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Reducing Antipsychotic Medication Use in Long-Term Care Settings

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This is to certify that the doctoral study by

Martha Agbeli

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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2019

Abstract

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MS, Drexel University, 2015

BS, University of Rhode Island, 2009

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

The prescription rate of antipsychotics in patients with dementia varies between 20% and 50% for the common and troubling neuropsychiatric symptoms experienced by patients with dementia. The use of these antipsychotic medications has been linked with increased risk of morbidity and mortality due to associated Parkinsonism, over sedation, gait disturbances, cognitive decline, and cardiovascular adverse events. The purpose of this project was to assess whether development of an evidence-based clinical practice guideline (CPG) for a long-term care facility would increase awareness about issues that govern the safe use of antipsychotic medications. The conceptual framework for the project was Watson's model of caring. The Fineout-Overholt tool was used to rank and score information retrieved following an extensive literature review. An expert panel made up of 2 medical doctors and 4 nurse practitioners had 100% agreement that objectives were clear; content was relevant and easy to understand; the CPG was well-organized and easy to follow; and knowledge learned would be used in practice. From 66.6% to 83.3% agreed that the CGP led to an improved understanding of dementia, neuropsychiatric symptoms, medication adverse events, and nonpharmacologic interventions. The expert panel agreed to launch the CPG upon implementation of an educational program for frontline nursing staff and a behavioral log to track occurrence and frequency of behaviors and the use of nonpharmacologic interventions and their effectiveness in managing behaviors. Safe implementation of this CPG might be adapted to other long-term facilities to optimize dementia care, which would bring about a positive social change.

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Dedication

This project is dedicated to my amazing son (Ezekiel S. Agbeli) and husband (Charles Agbeli) for all the support and for taking great care of me throughout this process. I also want to thank my father (Christian Ofei-Tenkorang) for his immense support, encouragement, and motivation. To my wonderful sisters and friends, I want to say thanks for the understanding, love, and laughter.

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Section 1: Nature of the Project

Introduction

Larson (2018) defined dementia as an overall decline in cognition related to one or more of the cognitive domains, namely, learning and memory, language, executive function, complex attention, perceptual-motor, and/or social cognition. According to Press and Alexander (2017), neuropsychiatric symptoms of dementia are very common and much more troubling than the amnestic symptoms. These neuropsychiatric symptoms include agitation, aggression, delusions (particularly paranoid delusions), hallucinations, wandering, depression, apathy, disinhibition, anxiety, irritability, and sleep disturbances (Press & Alexander, 2017). According to Sahin Cankurtaran (2014), 97% of dementia patients develop behavioral and psychiatric symptoms during the disease.

For many years practitioners and prescribers alike have used antipsychotic medication as first-line agents for managing nursing home patients who exhibit behaviors such as agitation, aggression, and psychotic symptoms of delusions and hallucinations (Lindsey, 2009). The use of antipsychotics is even more prevalent among patients with dementia who exhibit neuropsychiatric symptoms associated with the disorder. Jeste and Maglione (2013) reported that prescription rates for antipsychotics in dementia range from 20% to 50%. These medications are often used to treat the distress associated with psychotic symptoms in this population; however, their use for the dementia patient population is considered *off-label* and not approved by the Food and Drug Administration (FDA; Madhusoodanan & Ting, 2014). Over time, the use of these medications has been associated with increased morbidity and mortality as well as several other adverse effects

(Saltz, Robinson & Woerner, 2004). Prescribers lack the knowledge governing the use of these medications and the current guidelines that are available to help reduce the prescriptions of such medications.

The purpose of this evidence-based project was to develop a clinical practice guideline (CPG) that aimed at raising awareness about current issues governing the use of antipsychotic medications in dementia patients. This CPG, ensuring that practitioners and prescribers adhere to evidence-based practice on the use of pharmacological psychotropic management for patients with dementia, represents a positive social change. Prompting prescribers to pay closer attention to antipsychotic medication use is paramount, safer for the patient, and is a mark of compliance with state and federal regulations.

Problem Statement

According to Bartels (2011), 68% to 91% of residents in long-term care facilities have some type of mental disorder with most of these patients (i.e. 70-80%) having an additional diagnosis of dementia. Though antipsychotic medications have commonly been used as first-line agents, it should be noted that the FDA has not approved this class of medications for the management of psychosis, agitation, and other neuropsychiatric symptoms in patients with dementia (Tampi, Tampi, Balachandran, & Srinivasan, 2016). In fact, antipsychotic use in patients with dementia has been linked to serious adverse effects such as the increased risk of death, severe cerebrovascular adverse events (CVAEs), and other serious side effects (Tampi et al. 2016). In 2008 the FDA issued a strong warning which identified the link between antipsychotic medications and increased mortality risk in elderly patients with dementia (De Jong, Van der Elst &

Hartholt, 2013). This makes it particularly challenging in patients with a pre-existing mental illness who develop dementia as they age in the nursing home setting as many of these patients have been properly prescribed antipsychotics for many years.

Over the past decade many organizations such as the Centers for Medicare and Medicaid (CMS), the American Health Care Association (AHCA), and The Omnibus Budget Reconciliation Act (OBRA) regulations, among others, have guided steps by health care providers to limit the prescribed use of antipsychotic medication for residents of long-term care nursing facilities (Centers for Medicare and Medicaid, 2013). Other organizations, such as the American Psychiatric Association, have developed clear practice guidelines on the use of antipsychotics in the treatment of agitation and psychosis among dementia patients (Centers for Medicare and Medicaid, 2013). These guidelines call for practitioners and prescribers to focus on the assessment of behavioral/psychologic symptoms of dementia, the development of comprehensive treatment plans, assessment of benefits and risks of antipsychotic treatment for patients, and focus on dosing, duration, and monitoring of antipsychotic treatment (Saltz, Robinson, and Woerner, 2004).

In today's healthcare sector, many providers prescribe medications such as antipsychotics for patients without adequate knowledge of current guidelines governing the use of these medications. Antipsychotic medications are often prescribed for symptoms such as delusions, depression, and agitation associated with dementia (Jeste and Maglione, 2013). According to Saltz, Robinson, and Woerner (2004), these medications are misused because conditions such as delirium and dementia often mask

depression, anxiety, and other mental illnesses to the inexperienced observer. The Psychological Outcome Severity Guide, which was issued by the CMS in 2006, provides criteria for surveyors of nursing facilities in the determination of correct levels of negative psychosocial outcomes as a means of assessing the appropriateness of prescribing antipsychotic medications (Centers for Medicare & Medicaid, 2016).

Under the Unnecessary Drugs section of this guide, CMS outlined the importance of comprehensive assessments of residents in a nursing home to ensure that each resident's drug regimen is free of unnecessary drugs (Centers for Medicare & Medicaid, 2016). The CMS urged nursing home facilities not to use antipsychotic drugs for patients who are not already taking them unless it is necessary to treat specific conditions (Centers for Medicare and Medicaid, 2016). These must be diagnosed and documented in the clinical record (Centers for Medicare and Medicaid, 2016). According to the Centers for Medicare & Medicaid (2016), residents already using antipsychotic medications must receive a gradual reduction in dose and behavioral interventions unless there is clear clinical evidence pointing to a contraindication. This is encouraged in an effort to discontinue antipsychotic medications. CMS defines gradual dose reduction (GDR) as a slow, step by step, dose tapering to determine if the patient can be safely managed by lowering dose or determining whether or not the medication can be discontinued (Centers for Medicare & Medicaid, 2016).

According to Saltz et al. (2004), the lack of psychopharmacologic training is evident in practitioners who misuse antipsychotic medications. Many providers and prescribers lack training in the use of antipsychotic agents. I conducted the presentation

of the CPG to an expert panel of six prescribers who work in a 250-bed long-term care facility located in the northeastern part of the United States. The significance of this problem to this setting is that the facility has a designated 60-bed locked psychiatric unit and a 25-bed dementia unit. Residents who reside in the locked psychiatric unit have a primary diagnosis of a psychiatric disorder (i.e. schizophrenia, schizoaffective disorder, bipolar disorder) and are prescribed one or more antipsychotic medications. The patients on the dementia unit have either a primary diagnosis of dementia or a psychiatric disorder with a secondary dementia diagnosis. Some of the patients on the dementia unit are either prescribed antipsychotic medication for their primary psychiatric disorder or for behavioral disturbances associated with dementia.

The significance of this project for nursing practice is to reduce the prescription of psychotropic medications for the management of behaviors associated with dementia. The objective of this project was to highlight the use of nonpharmacologic interventions and intensive staff education programs as alternatives to addressing behavioral disturbances. Developing clear CPGs on the use of, monitoring, and the need for ongoing assessments of antipsychotic medications will help raise awareness about this class of medications.

