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Staff Education to Improve Safe Use of Antipsychotic Medication in an Outpatient Clinic

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Walden University

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Walden University

College of Nursing

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Marinette Garrison

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the review committee have been made.

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Walden University

2022

Abstract

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by

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MS, Walden University, 2019

BS, Morgan State University, 2013

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

Walden University

February 2022

Abstract

The use of antipsychotic medications is growing in an outpatient clinic despite the increased risk of mortality and morbidity such as falls, fractures, stroke in adults, neurological adverse effects, weight gain, and cardio-metabolic abnormalities in pediatric populations. The purpose of this project was to develop an educational program to enhance clinic staff knowledge about pharmacologic and nonpharmacologic means to manage patients' care and improve outcomes. The conceptual framework for the project was Knowles's adult learning theory supported by the Kirkpatrick model of training evaluation. The practice-focused question asked whether an educational program would increase staff knowledge related to the safe use of antipsychotic medications in patients in an outpatient clinic. The clinic staff provided process and summative evaluations regarding their satisfaction with the program as well as completed a pre- and post-knowledge-based assessment. A descriptive analysis of the data showed overall satisfaction with the program and demonstrated significant learning ($p = 0.0005$). After full implementation of the staff education, prescriptions of antipsychotic medications for each patient with mental illness will be closely monitored every 6 to 12 months, and follow-up meetings will be planned with prescribers. The project may result in positive social change at both the individual and organizational levels by decreasing the inappropriate use of antipsychotic medications and potential negative side effects at the project site.

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Dedication

I dedicate this project to my late parents Zibi Mbongo'o Pierre and Nyangono Nnanga Doline. Your love, kindness, and devotion to our family will never be forgotten, but will resonate in our hearts forever. You will always be in my heart.

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I would like to first give thanks and honor to my creator, my father, my savior, my God who made my dreams come true. I give him all the glory, honor, and adoration for he had plans for me even before I was born (Jeremiah 29:11). This doctorate degree is dedicated to you father.

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To my 2 and half years-old daughter, Nyangono Nyatanga Chloe', you have been through this journey with me, I want to say thank you for bringing joy and love in my life and allowing me to go through my master and doctorate without morning sicknesses, tiredness and complications during delivery. I love you so much.

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Lastly, to my best friends and family members, you each hold a special place in my heart, and I thank you all for believing in me when I didn't believe in myself. I love

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Oscarine Mayen Mbou, Epse Mbongo'o, and club 2003.

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Section 1: Nature of the Project

Introduction

Internationally, mental health challenges have become significant disease burdens that have a negative impact on individuals, institutions, the community, and the society at large (Hinrichsen et al., 2020). Although evidence suggests that common mental disorders can be treated successfully, they form the largest proportion of the global disease burden (Wainberg et al., 2017). Therefore, stakeholders have consolidated efforts to discover solutions utilizing various modalities, including antipsychotic drugs. According to Kirkham et al. (2017), antipsychotic medications are useful for treating primary psychotic conditions or minimizing distressing dementia symptoms. However, Coon et al. (2014) noted that several large studies have demonstrated a clear association between treatment with antipsychotic medications and increased morbidity and mortality in patients suffering from mental illness, including dementia (neurocognitive disorder). In addition, psychotropic medications have been found to increase risk for falls (Bloch et al., 2011); increased risk for fractures (Lee et al., 2017); be associated with stroke in adults (Carnahan et al., 2017); and increase neurological adverse effects, weight gain, elevated prolactin, and cardiometabolic abnormalities in pediatric populations (Libowitz & Nurmi, 2021). Although some findings demonstrate that neuropsychiatric symptoms are safely managed with antipsychotic medications, providers must strike a delicate balance in considering the benefits and significant consequences of these drugs (Kirkham et al., 2017). This dilemma has created a knowledge gap among providers that should be addressed.

Staff education is one approach for achieving informed decision-making regarding the use of antipsychotic medications. As Carnahan et al. (2017) reported, staff education is an effective way to minimize the inappropriate use of antipsychotic medication. Rubino et al. (2020) noted that in 2005, the U.S. Food and Drug Administration issued a box warning regarding negative outcomes related to the use of antipsychotic medications in older adult patients. In this doctoral project, I sought to provide healthcare professionals working at an outpatient clinic with evidence-based information about the effective use of antipsychotic medications.

Problem Statement

Mental health challenges are general well-being burdens that have a negative impact on individuals, institutions, the community, and society at large (Hinrichsen et al., 2020). As Hinrichsen et al. (2020) clarified, the European Commission, the World Health Organization, global researchers, and other stakeholders have agreed that it is impossible that negative mental health outcomes will significantly diminish with designated counteraction and medications alone. Besides, recommending antipsychotic medications is contrarily connected with a wide scope of nature of-care estimates that lead to general mortality (Stroup & Gray, 2018). Yet the inappropriate use of antipsychotic medication is increasing, exposing patients to adverse effects, and leading to a deterioration of medical and cognitive status (CMS, 2014). Antipsychotic medications have been found to increase risk for falls (Bloch et al., 2011), increase risk for fractures (Lee et al., 2017), and increase neurological adverse events and weight gain among pediatric patients (Libowitz & Nurmi, 2021). Furthermore, antipsychotic medications have been associated

with stroke in adults (Carnahan et al., 2017) and elevated prolactin cardiometabolic abnormalities in pediatric populations (Libowitz & Nurmi, 2021).

