2018

Influence of an Educational Program on Opioid Drug Abuse

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This is to certify that the doctoral study by

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

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Walden University
2018

Abstract

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MS, Morgan State University, 2011

BSN, University of Maryland, 2006

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2018

Abstract

Prescription opioid abuse in the United States is an alarming health issue. In 2015, approximately 2 million people abused prescription opioids, and 12 million individuals misused their prescription opioid pain relievers. The percentage of individuals who died as a result of opiate abuse increased from 22% in 2013 to 76% in 2014. The purpose of this project was to evaluate the influence of an inner-city drug treatment (DTBF) program on opioid users' behavior. The practice question addressed whether knowledge of signs and symptoms of opioid withdrawal obtained from the DTBF program resulted in a significant behavioral change in opioid use in 45 adults ages 18 to 25. The Centers for Disease Control and Prevention framework for program evaluation was used to guide the study. Data were collected using a pretest and posttest with the Clinical Opiate Withdrawal Scale (COWS) over a 6-month period. Results of *t*-test analysis indicated a significant change in drug use ($p = .000$). Recommendations to clinic administrators included encouraging all staff to use the COWS in screening individuals and observing them at each clinic visit. The implication of this study for social change is that findings may be used to reduce drug abuse and misuse among prescription opioid users.

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Dedication

My DNP project is dedicated to God Almighty, my creator, my comforter, my pillar, my rock, and the source of my inspiration; without HIM there would not be me. I also dedicate this project to my family who pushes me beyond my imagination to strive for the best. My children, Obinna, Chiamaka, Obum, and Ejike, are endlessly in support of my education and future struggles. They are the reasons that I prosper even in the time of adversities. I love every one of you dearly, and I cannot wait to see what the future holds for you.

Acknowledgments

I would like to express my very great appreciation to my academic chair, Dr. McWhirt, for his valuable and constructive suggestions during the planning and development of my project. His willingness to give his time so generously has been very much appreciated. His fast response is indescribable. I am pleased with his spirit to work. My grateful thanks to my committee member, Dr. Whitehead, and the university research reviewer, Dr. Gross, for their patience and kind words without losing hope in me. Also, thanks to my fellow colleagues whose work I was referred to read and follow.

Finally, I wish to thank my husband, Christopher, and my children who always tell me how proud they are of me and who provided spiritual guidance in their constant prayers, support, and encouragement throughout my study

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Section 1: Nature of the Project

The purpose of this project was to evaluate the impact of a 6-month inner-city drug treatment (DTBF) program on adults ages 18 to 25 using the Clinical Opioid Withdrawal Scale (COWS) (see Appendix). The COWS was used to assess the signs and symptoms of opioid withdrawal before and after participating in the drug treatment program. Drug abuse is a global epidemic affecting health, wealth, security, socioeconomic status, violence, and risky sexual behaviors leading to an increase in HIV and STD incidences (United Nations Office on Drugs and Crime, 2010). The epidemic of opioid abuse is important to address because of the negative effects on families, communities, and the United States. Drug abuse affects primarily young adults ages 18 to 25 (Murthy, 2016). In 2015, two million people abused prescription opioids, and about 12 million individuals misused their prescription opioid pain reliever (Murthy, 2016). In 2014, there were 47,055 drug overdose deaths in the United States, and 28,647 (61%) were from opioids (Rudd, Aleshire, Zibbell, & Gladden, 2016). Drug overdoses in Maryland resulted in 1,259 deaths in 2015 and 1,468 deaths in 2016 (Maryland Department of Health and Mental Hygiene, 2017). Prescription and street drugs are causing the deaths of young adults because of deficient knowledge and drug seeking behaviors (Volkow, Frieden, Hyde, & Cha, 2014).

The purpose of this project was to evaluate the DTBF program to assist stakeholders in identifying areas of improvement and to assess the impact of knowledge acquisition on behavioral changes among opioid users. The goal of the program was to decrease drug abuse and misuse as measured by a pretest and posttest with the COWS.

Section 1 presents the problem statement, purpose of the study, nature of the doctoral project, significance, and summary.

Problem Statement

Young adults often start drug use as a way to be socially connected with friends or groups of classmates who may be acquaintances. If the drug fills a valuable need, the abuser may continue using (Robinson, Smith, Saisan, & Shubin, 2017). As drug abuse takes hold of the abuser, it eventually consumes the abuser's life.

The purpose of this DNP project was to evaluate the effectiveness of an inner-city DTBF program. In spite of many community strategies and clinic implementations to reduce the alarming death rate related to opioid use, young adult drug abusers continue to experience an increase in the number of cases. The study site experienced a 64% increase in opioid drug overdose deaths in the first quarter of 2017, jumping from 113 in 2016 to 176 in 2017 (Luttrell, 2017). The clinic developed an education program that included individual therapy sessions, drug education, and behavior modification education. The DTBF program welcomes young adults ages 18 to 25 who are using drugs. The program is facilitated twice a week by two rehabilitation therapists. This DNP project included pretest and posttest COWS data and de-identified data from the medical clinic records to compare participants' knowledge before and after the program. The goal of the DTBF program was to achieve a safe and comfortable level of physical stability to address the psychological manifestations of withdrawal (American Addiction Centers, 2015).