Purpose Statement

As mentioned by Wolf, Grol, Hutchinson, Eccles, and Srinivasan (2016), the principal benefit of practice guidelines is to promote evidence-based interventions while discouraging ineffective ones with the goal of reducing morbidity and mortality while improving the overall quality of life. The purpose of this project was focused on

establishing a clear CPG for prescribers in a nursing home setting. The CPG was based on current evidence from nursing and related research and the Centers for Medicare and Medicaid, as well as the American Psychiatric Association, and addressed the principal gap in the prescriber practice at the long-term care setting.

In this setting antipsychotics are still being used routinely in patients with a diagnosis of dementia to control assertive or aggressive behaviors. The patient population is a complex one, as most of these patients have a comorbid mental illness, for which the use of antipsychotics is appropriate. Many of these patients are long-term mental illness patients who develop symptoms of dementia after years of treatment with antipsychotics. The CMS (2016) recommended a titrated approach which is an antipsychotic reduction plan for these patients. However, these protocols are not in use at the DNP setting. The current practice of prescribing antipsychotics for the dementia patient population represents the primary gap in practice at the DNP project setting that the practice guideline is intended to address. The hypothesis was that a CPG on the use of antipsychotic medications will potentially impact each prescriber's knowledge base and provide insight on the current evidence-based practice as well as the state and federal guidelines on psychotropic medication prescribing and management of patients in the long-term care setting. Thus, the practice-focused question that guides the DNP project is: Will an expert panel approve the use of a CPG on the use of antipsychotic medication in the nursing home setting?

Nature of the Doctoral Project

This doctoral project focused on the development of a CPG for prescribers and practitioners who care for patients with dementia in long-term care. The approach to this project was guided by the Walden CPG Manual. Evidence was collected from many sources, primarily, the CMS regulations and the research evidence on the appropriate use of antipsychotics in the elderly dementia patient with and without a history of comorbid psychosis. These sources of published evidence were used to develop the clinical practice guideline, and it was guided by Watson's model of caring (Watson Caring Science Institute, 2010). In addition, the Agree II model for the development practice guidelines provided a methodological framework, as noted in the Walden CPG manual. The Fineout-Overholt tool (2010) was used to grade the evidence which is presented in a literature matrix.

The CPG was presented to an expert panel made up of four nurse practitioners (NPs) and two physicians (MDs) for review, recommendations, identification of anticipated barriers to full implementation, and to potentially gain consensus on their willingness to accept the CPG for use in the behavioral health long term care setting where they are employed. As prescribers for the aging population, medical professionals must not only advocate for patients but also be prudent when prescribing antipsychotic medications. The overall goal was to help raise awareness on the current evidence to close the gap-in-practice at the DNP project site as well as complying with the governing state and federal regulations for prescribing this class of medications in the nursing home setting.

Presenting the CPG to an expert panel raised awareness of existing recommendations governing these medications and allowed for formative evaluation in the development of the CPG. The goal was that nurse practitioners and other providers at the site would become more knowledgeable about the current research evidence and regulations pertaining to the use of antipsychotics. A continuation of the goal is for the prescribers to focus on the importance of ongoing assessments; document indication for medications, monitor for side effects, and consider gradual dose reductions and discontinuation when necessary.

Significance

This project was significant to the nursing home facility, prescribers, and practitioners as there were no current guidelines outlining the prescription and use of antipsychotic medications. The development and presentation of a CPG such as this provide an opportunity for prescribers and practitioners to be exposed to the latest evidence surrounding the use of antipsychotic medications in the nursing home setting. With this CPG, prescribers and practitioners indicated an increase in their knowledge base and gain insight on antipsychotic medications, when to prescribe them and the associated adverse effects. Overall patient outcomes may be improved with a decrease in the prescription of antipsychotic medication and the use of other interventions such as nonpharmacologic approaches. This would imply that patients are exposed to minimal adverse effects and potential drug to drug interactions associated with antipsychotic medications.

This project may positively impact social change in many aspects. This project may impact social change as the development of a CPG may potentially reduce complications, improve outcomes and quality of life of elderly patients with dementia who are residents in nursing homes. The goal was that this CPG can be transferred and used in other nursing homes in the area (see Mazrou, 2013). Recognizing and using this CPG by practitioners and prescribers alike ensures that they adhere to state and federal regulations that govern the use of antipsychotics in the elderly. The expert panel acknowledged that the CPG prompted them to pay closer attention to antipsychotic medication use to decrease its use in the nursing home setting through ongoing assessments and attempts to gradually reduce and discontinue its usage. The foreseeable impact on social change following this project is that it will potentially reduce complications, improve outcomes and quality of life of elderly patients with dementia who are residents in nursing homes (Mazrou, 2013).

Summary

In elderly patients with dementia, the prescription of antipsychotic medications is commonly prescribed for neuropsychiatric symptoms associated with the disease (Press & Alexander, 2017). However, antipsychotic medication use in patients with dementia has been linked to increased risk of death, CVAEs, Parkinsonism, sedation, gait disturbance, cognitive decline, and pneumonia (Tampi et al., 2016). In today's healthcare sector, many providers prescribe antipsychotics for patients without adequate knowledge of current guidelines governing the use of these medications (Centers for Medicare and Medicaid, 2013). To address this gap-in-practice, a CPG was developed based on

evidence from the Centers for Medicare and Medicaid and the American Psychiatric Association. Following the development of this CPG, I presented it to an expert panel at a nursing home, potentially to seek their consensus on its full implementation. The goal of this project is to help address the gap in practice, increase knowledge, and decrease prescription of antipsychotic medications while improving patient outcomes and quality of life. Major concepts, models, frameworks, background, and context for the project are reviewed in Section 2.

Section 2: Background and Context

Introduction

Despite recognized adverse effects, antipsychotic medications continue to be frequently prescribed to patients with dementia who exhibit neuropsychiatric symptoms associated with the disease process when not necessary, increasing patient adverse outcomes and in violation of regulatory requirements. According to Jeste and Maglione (2013), 20% to 50% of patients with dementia are prescribed antipsychotics medications. The FDA approved indications for antipsychotic medications for mental health conditions, including bipolar 1 disorder, bipolar depression, schizophrenia, and schizoaffective disorder, as well as major depressive disorder adjunct (Centers for Medicare and Medicaid, 2013). None of the antipsychotic medications are indicated for treating behavioral disorders in patients with dementia. Thus, polypharmacy of psychotropic medication among patients with dementia is particularly concerning when patients are admitted for coexisting psychiatric conditions. In fact, the FDA issued a warning labeling antipsychotic medications as causing an increased risk of mortality among this population (De Jong, Van der Elst & Hartholt, 2013). Aside from the risk of increased mortality, patients with dementia who are exposed to antipsychotic medication may encounter additional adverse effects such as cardiovascular and metabolic effects (Tampi et al. 2016).

Promoting the safe use of medications in the elderly is of great importance as caution needs to be exercised to minimize exposure to adverse effects. Jose (2012) stressed the importance of developing guidelines and protocols on geriatric medication

that focus on drug safety. The purpose of this project was to develop a CPG and present it to an expert panel of nurse practitioners. Once developed, the CPG was presented to an expert panel with the goal of raising awareness and empowering prescribers to potentially change prescribing habits when it comes to this class of medication. Thus, with the DNP project, I sought to answer the guiding practice-focused question: Will an expert panel approve the use of a CPG on the use of antipsychotic medication in the nursing home setting?

Concepts, Models, and Theories

Clinical practice guidelines have become the standard of practice in the healthcare sector. It is a way of ensuring that evidence-based research is incorporated into everyday healthcare decision making. Guidelines that shape practice have become a way of life for healthcare professionals as it helps in bridging the gap between policy and best practice (Kredo et al. 2016). The primary goal of CPG is to improve effectiveness and quality of care while decreasing variation in clinical practice, cost, preventable mistakes, and adverse events (Kredo et al. 2016). The use of evidence-based research is essential for a CPG to be effectively implemented. This helps foster improvements in current processes and overall clinical outcomes.

Use of Antipsychotics in Patients with Dementia

To better understand the proposed CPG, one must understand the basics about dementia and its associated symptoms. According to the National Institute on Aging (2017), dementia is the loss of cognitive functioning in areas of memory, language skills, visual perception, problem solving, self-management, and one's ability to focus and pay

attention. According to Press and Alexander (2017), neuropsychiatric symptoms of dementia are very common and much more troubling than cognitive symptoms. These neuropsychiatric symptoms include agitation, aggression, delusions (particularly paranoid delusions), hallucinations, wandering, depression, apathy, disinhibition, anxiety, irritability, and sleep disturbances (Press & Alexander, 2017). Having a better understanding of the proposed CPG requires fundamental knowledge of dementia and its characteristics.

