encouraging them to ask questions. The opioid discharge project was communicated in a non-judgmental easy to understand verbiage for patients at a fourth-six grade reading level to ensure comprehension. The project allowed patients to become involved in their own health care, providing information that could assist them in making informed decisions. Healthcare practitioners have now begun to focus on prevention and providing individuals with self-care evidence-based education that if used could prevent future problems (Alford, 2016). The Health Belief Model (HBM) suggests that when individuals are aware of perceived threats, they are likely to take precautions and modify behavior (s) that could motivate action (s) for change (Rosenstock, 1990). As a result of the educational intervention, individuals prescribed opioids were provided with knowledge and skills to better manage prevention efforts (Costello, 2015).

Recommendations

The nature of this practice improvement project involved using an evidence-based tool to provide information to nurses regarding the prescription opioid epidemic and communicate the importance of following a discharge protocol that could heighten the awareness of patients prescribed opioid medication. To bridge the gap in practice and improve the knowledgebase of patients, Costello, Thompson, Aurelien, and Luc, (2016) recommended that nurses must be educated first to understand the benefits and harmful effects of opioid medications. The Clinical Administrator advised the DON, and Nurse educator to continue using the DNP opioid discharge educational interventions as a component of the orientation process. Both the DON and Nurse Educator agreed to maintain the DNP project as directed. Also recommended by the DON was the on-going mandate of educating every patient prescribed opioids' at discharge. In addition, the DON indicated that the teach-back method would be incorporated into other patient teaching modules.

In further discussion with the project team, they consented to transferring the DNP project information to other areas in the clinic. From an internal perspective, transferability of the doctoral project had already begun with nurses sharing the evidence with their nursing colleagues and other team members at the site, such as doctors and technicians. Externally, the patients' prescribed opioids were given an opioid fact sheet to take with them with hopes of them sharing the information within the community. Additionally, opportunities exist where the information included in the DNP project can be transferred to educate nurses among various departments as well as other healthcare

institutions that are willing to customize the interventions to meet their needs (Schloemer & Schröder-Bäck, 2018).

Contributions of the Doctoral Project Team

For the success of the DNP project, key stakeholders played an integral role with aiding in educating patients prescribed opioid medication at the time of discharge. White, Dudley-Brown and Terhaar (2016) concluded stakeholders are individuals or entities that will be affected by a program's implementation or its results. To confirm the plans effectiveness, the team consisted of a Clinic Administrator (preceptor), DON, and Nurse Educator. An interprofessional collaborative practice (IPCP) approach was used to prevent biases and ensure ongoing input from the organizations' primary stakeholders until project completion. IPCP is the process by which health care providers with different areas of expertise work together to identify needs and problems, then find ways to meet the needs and solve the problems (Cooper-Duffy, & Eaker, 2017). Although each position varied, all were involved in the project from the inception and its completion of the plan.

To maintain a steadiness of progress reports, the Clinic Administrator committed to holding monthly meetings in-person or via a virtual platform. The Clinic Administrator mandated all team members attend the meeting to review the educational process and remain abreast of the projects progress. Team members received an agenda that outlined the purpose of the project and items to be discussed during each meeting courtesy from the DON and Nurse Educator. Additionally, both the DON and Nurse Educator took responsibility of providing needed resources to ensure the project success. When the

project received final approval to move forward from the Research Committee Members, the DON and Nurse Educator ensured every nurse attended the training session. At the conclusion of the project, the Clinic Administrator, the Director of Nursing, and Nurse Educator committed to transferring their knowledge and helping others understand how important implementing the opioid discharge plan is to saving lives.

My role in the doctoral project consisted of being the team leader, synthesizing and implementing the evidence-based opioid discharge plan. The training session was selected by the Nurse Educator who kept account of each participants attendance. Upon completion of the project, the Clinic Administrator requested that I discuss the projects outcomes with every staff member who participated. Everyone, including myself, was extremely ecstatic with the DNP project results and felt confident of the success in transferring the projects guidelines to other healthcare practitioners.