Purpose Statement

The purpose of this project was to evaluate the DTBF program to assist stakeholders in identifying areas of improvement, to assess the impact of knowledge acquisition on behavioral changes, and to reduce drug abuse and overdose deaths among adults ages 18 to 25 through use of the COWS. The project question was the following: Does participation in the DTBF program result in a decrease in participant-reported opioid drug use as measured by a pretest and posttest with the COWS? The DTBF program was open to young adults ages 18 to 25. The program was focused on behavioral modification enhancement through self-motivation and eagerness to resist old behaviors.

Nature of the Doctoral Project

The nature of this DNP project was an evaluation of the DTBF program and its effect on the reduction of opioid drug use by young adults in an inner-city medical clinic. The program evaluation followed the steps outlined for the evaluation of an existing quality improvement initiative in the DNP Manual for Quality Improvement Evaluation Projects. The project question was the following: Does participation in the DTBF program result in a decrease in participant-reported opioid drug use as measured by a pretest and posttest with the COWS? Databases for the program evaluation search included PubMed, Cochrane, CINAHL, and Medline. The Google Scholar search engine was also used.

The COWS consists of 11 assessment questions. Participants completed the COWS at the first program class (January 2018) and at the final class 6 months later (June 2018). All pretest and posttest scores of participants who complete at least 85% of

the program were compared using paired samples *t* test. De-identified data were provided by the facility.

Facilitators participating in the DTBF will complete an evaluation of the program. A report outlining the findings was presented to the clinic administrators and stakeholders. Recommendations for future programs based on evidence-based practices was be included.

Significance

The DTBF educational program for opioid drug users focuses on planned behavior modification that will result in a decrease in opiate drug use among the participants. The program includes evidence-based strategies for treating drug abusers including administration of the COWS. The program will help to positively impact the community by reducing opioid use, increasing cultural empowerment, increasing socioeconomic status, decreasing violence, and promoting behavioral modification changes. The DNP project will be important to those participants who volunteered to participate in the DTBF program by providing data on the effectiveness of the program and assisting stakeholders in identifying areas of improvement. Medical center staff responsible for implementation of the DTBF program will be given the opportunity to give input, evaluate the program, interpret results, disseminate evaluation findings, and assist stakeholders in identifying areas of improvement.

The key stakeholders include community members and advocates, law enforcement personnel, drug treatment program staff, and health care professionals. A decrease in opioid-related visits to the clinic, emergency first facilities, and community

treatment programs will decrease the burden on the health care system. Findings from the study may also be used to reduce crime, imprisonment of abusers, and opioid-associated overdoses. The number of opioid overdoses may be reduced through participation in the educational program and increased awareness of drug abuse. The program helps to increase community awareness and reduce deaths from drug abuse in young adults.

Summary

Drug abuse is a severe health epidemic in the inner city where the project was conducted. The alarming increase in opioid-related deaths and treatment of opioid users places requires health care providers in the inner city to address and combat drug abuse problems. The purpose of this project was to evaluate the DTBF program to assist stakeholders in identifying areas of improvement, to assess the impact of knowledge acquisition on behavioral changes, and to reduce the use of drug abuse and overdose deaths among young adults ages 18 to 25 through use of the COWS. The project question was the following: Does participation in the DTBF program result in a decrease in participant-reported opioid drug use as measured by a pretest and posttest with the COWS?

Section 1 introduced the problem and purpose of this project, the nature of the project and the significance of the project to social change. Section 2 addresses the concepts, models, and theories that are relevant to nursing practice. Included in Section 2 are local background and context, the role of the DNP student, and role of the project team.

Section 2: Background and Context

The DTBF program is administered by an inner-city medical clinic. The team of workers at the clinic associated with the drug program consists of the program administrator, counselors, interns, and stakeholders from other programs or services functioning within the clinic. The patients at the clinic are there voluntarily or court ordered with drug dependence behavior. Patients demonstrate little to no knowledge of the medical effects of opioid drugs and the consequences of long-term drug use. The clinic, which is located in an urban inner city in the southeast United States, observed a 64% increase in opioid drug overdose deaths in the first quarter of 2017, jumping from 113 in 2016 to 176 in 2017 (Luttrell, 2017). The clinic desired a quality assurance effort to determine whether their DTBF program promotes behavioral changes and leads to a decrease in drug use among program participants. The purpose of this project was to evaluate the DTBF program to assist stakeholders in identifying areas of improvement, to assess the impact of knowledge acquisition on behavioral changes, and to reduce drug abuse and overdose deaths among young adults through use of the COWS. The project question was the following: Does participation in the DTBF program result in a decrease in participant-reported opioid drug use as measured by a pretest and posttest with the COWS?