The inappropriate use of antipsychotic medications has lately become an issue of public concern and scrutiny, and the topic is the subject of many media reports (Stroup & Gray, 2018). Reducing the use of these medications is part of a broader effort to reduce the number of harmful healthcare procedures, especially for patients suffering from dementia (Kirkham et al., 2017). To prevent adverse events associated with antipsychotic medications, the CMS has enacted regulations that require healthcare facilities to show evidence of attempted gradual decrease of antipsychotic medication use in outpatient clinics (Hamilton, 2016). Noncompliance with the CMS requirements can cause delays in the reimbursement of healthcare costs, and facilities could possibly face other consequences, such as a citation (Banerjee et al., 2021).

I conducted this scholarly project in an outpatient clinic located in the Northeastern region of the United States. The clinic is situated in a public health center that serves individuals diagnosed with mental illness. As of Fall 2020, the clinic provided mental health services to approximately 300 patients per month. According to clinic leadership, approximately 80 patients were on antipsychotic medication at any given time.

In the facility where this project took place, 15% ($n = 12$) of the 80 patients who took antipsychotic medications were inappropriately prescribed these medications, clinic leadership noted. Some were taking multiple antipsychotic medications, some had no psychiatric diagnosis, and some had not been reevaluated for more than 2 years. For the

review period covering 2016 through 2018, the clinic was threatened with citation for noncompliance with the CMS regulations, which focus on the prescription of unnecessary medications and the gradual dose reduction of psychotropic medications (Lindsey, 2016). The proposed sanction was because, for more than 2 years, the clinic did not reevaluate a 14-year-old male patient who was taking behavior disturbance medications. As a result, the outpatient clinic started to emphasize the importance of staff education to improve the safe use of antipsychotic medications for the patient population served, but that has not been effective. The aim of this staff education project was to develop an educational program to increase staff knowledge about the safe use of antipsychotic medications in patients in the outpatient clinic. The program is transferrable to like settings and, thus, may have significance for nursing practice.

Purpose

An educational program for staff at the project site may help to decrease the inappropriate use of antipsychotic medications and the potential negative effects on patients' health that are associated with their use. Clinic leaders are charged with ensuring that patients receive appropriate care to prevent or minimize the symptoms or behaviors associated with mental illness. Proper regulations for treating psychotic behaviors and mental illnesses may improve patient's outcome. The negative feedback from patients about care related to medications and a lack of evidence-based staff education about medications and their side effects have resulted in the existing practice gap at the outpatient clinic where the project will be implemented, according to clinic leadership. Education may help the staff in this outpatient clinic to safely prescribe

psychotic medications and offer various problem-solving strategies to foster a collaborative environment to improve the use of psychotic medications. The practice-focused question that this project addressed was the following: Will an evidence-based educational program increase staff knowledge related to the safe use of psychotic medications in patients in an outpatient clinic?

Research shows that evidence-based tools, resources, and guidance on prescribing psychotic medications can assist prescribers to provide a high standard of care to their patients. To minimize or eliminate the occurrence of adverse events associated with antipsychotic medications, physicians, nurse practitioners, nurses, and pharmacists' knowledge about the pharmacologic and nonpharmacologic means may help to reduce the use of antipsychotic medications. Patients taking these medications may be at increased risk for falls (Bloch et al., 2011), stroke (Carnahan et al., 2017), fractures (Lee et al., 2017), and mortality (Coon et al., 2014).

The aim of this project was to educate facility staff (both those who provide direct care and those who do not) on the safe use of antipsychotic medications in the outpatient clinic. In this way, the project aligned with the shared values of the organization in protecting the physical welfare of patients. As discussed in Section 4, this staff educational project increased staff knowledge about the use of psychotic medications. Increased staff knowledge may empower patients resulting in improved patient outcomes. Studies have demonstrated that empowered patients are more likely to actively participate in the management of their disorders (Benetoli et al., 2018). Greater empowerment may

increase patients' capacity and motivation, thus placing them in a better position to achieve treatment compliance.

Nature of the Doctoral Project

I conducted a comprehensive and systematic literature search using the Cumulative Index to Nursing and Allied Health Literature, MEDLINE, PubMed, and EBSCOhost databases. In addition, information was retrieved from websites of the CMS, Centers for Disease Control and Prevention, and the National Institute of Mental Health using the following key terms: *inappropriate use of antipsychotic medications*, *antipsychotic use reduction*, *wrong drug prescription*, and *educational intervention*. In reviewing the search results, I looked at the document titles first to see whether they were consistent with the project. Then, I read the abstracts and discarded results that did not seem to fit the goal. Finally, I read the articles that remained and seemed pertinent. I used the evidence collected from these sources to guide the development of the education program. The inclusion criteria included peer-reviewed articles published in English between 2016 and 2021.

I presented the educational program to the project team, who consisted of one administrator, one medical director, and one physician for their review, recommendations, and identification of anticipated barriers to full implementation. The educational program addressed medication adherence, health belief contribution toward medication use, common side effects, management of side effects, and evidence-based practice strategies to promote the direct and nondirect staff's knowledge of medication adherence among patients on psychotic medications. This information was presented to

increase understanding of how this knowledge can be used to decrease the inappropriate use of antipsychotic medication. Another goal of the presentation to the project team was to gain consensus on their willingness to accept the educational program for use in the clinic setting where they are employed. As prescribers for this clinic, these medical professionals must not only advocate for patients, but also be prudent when prescribing antipsychotic medications.