As team leader, I provided a verbal 30-minute PowerPoint presentation with discussion points to the practicum site nursing staff regarding the extent of the current opioid epidemic in the United States. The PowerPoint presentation included evidence-based information obtained from the CDC (2016), explaining the addictive pharmacology of opioids, safe usage, proper storing, proper disposal of opioids, and usage of the teach-back method. Nurses play a pivotal role in educating patients to use prescription opioids safely. When nurses understand opioid safety, so will their patients (Costello, Thompson, Aurelien, & Luc, 2016). Furthermore, I provided nurses with written fourth-grade material for patients to take home as an important reminder how to use opioids safely, and how to properly store and dispose of them (Waszak, Mitchell, Ren, & Fennimore,

2018). Potential contributions continue to build within the healthcare industry by acknowledging research has revealed when nursing receive relevant and ongoing educational in-services, related to their job, they gain a sense of professional growth and self-assurance in performing their tasks (Ayaz-Alkaya, Yaman- Sözbir, & Bayrak-Kahraman, 2018). Additionally, with an increase in nurses' knowledge about how to properly take, store, and dispose of opioids, they become more confident and comfortable within their environment; thus, increasing the retention rate (Zieber & Sedgewick, 2018).

Strengths and Limitations of the Project

Strengths

The stakeholders welcomed the opioid discharge plan project. The support and assistance provided by the project team members created enthusiasm for the nursing staff to participate in the project. The role of prescription opioids in fueling the health care crisis of addiction in the United States is undisputable (CDC, 2016). The DNP project was developed to respond to the opioid crisis by promoting prescription opioid safety, reducing risks of opioid dependence and or overdose by educating both nurses and patients on best practices to avoid negative outcomes. Nurses were educated on strategies to teach patients how to properly take, store, and dispose of unused opioids. Development and implementation of the DNP project was cost effective, funding was not required. The project used resources that was readily available at the practicum site. The stakeholders provided me full access to every department that could assist in completing the project.

The ongoing concern that exists and helps contribute to the opioid epidemic crisis in the U.S. is that patients are being discharged by healthcare providers without receiving discharge instructions (Costello, 2015). According to Vinson (2013), when patients receive an explanation of how to properly take opioids at the time of discharge can significantly reduce opioid dependency and addiction. Addiction has created hardship among families, loss of wages and social connections (Markocic et al, 2016). As a prevention approach, the opioid discharge plan gave patients the tools to reduce the likelihood of prescription opioid misuse and addiction.

Limitations

Initially the COVID-19 pandemic created limitations on the institutions ability to conduct business as usual. The project was postponed for approximately one and half months due to a few nurses, including the Director of Nursing, being diagnosed with COVID-19. Strict return to work guidelines were enforced, employees were restricted from returning to work for fourteen days post exposure or positive COVID-19 test results. In addition, the facility had to be thoroughly disinfected before staff could return to work. The Director of Nursing maintained telephonic contact with me apologizing for delaying the project. The unprecedented pandemic is overshadowing the opioid epidemic in the U.S., overdose related deaths has increased during this time that world is focused on eradicating COVID-19 (CDC, 2020).

Summary

The practicum site did not have a systematic discharge plan to educate nurses on proper prescription opioid use. Therefore, patients were being discharged from clinical

services with little or no information regarding prescription opioid safety. I developed an opioid discharge plan to educate nurses to teach patients prescribed opioids about the opioid epidemic crisis in the U.S and how to minimize negative outcomes. The results obtained from the pre/posttest revealed an increase in the nurses' knowledgebase of the prescription opioid epidemic. After the nursing staff participated in the educational training session, they began providing patients with evidence-based information on how to properly take, store, and dispose of opioids. Additionally, nurses used the teach-back method to ensure patients comprehended the information given to them. The analysis of retrospective and prospective data confirmed an increase in the number of patients receiving opioid discharge instructions. The Clinics stakeholders decided to integrate the projects guidelines into their nurses' orientation process. Section five explained my dissemination plan, the analysis of self, and summary.

Section 5: Dissemination Plan

Introduction

The intentional aim to spread information to an identified target population of patients prescribed opioids and possibly those affected by the negative impact these medications could present created a pathway to productive conversations within the organization itself. The clinical administrator plans to disseminate the project findings to other areas prescribing opioids to assist in mitigating the risk for them as well.