Concepts, Models, and Theories

Public health professionals strive to achieve health improvement. In 1999, the Centers for Disease Control and Prevention (CDC, 2017) developed a framework for program evaluation to ensure commitment to improving overall community health amidst

the complex transition in public health to achieve measurable health outcomes. As shown in Figure 1, there are six steps in the CDC framework: engage stakeholders, describe the program, focus the evaluation design, gather credible evidence, justify conclusions, and ensure use and share lessons learned (CDC, 2017).

Figure 1. Conceptual framework of program evaluation in public health (CDC, 1999).

Engage Stakeholders

Public health work involves partnerships; the participants in the evaluation process for the current project are the inner-city medical clinic staff who are responsible for implementing the program. Stakeholders must be involved in the process to ensure that their perspectives are understood. When stakeholders are not fully participating in the evaluation, the project might not address important elements of the program's

objectives, operations, and outcomes. The stakeholder roles include engaging in progressive inputs about proper evaluation of the participants, evaluating data collection tools, and interpreting the results.

Describe the Program

The DNP project should follow the mission and objectives of the program being evaluated (CDC, 2017). The DTBF program includes a clear and brief account of how to use the COWS to assess the knowledge of young adults regarding the signs and symptoms of opioid withdrawal.

Focus the Evaluation Design

The evaluation will include comparing the pretest and posttest results and the inner-city medical clinic archival results. The goal was to evaluate the differences and note the impact the DTBF program has on participants' behavior modification.

Gather Credible Evidence

The participant data from the DTBF program from January to June 2018 was reviewed to determine the impact of the program on the knowledge of young adults regarding the signs and symptoms of opioid withdrawal. The DTBF program includes quantitative statistics to evaluate the data. Stakeholders completed evaluation of the program.

Justify Conclusions

The DTBF program results and recommendations was used to improve the program and educate more young adults regarding signs and symptoms of opioid withdrawal.

Ensure Use and Share Lessons Learned

The DNP findings was communicated to the stakeholders. Recommendations based on evidence-based practices was included.

Relevance to Nursing Practice

According to the Centers for Disease Control and Prevention (2017), the groups most commonly affected by opioid abuse are those who have chronic pain conditions and those who are initially prescribed opioid pain medication for their chronic pain conditions. This epidemic is a widespread national problem, and opioid abuse occurs in both urban and suburban communities (Dasgupta, Beletsky, & Ciccarone, 2018). Dasgupta et al. (2018) stated that in attempts to address this national epidemic, there remain large health care disparities regarding chronic pain treatment and opioid addiction. Opioid abuse and overdose with opioid medications are higher in individuals who have lower socioeconomic status and education levels. Certain minority groups in the United States are also at a higher risk of opioid use and abuse. According to Dasgupta et al., "Native Americans are disproportionally affected by overdose deaths as are African Americans in Illinois, Wisconsin, Missouri, Minnesota, West Virginia, and Washington, DC, among other places" (p. 184). Over 41% of opioid overdose deaths occur in urban counties in the United States. Awareness and funding are being made available to combat this alarming situation.

New pharmacological treatments are becoming available for the worldwide epidemic of heroin (diamorphine) abuse (Drugs & Therapy Perspectives, 2003). These treatments include drugs that either reduce opiate withdrawal symptoms during

detoxification or improve psychosocial equilibrium during maintenance therapy. Oral methadone maintenance remains the gold standard of pharmacotherapy for heroin dependence and is also used for managing withdrawal. The long-acting form of methadone can be administered on a less than daily schedule to patients who fail methadone maintenance.

Buprenorphine is used for managing withdrawal and maintenance treatment. Both buprenorphine and naloxone have been introduced as an option for maintenance therapy. Clonidine and Lofexidine are nonopiate drugs used commonly for management of withdrawal symptoms. Lofexidine is suitable for use in outpatient settings because it is associated with fewer adverse effects. A long-acting opiate receptor antagonist, Naltrexone, has been used to accelerate opiate detoxification and as a maintenance agent. The medication used for withdrawal has its own side effects.