According to Sahin Cankurtaran (2014), 97% of dementia patients develop behavioral and psychiatric symptoms during the disease. The most common and lasting of all the symptoms is agitation, whether it be verbal or physical (Sahin Cankurtaran, 2014). For many years' healthcare professionals have used antipsychotic medications as first-line agents for managing nursing home patients who exhibit behaviors such as agitation, aggression, and psychotic symptoms of delusions and hallucinations (Tampi, et al. 2016). The use of antipsychotics is even more prevalent among patients with dementia who exhibit behavioral and psychological symptoms associated with the disorder (Cioltan et al. 2017). According to Cioltan et al. (2017), one in five patients in the 15,500 nursing homes in the United States is prescribed antipsychotic medications that is deemed as unnecessary and poses dangerous adverse risks for older patients. Finding alternatives to managing behavioral disturbances in patients with dementia is important as antipsychotic medication use is prevalent in this population.

Jeste and Maglione (2013) reported that prescription rates of this class of medications varies between 20% and 50% in patients with dementia. Psychotropic

antipsychotic medications are often used to treat the distress associated with psychotic symptoms in this population when indications for their prescribed use for behavioral management for patients with dementia is lacking.

Patients with Chronic Mental Illness and Dementia

According to Ribe et al. (2015), dementia and other mental health problems are not mutually exclusive. The major difference is that primary psychiatric disorders usually develop in youth and early adulthood while dementias are generally conditions that arise in midlife and later life (Ribe et al. 2015). For many years, comorbid chronic conditions which have been known as risk factors for dementia include schizophrenia and other associated cardiac and cerebrovascular diseases (Saltz, Robinson and Woerner, 2004). Schizophrenia is considered a serious and persistent mental illness and affects approximately 0.25% and 0.64% of people in the United States (Zilkens, Bruce, Duke, Splisbury, & Semmens, 2014). Characteristics of this disorder include disturbances in perception, communication, and thought process as well as abnormal behavior (Larson, 2018). However, the hallmark of schizophrenia includes deficits in memory, attention and visuospatial orientation (Zilkens et al. 2014). Patients with dementia also exhibit memory deficits which puts them at risk for developing dementia later in life.

Ribe et al. (2015) conducted an 18-year longitudinal observational study comparing the emergence of dementia in people with and without schizophrenia. The population for this study was more than 2.8 million persons aged 50 years or older with 20,683 having schizophrenia (Ribe et al. 2015). Follow-up for this study started in January 1995 and ended in January 2013 with analysis from January 2015 to April 2015

(Ribe et al. 2015). During the 18 years of follow-up, 136,012 individuals, including 944 individuals with a history of schizophrenia, developed dementia (Ribe et al. 2015). After adjusting for age, sex, and seasonality, the study concluded that schizophrenia was associated with a higher risk (IRR, 2.13; 95% CI, 2.00-2.27) of all-cause dementia (Ribe et al. 2015). Reviewing medications of patients with schizophrenia who later develop dementia is crucial. This will help prescribers to determine if antipsychotic medications are warranted based on symptomology.

In patients with affective disorders, namely depression and bipolar, symptoms are often associated with issues with attention, executive function, and memory. These symptoms are not only evident during the acute phase of the disease but during remissions, particularly problems with executive function and attention (Da Silva, Goncalves-Pereira, Xavier, & Mulkaetova-Ladinska, 2013). The aim of the study by Da Silva et. al (2013) was to evaluate the risk of developing dementia in individuals with a history of affective disorders. In their systematic review, 51 case-control and cohort studies that addressed the risk of developing dementia in people with affective disorders were included (Da Silva et al. 2013). Results of the review suggested that more frequent and severe episodes of depression seem to increase the risk of dementia suggesting that depression may be both a precursor and a risk factor for dementia (Da Silva et al. 2013). According to Da Silva et al., the risk estimates for dementia in people with bipolar disorder far exceed those with depression.

Alternatives to Manage Behavior in Long-Term Dementia Patients

Evidence suggests moving away from medication-focused dementia care to the use of nonpharmacologic approaches in the management of difficult behaviors associated with the disorder (Agency for Healthcare Research and Quality [AHRQ], 2014; Buchanan, Christenson, Ostrom & Hofman, 2007; Livingston et al., 2014). Neuropsychiatric symptoms such as agitation and aggressive behavior not only endangers the person with dementia but for caregivers alike. According to Buchanan et al., (2007), approximately 50% of nursing assistants have been injured during resident assaults. Buchanan et al. (2007) continued that a significant indicator of job-related stress and frustration for professional caregivers is behavioral disturbances mainly agitation and aggression. Equipping staff with the necessary skills to handle difficult behaviors among dementia patients may help in alleviating job-related stress from behavioral disturbances.

For many years antipsychotic medications have been used as first-line management for behavioral disturbances associated with dementia (Tampi et al. 2016). However, patients are exposed to several adverse events such as the increased risk for stroke, exacerbation of cognitive decline, increased risk for death, excessive sedation, and gait disturbances with increased risk of falls (Livingston et al., 2014). Ethically, this way of managing behavioral disturbances has been questioned by many governing agencies for the elderly (Centers for Medicare and Medicaid, 2016). In recent years attempts to help address the management of difficult behaviors associated with dementia have focused on encouraging the use of nonpharmacologic interventions that are deemed restraint-free interventions. Nonpharmacologic interventions are often grouped into

categories based on the goal of the interventions (Labid, Mishriky and Reyad, 2018). According to the AHRQ (2014), sensory interventions include music therapy, light therapy, and pet therapy. Active therapy and structured activities involve dancing, exercising, social interactions, art therapy, and outdoor walks (AHRQ, 2014). Complementary alternative medicine, according to the AHRQ, includes aromatherapy, reflexology, and massage. Environmental interventions include having designated wandering areas and having natural/enhanced environments (e.g. pictures on the walls; AHRQ, 2014). Nonpharmacologic interventions are not only aimed at preventing the incidence of behavioral disturbances but also help in the response and reduction of the severity and duration of episodes as well as reduce associated caregiver distress.

Holmberg (1997) initiated a structured walking program for eleven severely demented individuals living in a dementia unit of a nursing home. Over a 1-year period, there was a noticeable 30% reduction in aggressive behaviors on days when the walking program was applied (Holmberg, 1997). This is a good example of research which provides solid evidence that there are effective alternatives to the use of antipsychotic medications.

In the study by Hicks-Moore and Robinson (2008), the goal was to assess whether relaxing techniques such as music and massage could decrease agitation and improve the overall quality of life in dementia patients. Forty-one patients with mild to moderate dementia participated in the study and were randomly assigned to either a treatment or control group. Those in the treatment group received each of three treatments involving 10-minute hand massage, favorite music, and a combination of both (Hicks-Moore and

Robinson, 2008). The control group received no treatment (Hicks-Moore and Robinson, 2008). The Hicks-Moore and Robinson study concluded whether individually or combined, favorite music and hand massage were effective in reducing agitation during the intervention and 1-hour afterward. This study shows the importance of adopting non-pharmacologic interventions such as music and massage in the management of neuropsychiatric symptoms associated with dementia.

Caregiver interventions are often focused on staff education and training (Joaquin et al. 2018). Staff education focuses on managing behavioral disturbances by exploring the underlying causes such as pain, incontinence, and hunger, (Joaquin et al. 2018). Other areas to be addressed included both knowledge and skill training for managing disruptive behaviors in the long-term care setting while limiting the administration of antipsychotic medications. A study by Joaquin et al. (2018) evaluated the effectiveness of a dementia education program for direct caregivers of dementia patients in a skilled nursing facility. Of a total of twenty-nine CNAs, thirteen underwent Abilities Care Experts (ACE) training, and sixteen were non-ACE trained. A survey was given to measure key factors associated with quality of care, namely, knowledge, attitudes, self-efficacy, and job satisfaction. Joaquin et al. (2018) concluded that participants who underwent ACE training demonstrated significantly higher levels of self-perception in areas of dementia knowledge (t (27) =3.44, p=.002), knowledge of dementia care approaches (t (26) =3.57, p=.001), and self-efficacy (t (25) =2.40, p=.024). The study by Joaquin et al. (2018) shows the importance of having an education program for direct staff members who work

with dementia patients. With training, staff will have the knowledge and skills to effectively manage behaviors associated with dementia.

Watson's Model of Caring

Neuropsychiatric symptoms associated with dementia, primarily agitation and aggression, have been noted to cause distress and burden for caregivers (Cheng, 2017). In addition, approximately 50% of nursing assistants have been injured during resident assaults (Buchanan et al. 2007). This ultimately affects the provision of care which is very critical given that caring forms the fundamental core of nursing. Providing safe and quality care for patients with dementia, especially those who exhibit difficult behaviors, is of importance. Therefore, I used Watson's model of caring in this DNP project to guide the development of a CPG and, ultimately, to enhance the quality of care among dementia patients. According to the Watson Caring Science Institute (2010), Watson's theory of human caring makes up the moral ideal of nursing which results in protection, enhancement, and preservation of human dignity. By presenting the CPG to an expert panel, the goal was that prescriptive practices will be impacted and other alternatives to managing behavioral disturbances will be explored as a first resort. Once this becomes part of practice, the preservation of human dignity as highlighted in Watson's model of caring, would become evident. Patients would be exposed to minimal adverse effects associated with the use of antipsychotic medications. By improving the quality of care dementia patients receive, their human dignity is protected, enhanced, and preserved.