Dissemination of positive program results should be shared with other audiences and healthcare organizations that could be cost effective and bridge health care disparities among vulnerable groups (Ballantyne & Kolodny, 2015). Drug addiction has created hardship among individuals, as well as families, and communities across diverse cultures (Markocic et al., 2016). The project team is committed in distributing the program outcomes with neighboring community groups and other local stakeholders.

The project results dissemination strategies began with the project team members mandating every nurse who participated in the DNP project attend a meeting to discuss the findings. Upon request from the clinic administrator, I presented the project results gathered from analyzing and synthesizing the data collected. In a classroom setting, visual aids were used to explain and demonstrate a detailed procedure of how the project findings were finalized. A televised Excel computer presentation of the nurses pre/posttest questions and answers were used to display the results with their identities remaining anonymous. Nursing program participants were able to visualize for themselves an overall 8% increase in their knowledge base post receiving the educational

intervention. The presentation also included both retrospective and prospective program data reflecting an 61% increase of patients receiving opioid discharge instructions captured the DNP programs fidelity. Disseminating the projects outcomes facilitated participants readiness to accept the projects guidelines as tools to improve patient care and bridge the gap in practice (Curtis & DeMaio, 2017).

Analysis of Self

Pursing a Doctorate in Nursing Practice was a mere fantasy of mine. Due to financial constraints, I really thought only a few chosen individuals could reach such a goal. As a Walden student, I was given an opportunity of a lifetime. The dream to advance my knowledge and skill sets in order to improve the determinants of health for vulnerable populations was renewed. This journey was so difficult, the many obstacles and challenges confronted to this point are indescribable. However, with the help and encouragement of many, I now feel worthy of being in a position to change and improve lives.

Practitioner

As a nurse educator, I understand the complexities and adversities patients encounter with limited instructions when receiving prescribed medications. Working on my project has been able to validate my ongoing concerns about the opioid epidemic crisis within the U.S and in the community in which I reside. As a change agent seeking the appropriate skill sets to influence positive practice change, Walden University has provided me with acute critical thinking abilities to predict and identify individuals and/or communities at risk for adverse factors and prevent healthcare disparities for all.

As a DNP student, I was able to identify that an effective discharge plan for individuals prescribed opioids was required to assist in saving lives by educating nurses to teach patients how to make healthier lifestyle choices. As a Walden University DNP graduate, I have been given the tools to continue identifying gaps in practice, understand the importance of locating the evidence and translating the information into practice (Terry, 2015).

Scholar

As a DNP scholar, I have accepted the responsibilities to constantly be vigilant in incorporating my clinical expertise into solving real-life problematic health care issues plaguing our world. As a member of the project team, I was instrumental in enhancing the knowledgebase of every participant including team members, nursing staff, and patients. Upon program completion, the data collected provided evidence that the DNP program was efficacious. Thus, the program goals were achieved as desired. The knowledge and experience I acquired from Walden University DNP program will be infused into my profession as a change agent who challenges the status quo while translating evidence into furthering nursing practice (Terry, 2015).

Project Manager

As the project manager, Walden University empowered me with the skills and intuitive insight to develop a cost-effective opioid discharge plan. My responsibilities began with the assessment process, planning the interventions, implementing the step-by-step procedures, and ultimately evaluating the program effectiveness. In acceptance of being the project leader, through each project phase I was able to identify lessons learned,

and request advice from my Committee Chair and preceptor when needed. As a project leader, I learned when to follow and allow team members to take the lead. Cooper-Duffy and Eaker (2017) explained that successful program outcomes depend on project teams' cohesiveness and practices of equality by permitting everyone to take clearly delineated roles of importance.

Using my leadership abilities to address the gap in practice, I was able to identify when modifications were needed to maintain program timelines and keep team members motivated to remain on schedule. As project manager, it was helpful to remind team members of the importance of adhering to project goals. According to Bastable (2013) goal achievement requires consistent observations of planned interventions that is essential in program success. The opioid discharge plan was aimed at saving lives, rebuilding families and communities by educating individuals on prescription opioid safety measures. Having the privilege as project manager has afforded me with experience to identify problems, plan resolutions, implement practice changes, evaluate, and reevaluate as needed.