Wiessing et al. (2017) discussed the historical development of successful epidemiological indicators of the quality of harm reduction services for monitoring and evaluation at international, national, and subnational levels. The aim was to improve these services to reduce health and social problems among people who use drugs, human immunodeficiency virus (HIV) and hepatitis C virus infection, crime and legal problems, overdose (death), and other morbidity and mortality. The framework was developed collaboratively using consensus methods involving nominal group meetings, review of existing quality standards, frequent e-mail communication, and qualitative analysis of opinions/experiences from a broad range of professionals/experts, members of civil society, and organizations representing people who use drugs. Twelve priority candidate

indicators were proposed for opioid agonist therapy (OAT), needle and syringe programs (NSP), and generic cross-cutting aspects of harm reduction services. Wiessing et al. concluded that the best practice indicators for monitoring harm reduction service will provide a structural basis for public health and epidemiological studies and support evidence- and human rights-based health policies, services, and interventions. Harm reduction, such as NSP and OAT, has helped in reducing harm from sharing needles. According to Samet and Fiellin (2015), the efforts in 90 countries having NSP programs and 80 having OAT programs have contributed to reductions in viral infections and other related comorbidities of drug abuse and addiction.

Education, knowledge, and awareness of the signs and symptoms of drug abuse will encourage users to reduce use. The list and the mechanism of actions of the antidote of opioid withdrawal medication with the side effect of the Clonidine, lofexidine, Naltrexone, and Methadone will influence the drug user to reduce using secondary to the side effect of the antidotes. There are many variants and focuses of opioid withdrawal education, and that is why a guideline for the practice site was tailored to the target population. Considerations of the demographics of the target population, including education levels and cultural factors, were included in the guideline. Self-management was designed to encourage consumers to manage and notice their withdrawal symptoms, which will encourage them to be in charge of their health care needs.

According to Brody (2017), of the 23.5 million teenagers and adults addicted to alcohol or drugs, only about 1 in 10 gets treatment, which often fails to keep them drug free. Many of these programs fail to use proven methods to deal with the factors that

underline addiction and set off relapse. According to recent examinations of treatment programs, most are rooted in outdated methods rather than newer approaches shown in scientific studies to be more effective in helping people achieve and maintain addiction-free lives. People typically do more research when looking for personal items like a car than when seeking treatment for drug abuse. Health care providers are on the front line in disease prevention and treatment of drug addiction. Health care providers understand the risk factors for drug abuse, screen for risky substance use, intervene when needed, and diagnose, treat and manage drug abuse just as they do all other diseases (Center on Addiction, 2012). The COWS has been found to be one of the useful tools doctors and other health providers use to monitor the severity of withdrawal symptoms. These tools help in determining the next steps in opiate therapy detoxing treatment. The COWS tool is crucial because it allows the clinician to determine the time to begin administering the opiate blocker. If administered too soon, the blocker reacts, and the patient becomes sick quickly. The COWS is practical and beneficial because it indicates the level of dosing and how often it is required to maintain patients' comfort and safety, mostly when opiate withdrawal problems can worsen medical conditions (Palarinus, 2018).

Nursing Role in Drug Prevention

Manworren and Gilson (2015) proposed nursing roles and interventions in educating families to reduce the occurrence and potentially fatal consequences of prescription opioid diversion. Manworren and Gilson presented three potential methods in which nurses can play a critical role: educating about the risks of opioid diversion, providing patients with ideas on the safekeeping and proper disposal of opioids, and

tracking patients' analgesic use to improve knowledge of prescription analgesic requirements for pain management. Nurses are in a better position to help reverse the occurrence and potentially fatal consequences of prescription opioids due to their direct contact with patients. Manworren and Gilson discussed the magnitude of the problem of diversion, nonmedical use, and inappropriate storage and disposal of prescription opioids.

Joranson and Gilsn (2005) analyzed Drug Enforcement Administration data from 22 Eastern states between 2000 and 2003 and found that nearly 28 million dosage units of controlled substances were diverted in those states over that period, with six opioids (oxycodone, morphine, methadone, hydromorphone, meperidine, and fentanyl) representing nearly a quarter (roughly 6.5 million) of those dosage units. The National Institute on Drug Abuse reported that nearly 71% of diverted prescription drugs are obtained from a friend or relative, either for free (54.2%) or through theft or purchase (16.6%) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). Approximately 2.8 million people ages 12 and older reported using an illicit drug. About 20% of these cases involved the nonmedical use of prescription drugs, and about 60% of these cases involved pain relievers. Nursing education is designed to reduce drug abuse.

In 2016, opioid prescriptions and illicit drugs were the main driver of drug overdose deaths. Opioids were involved in 42,249 deaths in 2016, and opioid overdose deaths increased to 5 times higher in 2016 than 1999. The five states with the highest rates of death due to drug overdose were West Virginia (52.0 per 100,000), Ohio (39.1 per 100,000), New Hampshire (39.0 per 100,000), Pennsylvania (37.9 per 100,000), and

Kentucky (33.5 per 100,000) (Griffiths (2017). This opioid epidemic calls for interventions from providers and nurses to combat the trends. Griffiths (2017) described ways that nurses can help reverse the trends through education. Every day, more than 1,000 people are treated in emergency departments for misusing prescription opioids (Centers for Disease Control and Prevention (CDC 2017). Nurses can play an important role in reducing opioid overdose deaths by assessing and monitoring patients. In taking these steps, nurses can also protect themselves from possible legal action stemming from opioids drugs (Griffiths, 2017).