Part of Watson's caring factors is the promotion of scientific problem-solving methods for decision making (Watson Caring Science Institute, 2010). This pertained to

the DNP project in determining a long-term care facility's ability to employ other options, such as nonpharmacologic interventions as opposed to antipsychotic medication use, when managing behaviors associated with dementia. This was evident through the development of the CPG which evolved from evidence in the literature.

As part of the model of caring, Watson (2010) stressed the importance of developing a helping-trusting relationship. For this project, this translates into being honest, genuine, and transparent in all communication with the nursing home staff. The last of Watson's carative factors is most pertinent to this project and entails the promotion of interpersonal teaching (Watson Caring Science Institute, 2010). By presenting the CPG to the expert panel, the goal was to have a better understanding of the use of antipsychotic medications, adverse events associated with them, and changing prescribing practice to reduce their usage.

To summarize, one key component of Watson's model of caring that relates to the DNP practice-focused question includes the protection, enhancement, and preservation of human dignity. Certainly, by avoiding the harmful consequences of antipsychotics in the elderly patient with dementia, human dignity is protected, enhanced, and maintained. Similarly, Watson's carative factor through problem-solving and decision making is another key component of the model that has application in the DNP project. The problem-solving and decision making carative factor are made visible through the prescriber's decision making and problem-solving with regard to alternatives to the use of antipsychotic medications. Finally, two other components of Watson's model contribute to the DNP project: (a) a helping-trusting relationship, and, (b) the promotion of

interpersonal teaching. These last components are made real in the prescriber-patient relationship, and in the prescriber's relationship with the staff at the nursing home.

Providing dementia-related care becomes difficult when persistent and unmanageable neuropsychiatric symptoms become problematic. Watson's model of caring focuses on the protection, enhancement, and preservation of human dignity. The goal of this project aligns with that of Watson's model of caring given that patients would be exposed to minimal serious side effects associated with antipsychotic medications. In this manner, the patient's dignity is protected and preserved as their quality of life is optimized.

Agree II and a Model for Evaluating the Evidence

According to Kredo et al. (2016), the development and implementation of CPGs are intended to bridge current gaps in policy and best practices while improving the effectiveness and quality of care for patients. CPGs serve as official recommendations for screening, diagnosis, treatment, and management of specific conditions (Murad, 2017). In this instance, the CPG pertained to the management of neuropsychiatric symptoms associated with dementia by using non-pharmacologic interventions, ongoing assessments of symptoms and gradual dose reductions. Kredo et al. (2016) reiterate the importance of developing and maintaining CPGs as a way of improving and/or standardizing clinical practices with the ultimate goal of decreasing the cost associated with preventable mistakes and adverse events.

The Appraisal of Guidelines for Research and Evaluation (AGREE) project was initially published in 2003 and later replaced by AGREE II in 2013 to improve reliability,

validity, and usability of CPGs (Cruz, Fahim and Moore, 2015). The AGREE II contains six quality domains totaling twenty-three items which guide the development of, and help to quantify, a rating of a guideline. The domains include scope and purpose, stakeholder involvement, rigor and development, clarity of presentation, applicability, and editorial independence (Cruz, Fahim and Moore, 2015).

According to MacDermid et al. (2005), the AGREE II instrument may be replicated and used for other purposes such as education and quality assurance among others. More than one appraiser for the practice guideline is required to improve the reliability of the AGREE instrument. For this project I established an expert panel of six health care provider prescribers, using a 5-point Likert scale from strongly agree (1) to strongly disagree (5) which scored for each AGREE tool item within a domain to evaluate the CPG being developed in this project.

With this project, the Fineout-Overholt tool was used to rank and score all the literature used in the development of the CPG and presented in section 2 (Fineout-Overholt et al. 2010). A summary of these resources is presented in a literature matrix table located in Appendix A. In the literature matrix table, the journal articles used are ranked as to the level of evidence from I through VII that each represents using the Fineout-Overholt tool as shown in Appendix A (Fineout-Overholt et al. 2010).

Relevance to Nursing Practice

According to Saltz et.al, 2004, it is estimated that the majority of nursing home residents (i.e. 50%-75%) are prescribed antipsychotic medications. A small fraction of patients prescribed antipsychotic medications are being evaluated by a mental health

professional (Saltz et. al, 2004). While this class of medications is generally overused, there is evidence that this could be related to the lack of psychopharmacologic training of practitioners and misdiagnosis of conditions in this population (Saltz et. al, 2004). Though there are regulations by the Centers for Medicare and Medicaid, Saltz et. al. (2004) state that many prescribers and practitioners lack the awareness and have had no training in the use of antipsychotic agents. The implementation of this clinical guideline ensured that practitioners and prescribers received the necessary knowledge about this class of medications. The CPG focused on not only decreasing the prescription of antipsychotic medications but also employing the use of non-pharmacologic approaches in managing challenging behaviors.

According to Sahin Cankurtaran (2014), non-pharmacologic interventions are recommended and to be attempted as first-line management of behavioral disturbances. Non-pharmacologic interventions as discussed by Sahin Cankurtaran (2014) include music therapy, massage, touch, aromatherapy, pet therapy, physical activity, and environmental interventions. Interventions for caregivers and staff of long-term care is also considered to be part of non-pharmacologic interventions.

According to Labid Mishriky and Reyad (2018), there is growing evidence about the use and effectiveness of alternative medications such as cholinesterase inhibitors, serotonin-specific reuptake inhibitor antidepressants, and anticonvulsants in managing behavioral and psychologic symptoms. In addition, Da Silva et al. (2013) suggest an increased risk of dementia among patients with dementia and affective disorders such as depression and bipolar disorder. Growing evidence about the successful nature of

alternative methods supports a non-pharmacological approach that can be used to manage behaviors associated with dementia and a means of reducing unnecessary psychotropic polypharmacy (Holmberg, 1997). Sensory interventions, active therapy/structured activity, complementary alternative medicine, environmental interventions, and caregiver education interventions have all been found to be effective non-pharmacologic strategies (Hicks-Moore and Robinson, 2008). Hicks-Moore and Robinson (2008) have demonstrated that non-pharmacologic interventions are effective when managing behavioral disturbances while promoting safety, improving outcomes and minimizing exposure to adverse events associated with antipsychotic medications.

Taken together, the above-mentioned research represents a sample of existing scholarly evidence fully explicated in Section 2, in support of the CPG. The current state of practice at the DNP site has been to use antipsychotic medications in the elderly dementia patient in spite of current evidence to the contrary. Use of non-pharmacologic alternatives, as well as gradual dose reduction for long-term psychotic patients, are supported in the CPG and in the scholarly evidence (Hicks-Moore and Robinson, 2008; Holmberg, 1997; Joaquin et. al, 2018).

The goal of developing this CPG and presenting it to an expert panel in the nursing home setting is to not only raise awareness about the detrimental effects of using antipsychotic medications in the elderly; but also to highlight the current state and federal laws and regulations governing the prescribing of these medications. By recognizing and using this CPG, practitioners and prescribers alike ensure that they adhere to state and federal regulations that govern the use of antipsychotics in the elderly as well as best

practice supported by research evidence. Once implemented, the CPG would helpful during state and federal nursing home surveys that tend to focus on antipsychotic medication use in long-term care facilities. Approving and adopting the CPG would prompt the NP and MD prescribers at the DNP site to pay closer attention to antipsychotic medication use, anticipating decreasing its use through ongoing assessments, the use of non-pharmacologic alternatives, and attempts to gradually reduce and discontinue antipsychotic usage.

Local Background and Context

The intended setting for this doctoral project is a nursing facility with over 250 beds located in the northeastern part of the United States. This facility has two units which were the focus of this project--a designated 60-bed locked psychiatric behavioral unit and a 25-bed dementia unit. According to the director of nursing at this facility, approximately 80% of patients have a diagnosis of dementia with many of these patients exhibiting some form of behavioral disturbance (i.e. verbal, physical aggression, agitation, irritability, wandering, anxiety, depression, etc.) There are approximately six total health care providers who are prescribers for the two units; four are nurse practitioners and two are physicians who serve as attending doctors (MDs). The nurse practitioner group is made up of two-family nurse practitioners (FNPs) and two psychiatric nurse practitioners (PMHNPs). Many of these residents also have a primary diagnosis of schizophrenia, bipolar, depression, or a schizoaffective disorder with many being on antipsychotic medications for many years of their lives. Patients with mental health diagnoses residing on the locked behavioral unit may also have a secondary

diagnosis of dementia. Some patients on the dementia unit may have co-occurring psychiatric conditions (is that true), Thus, both units were focused on for this project to increase awareness of the prevalence of the issue and the need for a change in practice in this setting.