Presenting the educational program to the project team raised my awareness of existing recommendations governing the prescription of antipsychotic medications and allowed for formative evaluation of the educational program. The main goals of implementing the educational program were to provide evidence relevant to recommending antipsychotic prescriptions and to close the gap in practice at the Doctor of Nursing Practice (DNP) project site, as well as to comply with state and federal guidelines for endorsing this class of medications. Additional goals were for the prescribers to focus on the importance of ongoing assessments, to document indication for medications, to monitor for adverse effects, and to consider gradual dose reductions and discontinuation when necessary.

Significance

The primary stakeholders of this project were the direct and non-direct healthcare staff members and patients at the site. The staff members had the opportunity to gain new skills to enable them to provide better patient care and to appropriately prescribe antipsychotic medications in the clinic. Growing evidence indicates that inappropriate use of antipsychotic medications can be reduced with proper staff education (Gurvich et al.,

2000; Watson-Wolfe et al., 2014). Overall, patient outcomes may be improved with a decrease in the prescribing of antipsychotic medications and the use of other interventions such as nonpharmacologic approaches.

I undertook the project to educate the prescribing and nonprescribing healthcare practitioners at the site about current evidence-based practices concerning safe antipsychotic medications usage in an outpatient setting. Research shows that knowledgeable clinicians are more efficient to be productive in performing their obligations, which can help patients, communities, and organizations to benefit from quality healthcare (Peterson, 2017). With more knowledge, clinicians may be able to make more informed decisions regarding the use of antipsychotic medications. Experimental discoveries have shown that a decrease in antipsychotic medication use can possibly limit related unfavorable impacts (Stroup & Gray, 2018).

The findings from this DNP project may extend to similar practice areas. Staff training on the appropriate use of antipsychotic medications was the fundamental component of healthcare enhancement programs at the clinic. Such training has a high potential to promote social and behavioral change among clinicians that could improve patient outcomes (because of fewer complications) and, ultimately, improve quality of life (Dubé et al., 2020). This project thus has the potential to positively impact social change by reducing complications and improving outcomes and quality of life for patients on antipsychotic medications in the clinic.

Summary

In today's healthcare sector, many providers in the United States prescribe antipsychotics for patients without adequate knowledge of current guidelines governing the safe use of these medications (CMS, 2013). To address this gap in practice, CMS developed a readily available clinical practice guideline based on their evidence and that of the American Psychiatric Association (CMS, 2020). In the current project, I addressed the practice gap in an outpatient clinic through a staff training program to improve the safe prescription of antipsychotic medications. In Section 2, I will provide more details on the major theoretical concepts, models, frameworks underlying the project. I will also provide additional background and context on the practice problem.

Section 2: Background and Context

Introduction

In recent years, there have been several enhancements to the treatment of mental healthcare challenges. In 2018 and 2020, there was an estimated 20% to 30% increase in the use of antipsychotic medications in the United States for such conditions as dementia (Kirkham et al., 2017). Although this is a positive indicator of the management of mental challenges, there are underlying issues that remain unaddressed. Antipsychotic medications do not always provide a positive outcome. Evidence shows that inappropriate use of these medications is linked to a wide range of quality care challenges that have led to increased general mortality (Neiman et al., 2017). The inappropriate use of these medications is a public health concern that requires urgent attention from healthcare providers and policy makers.

Outpatient clinics are a site that may require the most attention. Only one third of health professionals working at U.S. outpatient clinics know the relevance of minimizing antipsychotic medications, research shows (Chaparro et al., 2020). Findings from various randomized trials show, however, that education and training programs in outpatient clinics can significantly increase staff members' knowledge of medications and adverse effects (Soumerai et al., 2005). At the local outpatient clinic where this project was implemented, there was no program in place to assist staff in handling and managing patients with mental illnesses. I undertook this project to address that gap in practice. The practice-focused question for the project was the following: Will an educational program

increase staff knowledge related to the safe use of antipsychotic medications in patients in an outpatient clinic?

In Section 2, I provide the background and context of the DNP project. The section is divided into five primary subsections: Concepts, Models, and Theories; Relevance to Nursing Practice; Local Background and Context; Role of the DNP Student; and Role of the Project Team. In these subsections, I will explain the project and lay the foundation for the subsequent sections.

Concepts, Models, and Theories

In developing the training program, I drew from Knowles's (1997) andragogical framework and Kirkpatrick's (1959) model of training evaluation. Knowles's andragogical framework refers to a theory of adult learning that details some of the ways in which adults learn differently than children. Table 1 shows the alignment of Knowles's five assumptions of adult learners with the project's objectives. The Kirkpatrick model is a model used by training practitioners to evaluate training programs and instructional design initiatives.

I used Knowles's (1997) andragogical framework, or adult learning theory, to develop a curriculum and to improve the learning process to help staff members to achieve goals related to prescribing antipsychotic medications so that they are safely and effectively used. When planning and implementing the educational training program, I applied Knowles's assumptions to help adult learners to know why they are engaging in the learning so they can share control of the process.