Screening

Nurses are well trained to detect patients with opioid abuse or misuse by using screening tools (National Institute on Drug Abuse, 2003). The national Institute on drug abuse (NIDA) was created to advance science on the causes and the consequences of drug use and addiction and apply the knowledge to improve individual, patients and public health. Nurses use the knowledge drive from NIDA to address the most fundamental and essential question about drug abuse trend. NIDA was a screening tool use by nurses to screen patient that uses substance. The NIDA-Modified ASSIST tool was found on the NIDA website https://www.drugabuse.gov/publications/resource-guide-screening-drug-use-in-general-medical-settings/nida-quick-screen. The three steps are:

1. Ask about past year drug use
2. Begin the NIDA-Modified ASSIST: NIDA was a screening tool use by nurses to screen patient that uses substance

3. Score the NIDA-Modified ASSIST for illicit and nonmedical prescription drug use.

Verify before patients begin taking NSAIDs, validate that they are not taking other anticoagulants, such as aspirin, and check for hepatic or renal impairment. The procedure to use for this pain management was available from the Institute for Clinical Systems Improvement (National Institute on Drug Abuse, 2003). The complete continuing education on courses in pain management was very efficient to nurses.

Nurses need to educate patients about the role of pain medication in their care. This education should include pain medication options and the reasons why non-opioids are preferred. Education on how patients will dispose unused opioid medication was very necessary. If not disposed, it will be kept for future use and in so doing enhancing the behavior.

Nurses are aware of referring patients to pain management beyond the acute phase need should be directed to another provider with this expertise (Griffiths, 2017), and documentation of the referral in the patient's health record was necessary. Nurses who assess and monitor patients for withdrawal and treatment of pain are advised to be mindful of and have respect for their inherent abuse potential. In so doing, this protects patients from harm and nurses from potential liability. Using the knowledge acquired from Advance Practice Nursing helps to bridge the gap in creating awareness in patients who are in urgent need of reducing drug use.

Teaching Patients About the Risks of Opioid Diversion and Nonmedical Use

Prescription medications should be taken only as prescribed. They should not be used for reasons other than those for which they are prescribed (for example, opioids should not be used to induce sleep).

Medications are prescribed for only one person's use. They should not be used by anyone other than the patient, even for the same indication. Sharing prescription medication was not only potentially dangerous, but it was also a federal crime in violation of the Controlled Substances Act.

Provide controlled substance disposal education. Nurses should instruct patients to dispose of prescribed narcotics immediately when no longer needed and to provide information on safe and convenient disposal methods. The Drug Enforcement Administration identifies certain medications, including opioids, which are harmful because a single dose can be fatal if taken by someone other than the patient for whom the medication was originally prescribed. Disposal instructions for narcotics medications through flushing them down a sink or toilet (Joranson & Gilsn, 2005).

Track opioid use. Nurses track opioid use through the following:

- real-time data submission,
- data access at the point of care,
- integration with the electronic health record,
- interstate data sharing,
- expanded user access to data including the authorization of delegates,
- data security and confidentiality maintenance,

- user education, and
- development of valid patient risk scoring methods (Joranson & Gilsn, 2005).

Inner City Treatment Program

The inner-city treatment house was unique because it involves the following:, the individualized treatment, caring for co-occurring disorders, family involvement, and continuing care after Rehab and holistic philosophy of treatment. Research has shown that successful programs have specific features in common, like personalized treatment plans and evidence-based care. Incorporating drug use with the appropriate services was the key to a successful, long-term recovery in the inner-city treatment center. The treatment program was made to satisfied drug users experience, which will likely to promote compliance and desire to complete the program and transfer to a healthy lifestyle.

Individualized treatment. Previously, all people seeking addiction treatment received same services at the rehab facility. The treatment involved all spectrum of life, adult, adolescent, man, woman, were assigned to the same therapies. The individual who could have been diagnosed with schizophrenia, addiction, and co-occurring disorders were expected to go through the same rehab without any specialized care for their mental health condition. The inner-city treatment center provides a personalized treatment. The program treats each client as an individual, with a unique history and specific needs. The treatment developed a personalized care plan which begins with a complete evaluation of the prospective individual before the admission.

Care for co-occurring disorders. The treatment involves psychiatric conditions and addiction because the two frequently occur together in patients, this treatment center recognizes the phenomenon and provide integrated care for their patients with co-occurring disorders. It was vital to screen for a co-occurring mental health disorder to get connected with a good treatment program.

Family involvement. The involvement with family members and excellent support system make the program useful. Without the support and participation of family members, chances of success at rehab are significantly reduced (Michael house treatment center, 2018).

Continuing care after rehab. What makes the program unique was the continuation of care after rehab. The program ensures that rehab graduates have the support they need to stay sober after leaving the secure, structured environment of the inner- city program.