The complexity of the patient population in this setting dictates the need for a CPG that encompasses state and federal recommendations. Nursing staff in the long-term care setting rely heavily on health care providers to prescribe medications such as antipsychotics in cases where behaviors are challenging and difficult to manage. Therefore, developing and presenting a CPG that may impact prescribing practices in general, and how nurse practitioners respond when nurses contact them about managing challenging behaviors, are strategies that can positively influence practice at the site.

Role of the DNP Student

My role as a DNP student was to lead in the development of the practice guideline and present it to an expert panel with the intention of adoption and full implementation (although adoption and full implementation will occur out of the scope of the DNP project). This is in accordance with the DNP Essential III (American Association of Colleges of Nursing, 2006) which involves analyzing and addressing a gap in practice with inventions that promote a safe, time effective, efficient and patient-centered change. For this project I worked in collaboration with other members of the long-term care setting, namely, the administrator, director of nursing, charge nurses, and unit managers, to explore any current policies and current practices pertaining to the management of behavioral disturbances among dementia patients.

In achieving my role of developing a CPG, I performed a literature review of existing information pertaining to current guidelines and recommendations by both state and federal organizations. This included information on the Massachusetts Department of Health website, information from the Centers for Medicare and Medicaid (CMS), and a review of current guidelines by the American Psychiatric Association. Based on this information, a CPG was developed with the focus on documentation that patients, guardians, and proxies had been advised of risks associated with antipsychotic medications, as well as periodic assessments to monitor side effects, the need for these medications, and attempts to gradually reduce and discontinue medications if no longer indicated. As a DNP student, my ultimate role was to put this information in a PowerPoint presentation and present the information to the assembled expert panel. As the leader for this project, my role following the presentation was to assess the expert panels' willingness to adopt and implement the practice guideline. This was accomplished via a survey process to assess the impact of the presentation on knowledge and whether prescribers approved of the use of this CPG in their practice.

Role of the Project Team

The project team consisted of the expert panel who made up the primary stakeholders. The expert panel was made up of six prescribers for the long-term care setting. Enlisting prescribers for this project was vital given that the goal of this project is to potentially change prescribing habits of antipsychotic medications in the nursing home setting. As previously mentioned, the expert panel consisted of one psychiatrist, one medical doctor, two family nurse practitioners, and two psychiatric mental health nurse

practitioners. The role of this project team was to participate in an educational session whereby the author presented a PowerPoint on the use of antipsychotic medications in long-term settings. As part of this educational session, the project team was presented with an overview and given hard copies of the CPG for their review. Following the presentation, the expert panel was asked to provide feedback through open-ended discussions and a survey. In the open-ended discussion, input was sought based on an overall impression of the antipsychotic CPG, barriers to full implementation as well as suggested revisions and recommendations. The expert panel was asked to complete a survey that focused on knowledge attained during the presentation.

Summary

Despite recognized adverse effects, antipsychotic medications continue to be frequently prescribed to patients with dementia who exhibit neuropsychiatric symptoms associated with the disease process. The research evidence presented in Section 2 provides a compelling argument for the components of the CPG, the local issues at the DNP project setting, the role of the DNP student, and the project team. Section 3 provides information on the sources of evidence that was used and the process of achieving consensus on the practice guideline.

Section 3: Collection and Analysis of Evidence

Introduction

Larson (2018) defined dementia as an overall decline in cognition related to one or more of the cognitive domains, namely, learning and memory, language, executive function, complex attention, perceptual-motor, and social cognition. According to Sahin Cankurtaran (2014), 97% of dementia patients develop behavioral and psychiatric symptoms during the disease. These behavioral problems often known as neuropsychiatric symptoms include agitation, aggression, delusions (particularly paranoid delusions), hallucinations, wandering, depression, apathy, disinhibition, anxiety, irritability, and sleep disturbances (Press &Alexander, 2017).

Neuropsychiatric symptoms are often difficult not only for the person with dementia but also for caregivers. Antipsychotic medications have long been prescribed to patients with dementia in attempts to manage neuropsychiatric symptoms that are associated with the disease (Tampi, et al. 2016). Jeste and Maglione (2013) reported that prescription rates for antipsychotic medications among dementia patients vary between 20-50%. Antipsychotic medications have been linked to serious adverse effects which include increased risk of death, CVAEs, and other worrisome side effects (Tampi et al. 2016). No antipsychotic medication is indicated for treating neuropsychiatric symptoms in patients with dementia, but merely for true psychotic disorders such as bipolar 1 disorder, bipolar depression, schizophrenia, and schizoaffective disorder with a major depressive disorder (Centers for Medicare and Medicaid, 2013).

Providers and prescribers often get phone calls from caregivers who are desperate to alleviate these psychiatric dementia symptoms. Sometimes telephone orders are given to nurses without proper assessment of the patient's condition or ruling out any organic causes for their presentation. In fact, according to Saltz et al. (2004), the misuse of antipsychotic medications is often prevalent with practitioners who lack psychopharmacologic training. No protocol for the care of dementia patients who exhibit neuropsychiatric symptoms in the nursing home setting of my project is available to guide prescribing. Therefore, the purpose of this project was to develop a CPG on the use of antipsychotic medications with the goal of potentially changing prescribing habits in the nursing home setting.

In Section 3, there is a full description of the practice-focused question and a review of the sources of evidence used to develop the project. In addition, there is a detailed overview of the procedures proposed to collect evidence to evaluate the potential implementation of the CPG at the site. Finally, Section 3 includes information regarding the analysis and synthesis of the data and a summary.

Practice-Focused Question

The practice-focused question for this project was *Will an expert panel approve the use of a CPG on the use of antipsychotic medication in the nursing home setting?* To answer this question, a CPG was developed for prescribers and practitioners who care for patients with dementia at the project site, a long-term care nursing facility. The developed CPG was presented to an expert panel after which a qualitative survey was given to

ascertain whether providers gained knowledge and were likely to adopt the CPG as part of their every-day practice.

Sources of Evidence

Most of the evidence gathered for this project emerged from databases which included CINAHL, MEDLINE, OVID, Google Scholar, PubMed, and UpToDate. This led to journals generated through various organizations such as *Current Alzheimer's Research, Journal of Nursing Education, The American Journal of Psychiatry, Alzheimer's & Dementia, (*which is the primary journal of the Alzheimer's Association) *Journal of Psychiatry,* and *BMC Geriatrics* among others. Key search terms used to search these databases included, but were not limited to, *dementia, behavioral symptoms, agitation and aggression in dementia, antipsychotic medication use in dementia,* and *antipsychotic medications in nursing homes.* Content for the CPG was generated by reviewing information from the Centers for Medicare and Medicaid as well as current practice guidelines by the American Psychiatric Association. A summary of the relevant literature included in Section 2 and used to develop the CPG is presented in a literature matrix (see Appendix A) with an evaluation of the levels of evidence according to the Fineout-Overholt hierarchy of evidence tool (Fineout-Overholt et. al., 2010).

Evidence Generated for the Doctoral Project

The DNP project's focus is on a CPG developed for the use of antipsychotic medication use in patients with dementia residing long-term setting (i.e. nursing homes, assisted living, group homes, etc.). In this instance the CPG pertains to the management of neuropsychiatric symptoms associated with dementia by using nonpharmacologic

interventions, ongoing assessments of symptoms, and gradual dose reductions. The development of the CPG was based on the review of existing evidence from the literature, the professional guidance from CMS (2016), and the American Psychiatric Association. The CPG was presented to the expert panel in the form of an algorithm which provides step by step directions for what should be done when a patient exhibits neuropsychiatric symptoms (see Figure 1).

For nurses and staff, nonpharmacologic interventions have to be trialed and documented as either effective or ineffective before calling the prescriber. For providers and prescribers, the CPG highlights assessment of any underlying organic causes of behaviors such as unmet physical needs, psychological needs, environmental causes and/ or psychiatric causes. To help rule out organic causes, the guideline includes guidance on the importance of obtaining lab work, ruling out polypharmacy, and double-checking on the use of nonpharmacologic strategies by the nursing staff. As part of the CPG, providers and prescribers must initiate gradual dose reduction for patients who are on antipsychotics or have been due to a history of neuropsychiatric symptoms for over one year.