Table 1*Alignment of Adult Learning Theory With Project Objectives*

Assumption	Project objective
Adults have a need to know about self-concept.	Participants will accumulate a growing reservoir of experience that becomes an increasing resource for learning.
Adults have a need to know about learning.	Participants will learn how the staff education content directly impacts their role.
Adults have to be ready to learn.	Participants' readiness to learn will become increasingly oriented to the developmental tasks related to their social roles.
Adults have a problem-centered orientation.	Participants' perspective will change from one of postponed application of knowledge to immediacy of application.
Adults need to be motivated.	Participants' motivation to learn will be internal.

The Kirkpatrick (1959) model provided the parameters for summative evaluation of the learning experience. The Kirkpatrick model of training evaluation is composed of four levels of evaluation: reaction, learning, behavior, and results. The educational project incorporated the first two evaluation levels of the Kirkpatrick model of training—namely, reaction and learning. For the last two levels, behavior and results, I made recommendations to the management staff at the project site, which they addressed after the completion of the project.

I used the first level in Kirkpatrick's (1959) model, reaction, to evaluate how engaged the staff were and how they reacted to the training. To obtain pertinent data, I asked the trainees to answer questions such as the following:

- Did you think the training was worthy of your time?
- Did you think that it was successful?
- Were the training objectives clearly defined?
- Were the training activities engaging?

During the second level of evaluation, learning, I focused on measuring what the staff members had learned. Before the presentation, a pretest was completed to determine staff members' knowledge regarding the subject. When the training was finished, they were given the same test as a posttest to measure what they had learned. The test had the format of multiple-choice questions based on the content. The project team designed the test during the project planning meetings. The trainees answered questions such as the following:

- Were the objectives of the presentation clearly defined?
- Were the topics covered relevant to your current practice
- The educational program was well organized and easy to follow
- Was the educational program enhanced your knowledge about pharmacological and non-pharmacological means to manage patient's care?

Relevance to Nursing Practice

The prescription of antipsychotic medications with appropriate nursing education may minimize adverse effects and can be an instrumental in changing patient-centered

care. The broader issue in nursing practice is reducing psychotropics and increasing awareness surrounding the potential adverse effects associated with psychotropic medications (Kirkham et al., 2017). According to Kirkham et al. (2017), approximately 20% of all skilled nursing facility residents in the United States received some form of antipsychotic medication from 2010 to 2016, most without any psychosis diagnosis for which the drugs are indicated. This means that a small fraction of patients prescribed antipsychotic medications are being evaluated by a mental health professional, and while this class of medications is generally overused, evidence exists that this could be related to the lack of psychopharmacologic training of practitioners and misdiagnosis of conditions in this population (Kirkham et al., 2017). To increase direct and nondirect healthcare staff's knowledge on the appropriate use of antipsychotic medications, facility leaders continue to develop education programs that emphasize alternative strategies, nonpharmacological interventions, and dementia-specific training to minimize the use of psychotropic medications (Martin et al., 2016).

The training program for the project yielded outcomes such as participating nurses learning to communicate and engage patients with mental challenges. At the same time, clinicians were exposed to recommended guidelines that govern the use of antipsychotic drugs. Therefore, through the training program, the healthcare providers in the clinic were equipped with evidence-based information on the significance of balancing the benefits and consequences of antipsychotic medications for patients. Hence, to address this problem, it is imperative to equip healthcare providers, as frontline workers, with the knowledge to appropriately prescribe these medications. Thus, the DNP

project provided an avenue to train healthcare providers in the clinic to understand their patients and adopt recommended medication procedures into practice to lower the prevalence of adverse outcomes in patients who are prescribed antipsychotic medications.

According to Hsieh and Chen (2020), education can improve skills and knowledge of nursing staff. According to Mthiyane and Habedi (2018), an education program has the potential to increase the quality of care, decrease the costs of care, and empower healthcare providers to meet the needs of patients. In this regard, the suggested educational intervention provides a multidimensional approach to dealing with psychotic illness, nonpsychotic illness, and behavioral issues through medications safeguarding patients' well-being. The healthcare providers were instructed on an evidence-based foundation for determining whether to prescribe drugs or consider other interventions to address mental and behavioral challenges. Full implementation of the DNP project may influence the use of antipsychotic medications in this clinic and improve quality measures, patient care, and patient outcomes.

Local Background and Context

The setting for the staff education project was an outpatient clinic located in the Northeastern region of the United States. The stakeholders and participants were the direct and nondirect healthcare professionals within the facility and include a physician, a medical director, three nurses, five therapists, five psychiatric mental health nurse practitioners, two social workers, and three staff members who work in the Psychiatric Rehabilitation Program.

According to clinic leadership, the clinic serves patients with mental health problems ranging in age from 13 to 89 years. As of Fall 2020, the clinic provided mental health services to approximately 300 patients per month, and about 80 of these patients were on antipsychotic medications, clinic leadership noted. Many of these patients had a primary diagnosis of schizophrenia, bipolar, depression, or schizoaffective disorder including dementia; many of these patients had been taking antipsychotic medications for many years of their lives without medication evaluation. Some patients were on antipsychotic medications with no diagnosis provided to validate why they should be on those medications.

The complexity of the diagnoses of the patient population in this setting dictated the need for a staff education that encompassed state and federal recommendations. Developing and presenting an educational program to improve the safe use of antipsychotic medication in this outpatient clinic may impact prescribing practices in general and how the prescribers respond when managing care for new and established patients.