Holistic philosophy of treatment. The inner-city treatment program, care for individuals holistically, the center considers the patients entire being when implementing a recovery plan. The holistic philosophy of care increases the chances of success in helping heal on all levels. Inner-city treatment house is exceptionally equipped to offer holistic drug treatment. The program treated each individuals as worthy of dignity, compassion, and respect.

Prescription drug monitoring. Another successful community program was the prescription drug monitoring programs (PDMPs). The aim of PDMPs are geared towards primary prevention to monitor improper prescription of opioid painkillers which was a

primary upstream driver of opioid epidemic while ensuring critical pain issue was address as necessary (Davis, Green, & Beletsky, 2017; Volkow et al., 2014). PDMPs are promising tool for health care provider to see patients prescribing histories to inform their prescribing decisions. The drug users, shop pain medications from one physician to another with the aim to misuse medication. The use of PDMPs help to reduce the overly prescription of pain pills (Davis, C. et al., 2017). In Rhode Island, they adopted PDMPs, three years later, their opioid overdose deaths dropped by one-third.

Local Background and Context

The state where the inner-city medical clinic was located experienced a 67% increase in opioid drug associated overdose deaths in 2017 (Maryland Department of Health and Mental Hygiene, 2017). The DNP project was chosen based on the need of the patients at the project site and the alarming increase in young adult abuse of drugs. The inner-city medical clinic was comprised of an administrator, psychiatrist, two counselors, and a house specialist. The clinic has a population of 30 to 45 participants who come for therapy. The demographic makeup of the patients is estimated to be 50% Caucasian, 45% African American, 3% Hispanic, and 1% Asian American. Their population was both young and old adults, males, females, and all races. The issue being addressed in this project was the effect of opioid abuse in young adults aged 18 to 25 in the inner-city medical clinic. The program was held every Tuesday and Thursday, and two rehabilitation therapists facilitate the program. The program starts at 9:00 a.m. and ends at 2:00 p.m. The inner-city medical clinic was using the DTBF program to reach out to the participants who need help with reducing drug use by using methodologies such as

the medication-assisted treatment (MAT) program, prescription drug monitoring program (PDMP), and training the neighbors, police officers, and communities on how to apply Narcan antidote for opioid overdoses to consumers in the community.

Addressing the following was recommended by the American Public Health Association (2015). Regulate prescription pain medication, and review and revise prescription drug monitoring laws, doctor shopping laws, and physical and mental status examination laws. Implement tamper-resistant prescription form requirements, prescription drug overdose emergency response immunity, and provide access to Naloxone (American Public Health Association, 2015).

Even with new legislative policy changes, community education energies could be centered on ensuring safe storage, use, and disposal of prescription medications. Individuals taking prescription pain medication must be educated on the identification and treatment of pain. In addition, alternative pain treatment, substance abuse screening, and mental illness assessment and treatment for vulnerable populations must be provided.

Role of the DNP Student

I observed in this clinic as part of my DNP practicum. The medical director expressed that the clinic's goal was not only to provide needed services to the community, but to ensure that the services provided were implemented effectively both in cost and desired outcomes. She instituted the DTBF program, and as part of her quality improvement focus, requested an evaluation of the program. My role as the DNP student was to complete the program evaluation.

Role of the Project Team

There are 45 participants in the program. The program facilitator administered the COWS and provide de-identified data to me for the program evaluation.

Summary

The relevance of this project to nursing practice was the assessment of the drug program implementation at the inner-city medical clinic to reduce opioid drug abuse, preventing opioid abuse overdose, decreasing frequent visits to emergency facilities for pain relief and opioid type medication, and the prevention of pain medicine addictions. As an evaluation of the drug program and the outcome of this project, the DTBF drug program can be implemented throughout the inner-city medical clinic, even in the school system reaching youth as young as age 12. The nurse practitioner can see cost-effective results through the reduction of opioid related caseloads, medication theft and misuse, and premature death of young adults aged 18-25 by overdose of opioid drugs. As a quality assurance effort, the nurse practitioner can build on their drug program by strengthening weak areas of program delivery services.

Section 2 describes the CDC Program Evaluation for Public Health Model and the application of the model to this project. The evidence-based literature relevant to the project was discussed. My role and the role of the facilitator are described. Section 3 discusses the sources of the evidence provided by the facility, participants, procedures, and protections, and the analysis and synthesis for the project.

Section 3: Collection and Analysis of Evidence

The DNP project study addressed the effects of opioid abuse in young adults ages 18 to 25 in a medical clinic located in an inner city. Section 3 includes the sources of evidence provided by the facility. I also describe the participants, procedures, and protections, and present the analysis and synthesis for the project.