Completion of the Project

Completing this DNP project has been very insightful and rewarding for me. This project has shown me there is still plenty of work to do to preserve the lives of patients who are prescribed opioid medication through education. The invaluable insight gained from this project was that data exists to support the need to address the opioid epidemic. Strategies and theories are available to empower healthcare providers to become more knowledgeable, build confidence and transfer their knowledge to help better serve

patients. I also found it to be rewarding and refreshing that health care providers are eager to make a concerted effort to understand our audience and speak on levels where patients can comprehend to gain a better understanding to protect themselves. The greatest benefit in completing the project was obtaining and sharing the projects positive results which encouraged every participant to adhere to the prescription opioid discharge plan which made it all worth it.

Unfortunately, I encountered many challenges attempting to discourage or even prevent me from completing my DNP project. During my scholarly journey, both my parents died. My dad from natural causes, and my sweet mom from all the identified symptoms of COVID-19 but multiple tests were negative. The unprecedented worldwide emergency completely dismantled our day-day operations. Time was lost because I was prohibited from conducting the staff educational session due to the government lockdown. The gainful insight into my perseverance was my belief that my project was intended to increase awareness of the potential risk of opioids and prevent death and destruction related to prescription opioids.

Summary

The purpose of the evidenced-based DNP project was to increase nurses' knowledge of the opioid crisis in the U.S. by answering the practice-focused question of, Will implementation of an opioid discharge plan along with the teach back strategy increase patients' understanding of how to properly take prescription opioids compared to the patients who do not receive opioid education at discharge? After careful data collection, analysis and synthesis of information, the answer is yes. Prescription opioid

analgesic medication has the capability to control pain; however, if not managed properly, its use may bring about adverse effects stemming from misuse, abuse or may lead to death. It was critical that nurses and other health care professionals receive updated evidence-based information on the prescription opioids epidemic and to understand the importance of properly educating patients who are prescribed opioids for pain management at discharge. The doctoral project has helped to minimize a gap in practice by broadening awareness of the opioid epidemic, educating nurses on the importance of properly following discharge practices and policies while discharging patients prescribed opioids. I received assurance from the Clinic Administrator that the DNP opioid discharge plan will be incorporated in their operational standards.

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Appendix A

Opioid Safety Checklist

Was the patient educated on strategies that could prevent opioid addiction?	YES	or	NO
Was the patient educated on methods to properly store prescription opioids in their home environment?	YES	or	NO
Was the patient educated on proper disposal of opioids once they are no longer required?	YES	or	NO
Was the Teach-Back method used to ensure that patient education regarding opioid safety was effective or not?	YES	or	NO

(Waszak, Mitchell, Ren, & Fennimore, 2018).

The above checklist should be completed on every patient that is prescribed opioids at the time of clinical discharge and given to the DNP student. Please note any “NO” answer requires a written comment below.

Comments or Concerns:

Appendix B

Opioid Discharge Literature Review Matrix

Author/Date	Opioid Discharge Plan	Teach Back Strategies	Opioid Education	Research Question(s), Aim	Methodology	Analysis & Results
Alford, D. P. (2016).			Education	Chronic pain. Achieving the right balance with education	Risk Evaluation and Mitigation Strategy (REMS)	Educating prescribers
Byrne, C., Sierra, H., & Tolhurst, R. (2017).		Discharge prescriptions checklist		Does a checklist reduce the number of errors made in nurse-assembled discharge prescriptions?	Audit Checklist of medications used at discharge	A discharge medication checklist demonstrated a significant reduction in errors.
CDC. (2016)	Guideline for prescribing opioids			Reduce abuse, misuse, and death		Improved patient safety based on evidence-based practice
Costello, M. (2015)			Determine if an educational intervention improved nurses' and subsequently patients' knowledge of the safe use of opioids.	Promoting safety through education	Quasi-experimental pretest posttest design	Both nurses and patients' knowledge increased after education.