Role of the DNP Student

My role as a DNP student was to lead in the development and delivery of this staff education program. After developing the program, I presented it to the project team who provided formative evaluation of the curriculum by reviewing the program curriculum to ensure the program addresses the problem and objectives intended. The educational program was delivered to and evaluated by the participants with the intention of adoption and full implementation (although adoption and full implementation are

outside the scope of the DNP project). This was in accordance with the DNP Essential III (American Association of Colleges of Nursing, 2006), which involves analyzing and addressing a gap in practice with interventions that promote a safe, time-effective, efficient, and patient-centered change. For this project, I worked as a team with different individuals from the outpatient center setting; these individuals included a physician, a medical director, three nurses, five therapists, five psychiatric mental health nurse practitioners, two social workers, and three staff members who work in the Psychiatric Rehabilitation Program. Together, we investigated any current policies and practices related to the management of behavioral disturbances.

Role of the Project Team

The project team was made up of an administrator, one medical director who is a psychiatric nurse practitioner, and one physician. Enlisting the direct and nondirect nursing staff for this project was vital, given that the goal of this project was to potentially change prescribing habits of antipsychotic medications in the outpatient setting. The role of this project team was to work with me to develop an educational session whereby I presented on the appropriate prescription of antipsychotic medications. I developed a draft of the educational program, presented an overview to the project team, and provided hard copies of the educational program for their review and feedback. I obtained the project team's overall impression of the antipsychotic educational program and their assessment of barriers to full implementation, as well as suggested revisions and recommendations before the educational program was presented to the participants.

Summary

In Section 2, I provided foundational information supporting the development of the project. The primary subsections included the concepts, models, and theories used in the project; the relevance of the project to nursing practice; local background and context; and the role of the DNP student. In Section 3, I will provide information on the sources of evidence that I used to develop the staff development educational program on the appropriate prescription of antipsychotic medications.

Section 3: Collection and Analysis of Evidence

Introduction

Experts are increasingly concerned about the high rate of mental illnesses in the United States. According to NIMH (2020), 1 in 5 Americans has a mental health condition. Workable solutions are needed to treat patients with mental illnesses. Academic physicians have developed nonpharmacologic interventions such as behavioral options for nurses to implement (Garrido et al., 2017). However, these techniques have not accomplished the desired results. Thus, healthcare providers have used pharmacological interventions such as antipsychotic medication to treat mental health diagnoses and other behavioral issues.

The use of antipsychotic medications has potential risks. There may be adverse outcomes if their use is not controlled and if patients are not frequently monitored (Kioko et al., 2016). The overprescribing of antipsychotic medications was an issue at the project site. As noted by Kirkham et al. (2017), the adoption of medical options for mental conditions, including dementia, requires comprehension of the advantages and the dangers related with these medications. The knowledge and skill gap among healthcare providers on the use of antipsychotic medications in the treatment of mental illness and behavioral issues continues to cripple the nation's healthcare industry (Delaney et al., 2018). I addressed this practice gap by developing an education program to equip direct and nondirect healthcare members at the local clinic that served as the project site with knowledge and skills to improve their use of antipsychotic medications. In Section 3, I will further discuss the practice-focused question and present key aspects of the project,

including the sources of evidence, participants, ethical protections, and procedures for analyzing and synthesizing the evidence.

Practice-Focused Question

The use of antipsychotic medications in managing mental illnesses is routine and is considered an essential approach in dealing with the challenges associated with mental illnesses. However, as explained by Kirkham et al. (2017), these medications can have an adverse impact on the health of the patients. The inability to balance between the benefits and risks associated with these diseases adversely impairs the improvement of patient outcomes. Because of the knowledge gap that exists in the proper usage of antipsychotic medications, an educational intervention to make these medications safe for patients may be recommended.

The practice-focused question for the DNP project was the following: Will an educational program increase staff knowledge related to the safe use of antipsychotic medications in patients in an outpatient clinic? To answer this question, I developed an educational program for prescribers and nondirect healthcare members who care for patients taking antipsychotic medications at the project site. This educational program enhanced the staff knowledge on the safe use of antipsychotic medications in the outpatient clinic.

Sources of Evidence

The project was an education project to improve the safe use of antipsychotic medication in an outpatient clinic. In this project, direct and nondirect nursing staff were asked to take part in the project. To evaluate the project's effectiveness, I administered a

pre- and postassessment of participants' knowledge of information that was included in the educational intervention. These assessments served as evidence of whether the project was effective.

Published Outcomes and Research

I drew the sources of evidence for this DNP project from existing studies on the use of antipsychotic drugs in the treatment of patients. A comprehensive and systematic literature search was conducted using Walden University Library resources, including its Cumulative Index of Nursing and Allied Health Literature, MEDLINE, PubMed, and EBSCOhost databases. Additional information was retrieved from the websites *Journal of Psychiatric and Mental Health Nursing*, *Behavioral Therapy*, CMS, the Centers for Disease Control and Prevention, and NIMH using the following key terms: *inappropriate use of antipsychotic medications*, *antipsychotic use reduction*, *wrong drug prescription*, and *educational intervention*. Inclusion criteria for journal articles were the following: published between 2016 and 2021, based on evidence, peer reviewed, published in English, and specific to health and clinical nursing practice settings. The literature review provided me with resources to organize the literature for the project's education program. It also increased my understanding of ways to disseminate the most current evidence-based information for the nursing team's education program.