Participants. The CPG was presented to an expert panel made up of six providers, all prescribers, who have been working in the long-term care setting for over five years. The makeup of the six expert panelists includes one psychiatrist, one medical doctor, two family nurse practitioners, and two psychiatric mental health nurse practitioners. The nurse practitioners are all masters prepared who are licensed to

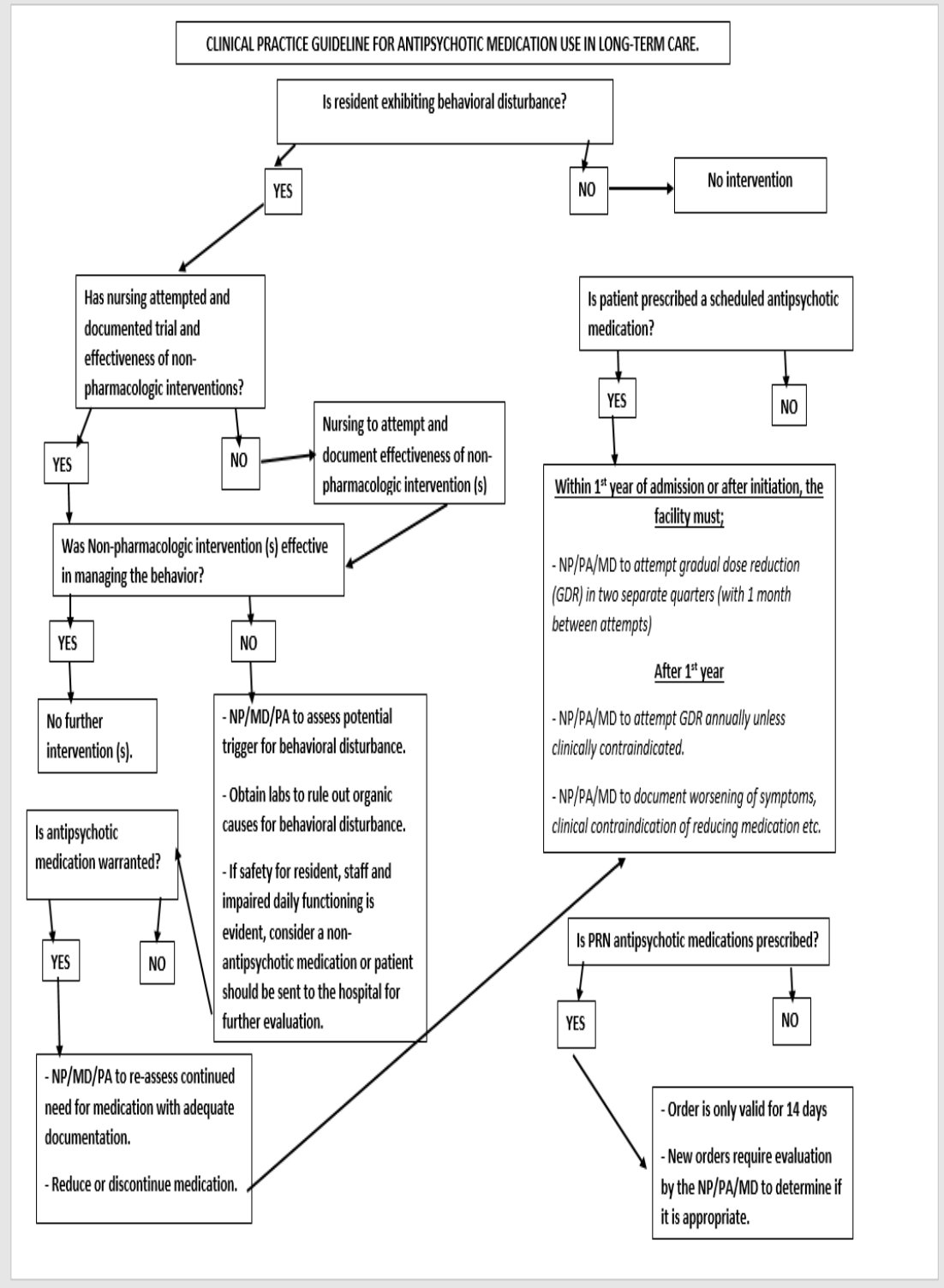

Figure 1. CPG for antipsychotic use in long-term care.

prescribe medications in the long-term care setting. They are often the front-line to phone calls and messages about patients exhibiting neuropsychiatric symptoms. The psychiatrist and medical doctor involved act as supervisors for this group of nurse practitioners as required by Massachusetts state law. Nursing staff contact providers seek and typically obtain a medication order when patients present with behavioral disturbances, leading to overuse of chemical restraints for patients. The CPG developed for this project had the potential of changing this culture of practice as providers were likely to use evidence-based practice protocol, to begin with, assessment (e.g., ask questions about triggers for behaviors and the use of non-pharmacologic interventions) prior to prescribing antipsychotic medication. The other gap in practice was that patients with a history of a primary psychotic disorder superimposed with the diagnosis of dementia were likely on antipsychotic medications which might have been primarily used for their psychiatric disorder. With the CPG the goal was that providers would pay close attention to patient medications and initiate gradual dose reductions especially when patients are no longer exhibiting behaviors consistent with their primary psychiatric diagnosis of dementia.

Procedures. Following the development of the CPG, I enlisted the expert panel by inviting them to take part in an expert panelist questionnaire for this DNP project. A PowerPoint following a set curriculum was developed (see Appendix B) and presented to the expert panel. The PowerPoint presentation highlights the importance of changing prescribing practices to reflect the current evidence in the literature. The expert panel was given a printed version of the CPG that was reviewed during the presentation. As part of the segment, there was an opportunity for the panel discussion, especially regarding any

concerns and anticipated obstacles that would impede the adherence and compliance with the CPG. The three initial questions of the survey were open-ended in nature to generate conversation about the CPG (Appendix C). The remainder of the questions were developed on a 5-point Likert scale to measure knowledge of psychotropic medication use, attitudes related to the evidence presented, and the potential of adopting this CPG as part of everyday practice.

Protections. Attempts were made to ensure the ethical protection of the expert panel. I sought permission from the long-term setting and requested documentation to seek an exemption status from the Institutional Review Board (IRB) and consent to present the data from the CPG to the expert panel. Upon approval of this proposal, I applied to Walden University IRB. I received approval from the Walden University IRB to conduct the doctoral project using the Clinical Practice Guideline Manual as a guide; my IRB approval number is 06-11-19-0756892.

Analysis and Synthesis

The purpose of the qualitative assessment was to have an open dialogue in regard to potential barriers that may impede the adoption of the CPG. This allowed for insight into current perceptions surrounding the use of antipsychotic medication in the nursing home setting. A qualitative data analysis method was used to analyze the data collected from the expert panel. A narrative analysis approach was used to present the data from notes taken during the presentation. Qualitative data from the post-presentation discussion was summarized thematically and presented in Section 4. Quantitative data

was gathered via the Likert scale, and the information was summarized using descriptive statistics; this is also presented in Section 4.

Summary

In summary, the information gathered for this project was reliable and based on evidenced-based practice data in the management of neuropsychiatric symptoms associated with dementia. The evidenced-based information for this CPG was presented in an algorithm that was clear and easy to follow. With this CPG the focus was not only on the exhibition of neuropsychiatric symptoms but also the use of non-pharmacologic interventions, the need for ongoing assessment to rule out any organic causes, and the initiation of gradual medication changes.

Section 4: Findings and Recommendations

Introduction

Dementia is an overall decline in cognition relating to one or more areas of learning and memory, language, executive function, complex attention, perceptual-motor, social cognition (Larson, 2018). Most dementia patients (97%) develop behavioral and psychiatric symptoms during the illness (Larson, 2018). These symptoms include agitation, aggression, delusions, hallucinations, depression, anxiety, disinhibition, and sleep disturbances, among others (Press &Alexander, 2017). Neuropsychiatric symptoms are not only disturbing for the patient, but also for the caregivers. Antipsychotic medications have been used for many years as first-line agents in the management of neuropsychiatric symptoms associated with dementia (Sahin Cankurtaran, 2014)). The gap in practice was that prescribers were using this class of medication without adequate knowledge of current guidelines governing their use in dementia patients.

The practice-focused question was: *Will an expert panel approve the use of a CPG on the use of antipsychotic medication in the nursing home setting?* Therefore, the purpose of this evidence-based project was to develop a CPG aimed at raising awareness about current issues governing the use of antipsychotic medications in dementia patients as well as promoting the use of nonpharmacologic interventions. The CPG was then presented to an expert panel of six prescribers.

The sources of evidence used to create the CPG included current recommendations from the Centers for Medicare and Medicaid and the American Psychiatric Association. A literature review was done via CINAHL, MEDLINE, OVID,

Google Scholar, PubMed, and UpToDate. The Fineout-Overholt ranking tool was used in ranking the level of evidence for this project. Using this ranking tool assured that best quality of evidence was used in creating the CPG.