Costello, M & Thompson, S (2015).	Preventing opioid abuse and misuse at discharge			Patient opioid	Descriptive study	Revealed knowledge gap, nurses' lack sufficient information about opioids that may affect their ability to provide effective medication instructions to their patients
Felicilda-Reynaldo, R. (2014).			Educate nurse to identify at-risk patients and provide intervention in the early stages of substance abuse/misuse	Early prevention of abuse and misuse of illicit substances	Validated assessment tools (Drug Abuse Screening), motivational interviews	Substance abuse screening and assessment programs should be integrated into routine nursing care. Nurses should stay updated commonly abused drugs.
Fogger, S., & McGuinness, T. M. (2015)			Educate about in-home diversion of prescription opioids/and the inherent risks	Prevent adolescents from using prescription opioids then graduating to heroine.	web-based resources for teaching	Opioid replacement therapy (ORT) is an option that saves lives and prevents overdose deaths
Griffiths, D. (2017).			Role of the nurse in preventing opioid addiction	Prevent addiction, reducing deaths related to opioids	Screening brief Intervention, and Referral to Treatment (SBIRT)	Continued assessment and monitoring are required
Manworren, R. B., & Gilson, A. M. (2015)			Educate nurses to inform patients how to take, properly dispose	Inform nurses of the magnitude of opioid diversion, nonmedical use, inappropriate disposal.	Nursing interventions, educate patients on opioid diversion, disposal	Opioid take-back program yield return of unused opioids.

Markocic, S., Humphries, M., Tarne, T., Watts, M., & Collins, L. (2015).			Ensure healthcare providers know how to properly prescribe,	Develop an education program to identify opioid knowledge deficits, safe prescribing, administration	Pre-posttest design	Opioid education program is effective in improving the knowledge of safe prescribing and administration of opioids, however further studies are required.
P. T., Park, P. S., Roter, D. & Yaster, M. (2017)	Follow-up post discharge on prescription opioids			Pediatrics- how much opioid is needed to manage pain at hospital discharge, and whether leftover opioid is appropriately disposed of.	10 min. interview 10-14 days after discharge to determine how much used, length of tx, disposal	Further evidence-based research is needed
Murphy, J., Goodman, D., Johnson, M. C., & Terplan, M. (2018)			Educate citizens and U.S Congress the importance of opioid treatment	Increase access to treatment for pregnant women and f/u for infants affected by prenatal substance exposure	A commentary was offered to U.S Congress to pass a Bill allowing Midwives to treat opioid abuse disorder	The Comprehensive Addiction and Recovery Act was signed in 2016
Naeger, S., Mutter, R., Ali, M. M., Mark, T., & Hughey, L. (2016).	Studied post-hospitalization substance use disorder (SUD) treatment			This study examined factors associated with substance use treatment engagement following a	Examined factors associated with substance use treatment engagement	Low rates of SUD treatment engagement following hospitalizations for opioid use disorders and overdoses.

				hospitalization for opioid use disorder or overdose.	following a hospitalization for opioid use disorder or overdose.	
Hoppe JA, Nelson LS, Perrone J, et al. (2015).	Opioid prescribing in a cross section of U.S. emergency departments.			Analyze the characteristics of patients and opioid prescriptions, using a sample of ED patients, why was opioids prescribed, characteristics of opioids prescribed both in the ED and at discharge, and characteristics of patients who received opioid pain relievers compared with those who did not.	Observational, retrospective, cohort study which was abstracted by standardized chart review	In a study of ED patients treated during a single week across the country, 17% of discharged patients were prescribed opioid pain relievers. The majority of the prescriptions had small pill counts and almost exclusively immediate release formulations.
Silvestre, J., Reddy, A., de la Cruz, M., Wu, J., Liu, D., Bruera, E., & Todd, K. H. (2017).			Investigate if patients discharged opioids are educated on proper use, storage, disposal	Determine if patients prescribed opioids understood storage, use, and disposal after being discharged from the ED		Only 13% previously received education about safe disposal of opioids. Overall, 77% (87) of patients reported unsafe storage, unsafe use, or possessed unused opioids at home.
Singh, S., Clarke, C., Lawendy, A. R., Macleod, M.,	Who receives opioid discharge instructions			Evaluate the role of a postoperative pain guideline	Randomized controlled trial	Nearly 51% of patients received opioid discharge instructions.