Evidence Generated for the Doctoral Project

Participants

The staff training program was an educational program developed to target both direct and nondirect healthcare staff members in an outpatient clinic. The staff consisted

of 20 direct and nondirect healthcare professionals within the facility: one physician, a medical director, three nurses, five therapists, five psychiatric mental health nurse practitioners, two social workers, and two Psychiatric Rehabilitation Program staff members. The staff at this practice site had an average length of employment of 6 years. These participants were all involved in the care of patients at the outpatient clinic and will be invited to attend this program. Attendance was voluntary. I developed an invitational flyer about the educational program and posted it on the staff board for easy access to all.

Procedures

The aim of this project was to provide an educational program in an outpatient clinic on how to appropriately prescribe antipsychotic medications. Because of the current pandemic, I delivered the training program virtually, through an online platform rather than face-to-face. Clinic leaders emailed participants information about the program and program documents. The educational program lasted 1 hour and 30 minutes, divided as follows: 30 minutes for the presentation, 15 minutes for the pretest, 15 minutes for the posttest, 15 minutes for questions, and 15 minutes for the evaluation of the program's effectiveness.

Protections

To ensure the ethical protection the planning team, I obtained approval from the Institutional Review Board (IRB) of Walden University. I also followed the procedures set forth in the *Manual for Staff Education: Doctor of Nursing Practice (DNP) Scholarly Project* (Walden University, 2019). I obtained informed consent, took measures to

safeguard participants' privacy, and permitted participants to withdraw their participation whenever they wished without penalty. Approval by Walden University's IRB was required before collection of any data. I presented the consent for anonymous questionnaires to the team members via a protected email. prior to the program presentation. Questionnaire results remained confidential. Organizational leaders were asked to sign the site agreement.

Analysis and Synthesis

I used descriptive statistics to evaluate participant reaction and inferential statistics (a paired-sample *t*-test) to determine whether there was a significant difference in pretest and posttest scores. The latter served as a proxy for increased knowledge. All data were reported cumulatively with no identifying information supplied to me. Participants self-selected unique identifiers. In the case where an individual completed the pretest and did not complete the posttest, the pretest data were discarded from the data set. In the circumstance that one or more of the participants did not respond to a specific question, the missing data were reported as missing. Prior to the delivery of the educational program to the clinic staff, I asked the educational team members to review the program for its usefulness. Feedback helped to address the following areas: (a) the content, (b) whether the content was comprehensible, (c) whether the content met the expected objectives, (d) how likely the expert panelists were to implement the program in their organization, and (e) whether the posttest was a true test of knowledge of the content outlined in the education program.

Summary

Section 3 included the practice-focused question, sources of evidence, and the plan for analysis and synthesis of the findings. I obtained the sources of evidence for the project from various healthcare databases using the specified search criteria. To protect the participants, I followed all of the ethical guidelines in the *Manual for Staff Education: Doctor of Nursing Practice (DNP) Scholarly Project* (Walden University, 2019). To assess the impact of the education program, a paired sample *t*-test was used to compare the pretest and posttest datasets. The procedures outlined in Section 3 set the foundation for the development of the subsequent sections, especially the sections on data analysis and findings and on recommendations. In Section 4, I discuss the results obtained from the analysis.

Section 4: Findings and Recommendations

Introduction

The United States has a significant issue with the inappropriate use of antipsychotic medications for patients suffering from mental illnesses and dementia-related conditions (Hamilton, 2016). The high rate of use of these antipsychotic medications poses a threat to patient safety because of the potential for serious adverse effects. The efforts by various U.S. agencies to minimize the use of antipsychotic medications have largely been unsuccessful (Hinrichsen et al., 2020). According to clinic leadership at the project site, many patients were being prescribed incorrect antipsychotic medications. The gap in practice identified for this DNP project was staff members' lack of knowledge related to the inappropriate use of antipsychotic medications in an outpatient clinic.

The practice-focused question was the following: Will an evidence-based educational program increase staff knowledge related to the safe use of antipsychotic medications in patients in an outpatient clinic? To address this question, I developed, implemented, and evaluated an educational program to improve staff knowledge on the safe use of antipsychotic medication in an outpatient clinic. Nursing staff were asked to evaluate their satisfaction with the educational program and to complete a knowledge-based assessment before and after the program.

The sources of evidence used to create this staff education project included the current recommendations from the CMS and the American Psychiatric Association. I performed a literature review using the Cumulative Index of Nursing and Allied Health

Literature, MEDLINE, PubMed, EBSCOhost databases, and UpToDate. The Fineout-Overholt ranking tool (Melnik et al., 2015) was used in ranking the level of evidence for this project. Using this ranking tool assured that the best quality of evidence was used in creating the educational program.

Findings and Implications

The educational program that was implemented as part of the DNP project provided step-by-step directions for trainees at the outpatient clinic on how to improve the safe use of antipsychotic medications. This educational program was necessary to improve patients' quality of care by decreasing the inappropriate use of antipsychotic medications and potential negative effects. The primary goal of presenting this educational project to the clinic staff was to enhance the knowledge of physicians, nurse practitioners, nurses, and therapists about pharmacologic and nonpharmacologic means to manage patients' care. Therefore, the staff education included with up-to-date, evidence-based information on the safe use of antipsychotic medications in an outpatient clinic.