Findings and Implications

A clinical practice guideline to reduce antipsychotic medication use among long-term care patients while enhancing the use of nonpharmacologic interventions was a necessary adjunct to care in the DNP practice setting. This is due to recent initiatives by many state and federal agencies such as the Centers for Medicare and Medicaid targeting the overall reduction of antipsychotic medication use (Centers for Medicare and Medicaid, 2013). The CPG provided step by step directions and help to guide prescribers in cases where a patient exhibits behavioral disturbance and requires immediate management. CPGs are necessary for the overall provision of quality care while decreasing preventable mistakes and adverse events (Kredo et al. 2016). The primary goal of presenting this CPG to an expert panel of providers was to increase knowledge about current guidelines governing the use of antipsychotic medications. Thus, the expert panel was presented with up to date, evidence-based nonpharmacologic interventions that serve as alternatives to managing behavioral disturbances.

The CPG was presented to an expert panel of six prescribers via a PowerPoint presentation. After the presentation time was allotted for an open discussion. Overall, the expert panel was impressed with the CPG and thought of it as a great tool. Some of the foreseeable barriers to full implementation of the CPG as discussed included the lack of objective tracking of behaviors, the use of nonpharmacologic interventions, and the

effectiveness. A major concern raised during this open dialogue session was that nursing staff will need to be fully educated about this guideline and to ensure that all elements (i.e. behavioral tracking) would be in place before providers are called for an antipsychotic medication order. The reasoning behind this was that some nurses tend to call providers out of panic without attempting nonpharmacologic interventions and in the quest to get medications as a primary source of managing difficult behaviors. It was also suggested during this session that staff training on the successful use of nonpharmacologic interventions will be critical to ensure that not only are staff comfortable, but also are using the interventions correctly. Five of the expert panelists suggested holding off on implementing the CPG until a behavioral tracking form has been developed and fully implemented. However, aspects of the CPG that were suggested to be implemented immediately were situations requiring NP/MD/PA assessment of the behavioral disturbance (i.e. ruling out organic causes for the behavior). Another area deemed appropriate to implement right away, regardless of a behavioral log, was the initiation of gradual dose reductions (GDRs) with patients already prescribed antipsychotic medications for chronic persistent mental illnesses. A strong suggestion during this post-presentation discussion was to enlist the support of the nursing department to review medication administration records (MAR) and to start discontinuing as needed (PRN) antipsychotic medications that have not been used in the last 2-6 months. This was a great suggestion as it will help eliminate PRN antipsychotic medications that are currently not being used. All six expert panelists gave their full support to implement the CPG.

Following the post-presentation discussion, the expert panelists were encouraged to provide feedback by completing an anonymous survey. The survey consisted of nine questions to help assess the expert panel's overall understanding of dementia, psychopharmacology, current guidelines, and nonpharmacologic interventions used (Appendix C). Each item on the survey was rated on a 5-point scale ranging from 1 'strongly agree' to 5 'strongly disagree' with three midpoints (4 'disagree', 3 'neutral' and 2 'agree'). The scale used was to measure the extent to which each criterion was fulfilled. All six expert panelists filled out a survey making the response rate 100%. The results of the survey were tallied (see Table 1).

Table 1

Survey results from the expert panel

Antipsychotic and Presentation Questions:	# of responses	5 Strongly disagree	4 Disagree	3 Neutral	2 Agree	1 Strongly agree
	n %	*n* %	*n* %	*n* %	*n* %	*n* %
1. The objectives of the presentation were clearly defined.	6 100%				2 33.3%	4 66.6%
2. The topics covered were relevant to my current practice,	6 100%					6 100%
3. The CPG (CPG) was well organized and easy to follow.	6 100%					6 100%
4. I have a better understanding of dementia disorder.	6 100%			2 33.3%	3 50%	1 17%
5. I have a better understanding of neuropsychiatric symptoms associated with dementia.	6 100%			1 17%	4 66.6%	1 17%
6. I have a better understanding of the adverse effects of antipsychotic medications.	6 100%			1 = 17%	3 50%	2 33.3%
7. I have a better understanding of non-pharmacologic interventions in the management of behavioral disturbances.	6 100%				3 50%	3 50%
8. I will apply the knowledge learned from this presentation in my everyday practice.	6 100%				3 50%	3 50%
9. The presentation met my expectations	6 100%				3 50%	3 50%

For the first item of the survey, about 67% of respondents strongly agreed that objectives were clearly defined while 33% scored it a 2, ‘agree’. For the second question on the survey, all expert panelist (i.e. 100%) strongly agreed (i.e. 1) that the topics covered were relevant to their current practice. The next item pertained to the organization of the CPG which all expert panelists (i.e. 100%) strongly agreed (i.e. 1) that the CPG was easy to follow. The fourth question pertained to whether expert panelists had a better understanding of the CPG. A third (33%) of the expert panelists felt neural (i.e. 2), and 50% marked agreed (i.e. 3) while 17% (i.e. 1 panelist) marked strongly agreed. In terms of a better understanding of neuropsychiatric symptoms of dementia, 17% (i.e. 1 expert panelist) felt neutral. Most of the experts (66%; i.e. 4 of the panelists) strongly agreed and 17% (i.e. 1 expert panelist) agreed. Only 17% of the panelists felt neutral about having a better understanding of the adverse effects of antipsychotic medications while 50% (3 of the expert panelists) agreed and 33% marked strongly agreed. The seventh item on the survey pertained to whether the expert panel had a better understanding of nonpharmacologic interventions in the management of behavioral disturbances. Half of the respondents strongly agreed that they had a better understanding of this while the other half marked agreed, achieving 100% agreement on this item. Half of the panel agreed to apply the knowledge learned from the presentation in their everyday practice while the other 50% strongly agreed to do this, again achieving a 100% agreement on this important point. Overall, all the expert panelists agreed that the presentation met their expectations.

The feedback from both the open discussion and survey segments of the presentation helped in shedding insight on the practicality of this CPG. The conclusion from the expert panel's review of the CPG suggests that with a tool to track behaviors and effectiveness of non-pharmacologic interventions, the CPG can be successfully implemented. The care and management of neuropsychiatric symptoms of dementia can be challenging for both caregivers and prescribers alike. Promoting the safe use of medications while fostering the use of non-pharmacologic interventions is critical in the successful management of neuropsychiatric/behavioral symptoms. Jose (2012) stressed the importance of developing guidelines and protocols on geriatric medication that focuses on drug safety.

Thus, there were two themes that emerged from the qualitative debriefing which were reinforced in the quantitative survey. The first theme is one of overall *acceptance* of the CPG and a willingness to implement it in the BH setting. The NPs and MDs that made up the expert panel agreed that the CPG has value and merit in the long-term BH setting; in addition, the panel acknowledged the harmful effects of antipsychotic medications on the patient with dementia, even if the patient has had many years of antipsychotic medication management. The second theme that emerged was one of *practicality.* That is, the panel were mindful of the need to reduce antipsychotic use, but concerned that the nursing staff would require education on the CPG and strategies to manage assertive and aggressive behaviors among the patient population using non-pharmacologic means. This theme of *practicality* introduces the need for follow up recommendations.

The ability of nursing staff and prescribers to accurately track and safely manage difficult behaviors associated with dementia is crucial in improving overall health outcomes. The CPG translates into a positive social change as the CPG stresses the importance of employing alternatives such as safe non-pharmacologic interventions as a strategy to reduce the use of antipsychotic medications. With successful training of staff on the use of non-pharmacologic interventions and the implementation of a behavioral log, the CPG can be fully adopted which will impact quality measures regarding the use of antipsychotic medications in long term care settings.

Recommendations

The primary focus for this project was to close the gap in the practice of prescribers using antipsychotic medications to manage neuropsychiatric symptoms without proper assessment of the residents' status. Part of the project goal was to highlight the use of non-pharmacological interventions as a way of addressing behavioral disturbances. This will require intensive staff training to ensure that staff members are knowledgeable and comfortable applying non-pharmacologic interventions. Part of the CPG requires that nursing staff attempt and document the trial and effectiveness of non-pharmacologic interventions. Ensuring that there is a formal tool for this will help track patterns of behaviors, the effectiveness of interventions, and help prescribers determine when medication is absolutely warranted. It is difficult for the prescriber to make clinical decisions without knowledge of whether non-pharmacologic interventions have been attempted and whether they were effective. The actual implementation of this CPG should be considered given that positive feedback was received from the expert panel.

Full implementation would be in the form of adopting the CPG and making it part of the facility's medication administration policy for providers. This, however, cannot be completed without the existence of a behavioral log and training of staff as it is an integral part of the CPG. A full implementation and policy change will ensure that the facility is adherent to both state and federal regulations governing the use of antipsychotic medications in long-term care settings. Following full implementation, a Quality Improvement (QI) initiative is needed, wherein prescriptions of antipsychotic medications for each patient with dementia are closely monitored over a 6-month to 12-month period. Follow-up meetings will be planned in the future with prescribers using results of the QI data to gauge adherence to the CPG and its impact on clinical practice.