Practice-Focused Question

The purpose of this project was to evaluate the DTBF program to assist stakeholders in identifying areas of improvement, to assess the impact of knowledge acquisition on behavioral changes, and to reduce drug abuse and overdose deaths among young adults through use of the COWS. The project question was the following: Does participation in the DTBF program result in a decrease in participant-reported opioid drug use as measured by a pretest and posttest with the COWS.

Sources of Evidence

The inner-city clinic staff retrieved data from the information center using Amazing chart information technology system with the assistance of medical records personnel and authorized by the owner and medical director of the inner-city medical center.

Participants

The inner-city medical clinic has a population of up to 45 participants who come for therapy. The population was composed of 50% White, 45% African American, 3% Hispanic, and 1% Asian American. Participants in this project must

- have experienced using opioid drugs or opioid pain medicine;

- have been between the ages of 18 and 25;
- have been enrolled in the DTBF drug education program held at the inner-city medical clinic; and
- have taken an assessment test on their knowledge of drug addiction and withdrawal, and scored 80 or below.

Procedures

The program evaluation was completed using the steps for the evaluation of existing quality improvement initiatives outlined in the DNP Manual for Quality. Qualifying participants were selected and given the COWS (Appendix A) before attending the 6-month DTBF program and again after completion of the DTBF program. The COWS was available on the Internet and may be copied and used clinically. De-identified data were provided to me from the program facilitator. Data will be stored in a locked cabinet at the facility for a period of 3 years after the program evaluation is completed. A paired samples *t* test using SPSS was conducted on the data as well as the total mean for pretest and posttest data. Participants also completed an evaluation of the program. Results were reviewed and used for quality improvement recommendations.

Protections

A site approval letter for quality improvement doctoral projects from the DNP Manual for Quality Improvement Evaluation Projects was obtained from the clinic administrator. The signed site approval letter and completed institutional review board (IRB) application was submitted to the (Walden University IRB).

Analysis and Synthesis

The data analysis included a paired samples *t* test and review of the program evaluations. Pretest and posttest data were analyzed to determine whether education on the signs and symptoms of opioid withdrawal using the COWS made a significant difference ($p = .05$).

Summary

The purpose of this project was to evaluate the DTBF program to assist stakeholders in identifying areas of improvement, to assess the impact of knowledge acquisition on behavioral changes, and to reduce the drug abuse and overdose deaths among young adults through use of the COWS. The project question was the following: Does participation in the DTBF program result in a decrease in participant-reported opioid drug use as measured by a pretest and posttest with the COWS? Section 3 identified the data used for this program evaluation, including the participants, procedures, protections, and how the data were analyzed and reported.

Section 4: Findings and Recommendations

The effects of drug abuse on young adults ages 18 to 25 are alarming (Murthy, 2016). In 2015, two million people abused prescription opioids, and about 12 million individuals misused their prescription opioid pain reliever (Murthy, 2016). Drug abuse affects mostly young adults ages 18 to 25. The epidemic is comprehensive, affecting young and old, male and female (Murthy, 2016). The drug abuse crisis has claimed many lives in the study site community with social and economic impacts to the area. Volkow et al. (2014) reported that prescription and street drugs are causing the deaths of young adults because of insufficient knowledge and drug-seeking behaviors.

The purpose of this project was to evaluate the DTBF program to assist stakeholders in identifying areas of improvement, to assess the impact of knowledge acquisition on behavioral changes, and to reduce the drug abuse and overdose deaths among young adults through use of the COWS. Social change implications include a decreased number of opioid overdoses resulting from individuals participating in the educational program and increasing their awareness of drug abuse.

Findings and Implications

The objective of this project was to answer the following question: Does the knowledge of signs and symptoms of opioid withdrawal from participating in the DTBF program result in a significant behavioral change of opioid abuse in young adults ages 18 to 25 as measured by a pretest and posttest with the COWS? Results of a paired samples *t* test ($N = 45$) revealed a significant change in the results of the COWS survey at a 95%

confidence level. This result indicated a significant improvement in drug use behavior among participants, as shown in Table 1.

Table 1

Paired Samples T *Test*

Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig (2-tailed)
6.111	5.74146	.85589	4.38618	7.83604	7.140	44	.000

Recommendations

The rising prevalence of opioid drug abuse and overdose was causing a significant threat to the population in and around the inner-city community. The clinic should train all staff members to use the COWS in screening patients and observing them at every visit. Clients who demonstrate little or no improvement in their COWS scores can be offered pain management treatment over prescribed pain medicine.

Strengths and Limitations of the Project

The inner-city clinic staff participated in the project and acted independently from any external influences; there was no conflict of interest. The project included evidence-based recommendations from accredited organizations such as the Centers for Disease Control and Prevention and SAMHSA. The COWS instrument is a reliable and valid tool that can be easily administered at each client encounter. The strengths of the project included a large number of respondents; 45 of 45 participants responded. The location of the project site was centralized, which enhanced access to transportation. The formative group and summative group included patients who were court committed and health care

counselors who had several encounters with opioid abuse. Participants who were not health care providers contributed knowledge from the layperson's point of view, gave suggestions on how to improve the wording and formatting of opioid management education, and provided recommendations on the method of implementation.