Prior to implementation of the project, I secured formal approval from the organization and university. I obtained Walden University IRB preapproval for this project on September 30, 2021 (approval no. 0724539). The project team and I conducted the initial testing of the program in a local outpatient clinic consisting of 20 staff members caring for 80 adult patients taking antipsychotic medications. Both the satisfaction survey and knowledge-based assessments were presented to staff composed of nurses, nurse practitioners, mental health therapists, and substance therapists via a

slide presentation on video conference call. I sent participants the consent form for the anonymous questionnaires prior to their participation in the education program via email.

I designed the educational project to improve the safe use of antipsychotic medications in an outpatient clinic by enhancing the knowledge of physicians, nurse practitioners, therapists, nurses, and pharmacists about pharmacologic and non-pharmacologic means to manage patients' care. The educational program content included the associations that exist between antipsychotic medications and increased mortality and morbidity (Coon et al., 2014)). The content also provided the reasons why targeted interventions and medications have been insufficient to mitigate the impact of mental health problems. Results from the survey revealed that the educational program would be useful for clinic staff on the appropriate use of antipsychotic medications. Lack of knowledge and skills on the appropriate use of antipsychotic medications was identified as a practice gap by the clinic staff.

After reviewing the educational program, the staff strongly agreed that the staff educational program content met the learner objectives, was easy to understand, and provided knowledge on the safe use of antipsychotic medications in an outpatient clinic. Written comments indicated that the program content was informative and would be applied to the clinical practice. No additional recommendations were made for modifications in educational content. All items on the satisfaction were marked *strongly agree* indicating 100% satisfaction with the program. I analyzed the data from the pre- and post-knowledge-based assessment, consisting of seven multiple-choice questions, using a paired sample t test. Findings demonstrated statistical significance ($p = 0.0005$)

and a large effect size. Overall, the findings after the postassessment indicated that staff members were well equipped to meet the ultimate goal of appropriate use of antipsychotic medications.

Recommendations

The primary focus for this project was on enhancing the knowledge of clinic staff about pharmacologic and nonpharmacologic means to manage patients' care by adhering to proper regulations in treating mental illnesses, including dementia, to improve patients' outcomes. This will require intensive staff training to ensure that staff members are knowledgeable and comfortable using current evidence-based practices that relate to the safe use of antipsychotic drugs. During the training session, project team suggested that staff training on the successful use of antipsychotic medications would be critical to ensure not only that the staff obtain the knowledge they need to manage patients' care, but also that they adhere to proper regulations for treating psychotic behaviors and mental illnesses. The project team finally appointed one nurse practitioner and a physician after the collection of data was analyzed and reviewed to implement the train-the-trainer model at a time decided by the administration to train the staff regularly. Other suggested means of appropriately delivering information on the safe use of antipsychotic medications included the implementation of telephone support with the trainers, webinars, seminars, and booster sessions. A strong suggestion during the postpresentation discussion was that the prescribers should review patients' antipsychotic medications and should review records of patients on multiple antipsychotic medications. The project team gave their

full support to implement medication review on all patients taking antipsychotic medications.

The education may help to promote positive patients' outcomes by changing perceptions on the use of antipsychotic medication. In addition, the education may help the prescribers to make clinical decisions with the knowledge of how to appropriately use antipsychotic medications to treat patients suffering from mental illness, including dementia. The full implementation would encompass the adoption of the educational program and inclusion of it in the facility's policy for ongoing clinic staff education. This will be completed by implementing a prescribing culture that suggests the importance of an education-based framework and efforts to improve the use of antipsychotic medication in the outpatient clinic. A full implementation and policy change will ensure that the facility is adherent to both state and federal regulations regarding the use of antipsychotic medications in the outpatient care setting. After full implementation, an initiative is needed wherein prescriptions of antipsychotic medications for each patient with mental illness are closely monitored every 6-month to 12-month period. Using results from the educational program and data on the program's impact on clinical practice, the administration will plan follow-up meetings in the future with prescribers.

Contribution of the Doctoral Project Team

Collectively, the DNP project team consisted of an administrator, a medical director, and a nurse practitioner. They all assisted me in scheduling, presenting the information, and finding the most appropriate method to deliver the training. They also collaborated with me to review the educational material.

The project team and I developed the educational program over a 4-week period. The project team members and I met via video conference calls once weekly for 2 weeks to retrieve the project team's input on the development, implementation, and evaluation of the educational program. Each time the project team and I met, team members reviewed the content and provided feedback on the draft of the educational program that I developed. I provided the draft of the educational program for the project team's review 2 to 3 days before the meeting. Each meeting lasted approximately 30 minutes. As the project manager, I developed the education program and the pre- and posttest. In addition, I evaluated and analyzed the collected data to review the effectiveness of the educational intervention. At the final planning meeting, I asked the project team members to complete a summative evaluation for each of the sections of the staff educational training program and toolkit.