Sanders, D., & Tieszer, C. (2018).	opposed to those who did not					
Volkow, N., Benveniste, H., & McLellan, A. T. (2018).			Understanding the difference in use or misuse in chronic pain		Literature review of problems related to public health issues of opioid diversion overdose and addiction	Training and education for prescribers, investment in research and development of safer effective analgesics necessary to improve the outcomes in those suffering from chronic pain conditions.
Tadros A, Layman SM, Davis SM, Davidov DM, Cimino S. (2015).	ED visits for prescription opioid poisonings			Evaluate ED visits by adults for prescription opioids.	Retrospective cohort study	Future studies should examine preventative measures, optimal screening, and intervention programs for these patients
Marty H, Bogenstätter Y, Franc G, Tschan F, Zimmermann H. (2013).	How well informed are patients when leaving the emergency department?			Comparing information provided and information retained	Post discharge interviews	Standard discharge procedures and training physicians in how to ensure that patients actually, understand the information provided are needed.
Langewitz W, Ackermann S, Heierle A, Hertwig R, Ghanim L, Bingisser R. (2015).		Improving patient recall of information: harnessing the power of structure.		Assess the amount of medical information laypeople recall, investigate the impact of structured presentation on recall.	A randomized structure and non-structured information, presentation-writing down recall	Explicit structure improved recall.

McCarthy DM, Wolf MS, McConnell R, et al. (2015).			Improving patient knowledge and safe use of opioids	Evaluate the effect of a dual modality education on patient knowledge of safe opioid use	A randomized controlled trial	Patient education holds promise for improving patient knowledge
Gignon M, Ammirati C, Mercier R, Detave M. (2014).	Compliance with emergency department discharge instructions.			Assess patient understanding of ED discharge instructions.	A qualitative study	Further research is needed to improve the patient discharge process. Patients reported not understanding written discharge information
Clarke C, Friedman SM, Shi K, Arenovich T, Monzon J, Culligan C. (2005).	Emergency department discharge instructions			Assess patient comprehension of emergency department discharge instructions	A structured interview and reading test, and to participate in a follow-up telephone interview 2 weeks later.	Comprehension was the only factor significantly related to compliance
Samuels-Kalow ME, Stack AM, Porter SC. (2012).	Effective discharge communication			Patient understanding and implementation of discharge instructions	Literature from both the adult and pediatric ED populations was reviewed.	Patients need structured content presented verbally, with written and visual cues to enhance recall. Written instructions need to be provided in the patient's language and at an appropriate reading level.

Waszak, Mitchell, Ren, & Fennimore (2018).		Opioid education, teach-back method used during discharge		Increase knowledge of both nursing staff and patients	Descriptive study, nursing quality improvement project	Delivery of opioid discharge education can positively improve patients' knowledge and prevent negative outcomes
Bohnert ASB, Valenstein M, Bair MJ, et al. (2011).			Association between opioid prescribing patterns and opioid overdose-related deaths.	To examine the association of maximum prescribed daily opioid dose and dosing schedule	Case-cohort study	Among patients receiving opioid prescriptions for pain, higher opioid doses were associated with increased risk of opioid overdose death.
Griffey RT, Shin N, Jones S, et al. (2015)		The impact of teach-back on comprehension of discharge instructions		Universal precaution' for improving provider-patient communication, teach-back	Randomized controlled study	Teach-back appears to improve comprehension of post-ED care instructions
Beaudoin FL, Straube S, Lopez J, Mello MJ, Baird J. (2014).	Prescription opioid misuse among ED patients discharged with opioids.			The purposes of this study were to determine the prevalence of prescription opioid misuse in a cohort of discharged emergency department (ED) patients who received prescription opioids and to examine factors predictive of misuse.	Prospective observational study	Prescription opioid misuse was prevalent among this cohort of ED patients. Further research focused on etiologies of misuse with directed screening and interventions to decrease misuse.