Although the COWS was a useful tool, drug use was a complex phenomenon, and the COWS tool may not be robust enough to explain complex issues. The time duration was limited, from January to June 2018. One of the problems of the study was to maintain 80% attendance required for eligibility. Some participants came late to the program because of transportation issues. The sample size was limited and there was no follow-up after the 6-month period.

Section 5: Dissemination Plan

The purpose of this project was to evaluate the impact of a 6-month inner-city DTBF program for young adult ages 18 to 25 using the 11 items of the COWS instrument. Comparison of pretest and posttest data revealed a significant difference in the scores of the COWS. The project and the results of the COWS was presented to the clinic providers. The presentation occurred during the midday. The presentation included charts, posters, graphs, data, and samples of the questionnaires.

Analysis of Self

The nursing profession involves engagement in the development and promotion of new approaches to nursing practice. Because of the alarming rate of opioid abuse rate in the inner city, I conducted this study to reduce the number of deaths related to opioid drug abuse and misuse. As a DNP student, I have a duty to advance the practice of nursing, provide the possible best treatment to patients, and improve consumers' health outcomes through evidence-based treatment guidelines. My knowledge of the DTBF project will greatly assist the stakeholders in identifying areas of improvement, assessing the impact of DTBF program on behavioral changes, and planning long-term professional health care policies. My knowledge of the DTBF project will lead to a more comprehensive assessment of health issues in a complex and large health care institution. I applied scholarly methodology with the goal of improving health care outcomes, improving an organizational process, improving workplace and consumer satisfaction, and implementing health care policies to promote education regarding opioid use.

I supported the staff, counselors, facilitators, and interns in collaborating with stakeholders to implement the new practice change.

Summary

The purpose of this DNP project was to improve a practice within an organization and to gain insight in the effectiveness of the practice change. The DTBF project was effective because of the moderate impact on consumers' behavior regarding opioid drug use. The outcome of the project was disseminated through poster presentations and visual presentations.

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Appendix: Clinical Opiate Withdrawal Scale

For each item, circle the number that best describes the patient's signs or symptom. Rate on just the apparent relationship to opiate withdrawal. For example, if heart rate is increased because the patient was jogging just prior to assessment, the increase pulse rate would not add to the score

Resting Pulse Rate: beats/minute *Measured after patient is sitting or lying for one minute* 0 pulse rate 80 or below 1 pulse rate 81- 100 2 pulse rate 101-1 20 4 rate than 120	GI Upset: *over last 1/2 hour* 0 no GI symptoms 1 stomach cramps 2 nausea or loose stool 3 vomiting or diarrhea 5 of diarrhea or
Sweating: *over past 1/2 hour not accounted for by room temperature or patient activity.* 0 no report of chills or flushing 1 subjective report of chills or flushing 2 flushed or observable moistness on face 3 beads of sweat on brow or face 4 sweat off face	Tremor *observation of outstretched hands* 0 no tremor 1 tremor can be felt, but not observed 2 slight tremor observable 4 gross tremor or muscle twitching
Restlessness *Observation during assessment* 0 able to sit still 1 reports difficulty sitting still, but is able to do so 3 frequent shifting or extraneous movements of legs/arms 5 unable to sit still for more than a few seconds	Yawning *Observation during assessment* 0 no yawning 1 yawning once or twice during assessment 2 yawning three or more times during assessment 4 several times/minute
Pupil size 0 pupils pinned or normal size for room light 1 pupils possibly larger than normal for room light 2 pupils moderately dilated 5 pupils so dilated that only the rim of the iris is visible	Anxiety or Irritability 0 none 1 patient reports increasing irritability or anxiousness 2 patient obviously irritable or anxious 4 patient so irritable or anxious that participation in the assessment is difficult
Bone or Joint aches *if patient was having pain previously, only the additional component attributed to opiates withdrawal is scored* 0 not present 1 mild diffuse discomfort 2 patient reports severe diffuse aching of joints/muscles 4 patient is rubbing joints or muscles and is unable to sit still because of discomfort	Gooseflesh skin 0 skin is smooth 3 piloerection of skin can be felt or hairs standing up on arms 5 prominent piloerection
Runny nose or tearing *Not accounted for by cold -symptoms or allergies* 0 not present 1 nasal stuffiness or unusually moist eyes 2 nose running or tearing 4 nose constantly running or tears streaming down cheeks	Total Score The total score ~~is the sum o~~f all 1 1 items Initials of person completing assessment:

Score: 5- 12 = mild; 13-24 = moderate; 25-36 = moderately severe; more than more than 36 = severe withdrawal this version may be copied and used clinically.