Strengths and Limitations of the Project

This educational project presented several strengths and limitations. A major strength of this project was found in the 15 nursing staff members who enthusiastically participated in the educational intervention. Although the intervention was voluntary, these trainees took the time to attend the intervention. Trainees attended to enhance their knowledge about pharmacologic and nonpharmacologic means to manage patients' care and to potentially improve the patients' outcomes. Additionally, the support and dedication of the project team added to the success of the intervention. It was through their guidance and dedication that the educational intervention was able to be completed. Also, the development of the educational program was supported by recommendations by

CMS (Hamilton, 2016) and the American Psychiatric Association (2021). A focus on the use of antipsychotic medications in the outpatient care setting is of absolute importance to monitor the use of antipsychotic medications in outpatient clinics.

The limitations of this project include coordinating the training session, given the providers' busy schedules. The prescribers had to take time away from their busy schedules to attend this presentation. Another limitation to this project was that the analysis was completed using the average pre- and posttest scores. The intervention may be responsible for the increase in scores, or there may be other reasons for why the posttest scores may have changed. For example, participants may have memorized the questions from the pretest and used these on the posttest. Having to use the average pre- and posttest to evaluate the effectiveness of the educational program could potentially affect the outcome of the intervention.

Summary

The inappropriate use of antipsychotic medications in the treatment of residents in the outpatient care setting who have mental illnesses, including dementia, has been quite challenging. CMS (Hamilton, 2016) has stressed the importance of gradual drug reduction and the importance of applying nonpharmacologic interventions before administering an antipsychotic medication. Within the outpatient clinic setting for this project, according to the data provided by the leadership, staff members lacked knowledge regarding the appropriate use of antipsychotic medications. To address this local issue, I developed a staff education training to improve the knowledge of staff on the safe use of antipsychotic medications in an outpatient clinic. The goal was to

demonstrate that educating healthcare professionals on the current evidence-based practices that relate to safe antipsychotic drug usage can provide primary stakeholders necessary knowledge and skills on the appropriate use of antipsychotic medications. Such education can also promote positive patient outcomes by changing perceptions on the use of antipsychotic medication.

Section 5: Dissemination Plan

To ensure the quality of patients' care, dissemination of evidence into practice is critical (Conway et al., 2019). The findings from this project suggest that an in-house educational program can enhance the knowledge of direct and nondirect nursing staff about the safe use of antipsychotic medications in an outpatient clinic. The objective of the dissemination plan for project findings is ultimately to permanently incorporate the in-house educational program in the outpatient clinic. I plan to further disseminate the educational program throughout the organization via ongoing formal presentations to ensure that it is available to the education department team responsible for patient care in the outpatient clinic.

By disseminating the project results in this manner, I hope to raise awareness among facility leaders about the positive impact of the educational intervention on improving staff members' knowledge on the safe use of antipsychotic medications. Direct and nondirect nursing staff must possess knowledge about pharmacologic and nonpharmacologic means to manage patients' care. As such, I also plan to present the results of the DNP project to the direct and nondirect nursing staff members themselves. These staff members include a physician, a medical director, three nurses, five therapists, five psychiatric mental health nurse practitioners, two social workers, and three staff members who work in the Psychiatric Rehabilitation Program.

The educational program will further be disseminated by the administration throughout the organization via ongoing formal presentations to ensure that it is available to the education department and to other administrative teams responsible for issues

governing patient care. Additional plans to disseminate this educational program include seeking permission to present it to other outpatient clinics. To reach a broader nursing audience, I also plan to submit a manuscript for publication in a peer-reviewed nursing journal. According to Correa-de-Araujom (2016), continuing professional development is a vital way to improve staff knowledge in nursing.

Analysis of Self

The completion of this DNP project has helped me to meet personal and professional goals of mine. Through completing this DNP project, I have strengthened my skills in researching and translating the evidence. In addition, I have enhanced my leadership and communication skills by working with the organizational stakeholders and project team. This project served as a motivation to continue to learn, explore, study, and research on the project topic. I embarked on this DNP journey to advance my nursing role in areas of clinical practice and translate my knowledge into practice. I have lofty dreams and aspirations such as opening a mental health and substance abuse clinic someday. Thus, the learning experience provided in the doctorate program may lead to new possibilities in the future. Currently, my focus is on finding ways to make tangible changes in the chosen organization, especially in improving healthcare delivery and patients' outcomes by adhering to proper regulations for treating psychotic behaviors and mental illnesses. Concretizing this project is already a great professional achievement. I also look forward to advocating for its sustainability.

My greatest challenge was adhering to project timeline. Time management at various stages, either due to work or family constraints, was an issue that I had to

overcome. To help resolve these issues, I had to dedicate specific times during the day to work on and to complete milestones for the project. One insight that I gained from this DNP project journey was that such efforts require a substantial amount of time to develop all aspects of the project, including the research. Overall, the experience was a positive one.

Summary

This project was effective in enhancing the direct and nondirect nursing staff's knowledge about pharmacologic and nonpharmacologic means to manage patients' care. I developed the educational program through a rigorous review of the literature, including data from CMS (Hamilton, 2016) as well as the American Psychiatric Association (2020). I presented the educational project to the direct and nondirect nursing staff who expressed positive feedback regarding the topic's relevance to practice. Staff at the outpatient clinic had a better understanding of the safe use of antipsychotic medications and provided full support to implement the educational program. The project outcomes may provide useful insights to the leaders of other U.S. outpatient clinics about the use of staff education to improve the prescribing of antipsychotic medications.

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