Cheatle MD. (2015).			Prescription opioid misuse, abuse, morbidity, and mortality: balancing effective pain management and safety	Identify patients whose risk factors put them at risk for adverse outcomes with opioids.	Risk assessments, interviews	Further research is needed to understand risk factors
Samuels-Kalow, Hardy, Rhodes, & Mollen, 2016		Teach-back strategies		Improve communication in the ED	Semi-structured in-person interviews	Interview questions may have been too complicated
Fournier, C. A., & McCurry, M. (2020).			Understanding what programs teach nurses about opioid use disorder	Explore opioid use disorder programs	Integrative Review	Further research is needed to select best teaching strategies and evaluation tools

Appendix C

Opioid Safety Pretest

The following questions are formulated to increase participants' knowledge-based regarding opioids. Please answer each question by circling True or False:

Questions	Answers
There were more than 42,000 opioid overdose deaths in the U.S. in 2016. An estimated 40% of those deaths involved a prescription opioid.	True or False
An estimated 2.1 million people in the U.S. are misusing, abusing, and or are addicted to opioids.	True or False
Genetic predisposition and psychological factors such as stress, depression, anxiety are risk factors for addiction.	True or False
When a person becomes dependent on opioids, they can experience withdrawal symptoms when they stop taking the drugs.	True or False
Opioid dependence is the same as opioid addiction.	True or False
When a person becomes dependent on opioids there is the potential for abuse and overdose.	True or False
No response to stimuli, shallow/stopped breathing, cannot wake a person up, unusual snoring/gurgling sounds, blue/grey lips or fingertips, flaccid arms and legs are all signs/symptoms of overdose	True or False
Fentanyl (Sublimaze, Actiq), Oxycodone (OxyContin, Percocet), Hydrocodone (Vicodin, Lortab) are all examples of prescription opioids.	True or False
Prescription opioids can be left in the medicine cabinet or on the table	True or False
Sharing your prescription opioid with family and/or friends is acceptable CDC, (2016).	True or False

Appendix D

Opioid Safety Posttest

The following questions are formulated to increase participants' knowledge-based regarding opioids. Please answer each question by circling True or False:

Questions	Answers
There were more than 42,000 opioid overdose deaths in the U.S. in 2016. An estimated 40% of those deaths involved a prescription opioid.	True or False
An estimated 2.1 million people in the U.S. are misusing, abusing, and or are addicted to opioids.	True or False
Genetic predisposition and psychological factors such as stress, depression, anxiety are risk factors for addiction.	True or False
When a person becomes dependent on opioids, they can experience withdrawal symptoms when they stop taking the drugs.	True or False
Opioid dependence is the same as opioid addiction.	True or False
When a person becomes dependent on opioids there is the potential for abuse and overdose.	True or False
No response to stimuli, shallow/stopped breathing, cannot wake a person up, unusual snoring/gurgling sounds, blue/grey lips or fingertips, flaccid arms and legs are all signs/symptoms of overdose	True or False
Fentanyl (Sublimaze, Actiq), Oxycodone (OxyContin, Percocet), Hydrocodone (Vicodin, Lortab) are all examples of prescription opioids.	True or False
Prescription opioids can be left in the medicine cabinet or on the table	True or False
Sharing your prescription opioid with family and/or friends is acceptable CDC, (2016).	True or False

Appendix E

Opioid Fact Sheet

Prescription opioids can be used to help relieve moderate-to-severe pain and are often prescribed following a surgery or injury, or certain health conditions. These medications can be an important part of treatment but also come with serious risks. It is important to work with your health care provider to make sure you are getting the safest, most effective care.

1. Opioids should only be taken as directed since misuse or diversion of these products can be illegal, extremely harmful, and even deadly. **Never Share Prescription Opioids with Anyone**
2. Opioids should be stored out of reach of children, and in a safe place- Preferably locked to prevent family members and visitors from taking them. **Always Know Where Opioids Are**
3. Unwanted or unused opioids should be disposed of in a local “Take Back” or mail back program or medication drop box at a police station, DEA-authorized collection site or pharmacy. Further take back and disposal options can be located at:
ama-assn.org/opioids-disposal.
4. Prescription opioids carry serious risks of addiction and overdose, especially with prolonged use. An opioid overdose, often marked by slowed breathing, can cause sudden death. The use of prescription opioids can have a number of side effects as well, even when taken as directed (CDC, 2016).