Strengths and Limitations of the Project

This project presented several strengths and limitations. The strengths of the project include the use of evidence-based data and recommendations by the Centers for Medicare and Medicaid as well as the America Psychiatric Association in the development of the CPG. A focus on the use of antipsychotic medications in long-term care setting is of absolute importance given that recent efforts by state and federal agencies target this subject. The CPG not only focuses on reducing the likelihood of prescribing antipsychotic medications, but also includes patients already prescribed antipsychotic medications through the use of GDR. All members of the expert panel for the targeted facility were present for the presentation and showed enthusiasm and commitment to learn about current regulations governing the use of antipsychotic medications and agreed to full implementation after the behavior log and the education

for the frontline nursing staff are completed. There was an overall positive response in terms of the need for such a CPG. The expert panel were proactive in making next-step suggestions such as the identification of the need for a behavioral log. The lack of a behavioral log which serves as a critical step of the CPG hinders full implementation and adoption of the CPG.

The limitations involved with this project include the time that prescribers had to take out their busy schedules to attend this presentation. Coordination with these busy providers' coverage schedules was a bit challenging, but was finally resolved. Another limitation to this project was that it only targeted prescribers and not the nursing staff who will be responsible for implementing non-pharmacologic interventions. The lack of a formal method of documenting a trial and effectiveness of non-pharmacologic interventions at the time of this project also posed a limitation. Finally, the sample size of a 6-member expert panel was relatively small for this project. The CPG may be expanded to providers at other long-term care settings, especially when addressing the problem of reducing antipsychotic medication use.

Summary

The development of this CPG was an effective way of ensuring that basic standards to antipsychotic medication use in long-term care settings was established and in accordance with current state and federal guidelines. Presenting the CPG guideline to the expert panel alongside a post-presentation discussion and survey revealed the overall willingness to adopt it in everyday practice. A full implementation of this CPG will require a medication administration policy change via a QI initiative. Recommendations

from the expert panel suggest that full implementation and adoption of the CPG would be dependent on having a concrete behavioral tracking tool and educating frontline nursing staff. In the future, ensuring a follow-up as part of a QI process to ascertain full implementation and prescribers comfort level would be ideal.

Section 5: Dissemination Plan

The CPG was disseminated to practice through a formal presentation of information to the expert panel. The expert panel was made up of two medical doctors, two family nurse practitioners, and two psychiatric nurse practitioners. The CPG will further be disseminated throughout the organization via ongoing formal presentations to ensure that it is available to the nursing education department, nurse managers, and other administrative teams responsible for issues governing patient care. In doing so, the goal is that a behavioral log will be developed and aspects of dementia training pertaining to managing difficult behaviors will be revamped.

Additional plans to help disseminate this CPG would be seeking permission to present it to other prescribers in the area during quarterly prescribers' meetings. This CPG is pertinent to other prescribers outside the long-term setting especially those in acute hospital and outpatient settings. To reach a broader nursing audience, I will submit a manuscript for publication to a peer-reviewed nursing journal.

Analysis of Self

The complexity of the current healthcare system requires driving forces for policies and best practices. Embarking on this DNP journey was to advance my nursing role in areas of clinical practice and leadership. When I first started the DNP program, I had many projects in mind, but quickly learned that I had to pick one that was relevant to my clinical practice. As the project progressed, I found that I was gaining knowledge on all different levels including researching skills, critiquing evidence, and organizational skills. Though the project seemed straight forward in the beginning, it became apparent

that connecting research and practice was critical. This was difficult to achieve in the beginning as an already practicing clinician. As the project progressed, I found myself questioning aspects of clinical practice and seeking opportunities to initiate change. As part of my long-term professional goals, this project has motivated me to work with the education department at the long-term facility to design and develop a behavioral log that meets the needs of patients. Completing this project brought a sense of both personal and professional fulfillment.

The greatest challenge for me was adhering to the timeline of events and the lack of time management at various stages, either due to work or to family constraints. To help resolve these issues, I had to dedicate specific times during the day to work on and to complete milestones for the project. The insight gained from this DNP project journey was the amount of time it took to develop all aspects of the project as well as the amount of research needed. Overall, the experience was a positive one, especially when it came to acquiring knowledge about the elderly population and matters that affect their health outcomes.

Summary

The purpose of this evidence-based project was to develop a CPG that aimed at raising awareness about current issues governing the use of antipsychotic medications in dementia patients as well as promoting the use of nonpharmacologic interventions. The CPG was developed through a rigorous review of the literature including those from the Centers of Medicare and Medicaid as well as the American Psychiatric Association. The CPG was presented to an expert panel who expressed positive feedback in areas of the

topic's relevance to practice, a better understanding of dementia disorder, neuropsychiatric symptoms, the use of nonpharmacologic interventions, and providing full support to implement the CPG.

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Appendix A: Literature Matrix

Authors	Year	Name of Journal or Book	Title of Article	Brief summary	Evidence Level
Ribe et al.	2015	JAMA Psychiatry	Long-term risk of dementia in persons with dementia- a Danish population-based cohort study	-To determine the risk of dementia among persons with schizophrenia compared to those without schizophrenia -The study concluded that schizophrenia was associated with a more than 2-fold higher risk of all-cause dementia	IV
Da Silva, J., Goncalves-Pereira, M., Xavier, M., Mulkaetova-Ladinsks, E.B	2013	The British Journal of Psychiatry	Affective disorders and risk of developing dementia: systematic review	- To evaluate the risk of developing dementia in individuals with a history of affective disorders. - Greater frequency and severity of depressive episodes seem to increase the risk suggesting that depression may be both a prodrome and risk factor for dementia.	V
Holmberg, S. K.,	1997	*Archives of Psychiatric Nursing*	Evaluation of a clinical intervention for wanderers on a geriatric nursing unit	-Structured walking program for 11 severely demented individuals living on a dementia unit of a nursing home. - 30% reduction in aggressive behaviors on days where the walking program was implemented	II

Hicks-Moore S.L. and Robinson, B.A.	2008	SAGE Journals	Favorite music and hand massage: Two interventions to decrease agitation in residents with dementia	-To assess the effect of massage on patients with dementia. - Of the 68 nursing home residents assessed, it was found that agitated behavior decreased more in the group that received hand massage than in the group receiving no treatment	III
Joaquin, C, D'Amato, M., Perez, A. Villarina, A. L., & Miller, S.E.	2018	Dominican Scholar	Evaluating the effectiveness of a formal dementia training program; abilities care, experts,	-Evaluated the effectiveness of a dementia education program for direct caregivers of dementia patients in a skilled nursing facility. - Participants who underwent ACE training demonstrated significantly high levels of self-perceptions in areas of dementia knowledge, knowledge of dementia care approaches and self-efficacy.	VI

Key for ranking level of evidence

Type of evidence	**Level of evidence**
Systematic Review; Meta-Analysis of randomized controlled trials; Evidence-based CPGs.	I
One or more Randomized Controlled Trial (RCT)	II
Controlled Trial (no randomization)	III
Cohort study; Case-Control Study	IV
Systematic review of descriptive and qualitative studies	V
Single descriptive or qualitative study	VI
Expert opinion	VII

Note: Key for ranking the level of evidence used in Section 2 from Fineout-Overholt, Melnyk & Williamson (2010)

Appendix B: Presentation Overview for Expert Panel

Learning Outcome(s): Apply the Antipsychotic Drug CPG in the BH/Long Term Care Setting

Nursing Professional Development Goal: Improved knowledge of the harmful effects of Antipsychotic Drugs and overview of the CPG
Patient Outcome: More patients with lesser amounts of Antipsychotic Drug use.
Organizational Outcome: Improved Star ratings with Antipsychotic Drugs measure

Topical Content Outline	Time spent on the slide	References	Teaching method/learner engagement and Evaluation method
Dementia Overview	5”	Şahin Cankurtaran E. (2014). Management of Behavioral and Psychological Symptoms of Dementia. *Noro psikiyatri arsivi*, *51*(4), 303–312. doi:10.5152/npa.2014.7405	PowerPoint
Managing Neuropsychiatric symptoms	5”	Jeste, D. V., & Maglione, J. E. (2013). Atypical Antipsychotics for Older Adults: Are They Safe and Effective as We Once Thought? *Journal of Comparative Effectiveness Research*, 2(4), 355–358. http://doi.org/10.2217/cer.13.33	PowerPoint
The need for change	5”	Centers for Medicare and Medicaid. (2013). Atypical antipsychotic medications: use in adults. Retrieved from https://www.cms.gov/medicare-medicaid-coordination/fraud-prevention/medicaid-integrity-education/pharmacy-education-materials/downloads/atyp-antipsych-adult-factsheet.pdf	PowerPoint
Current trends	5”	Saltz, B. L., Robinson, D. G., & Woerner, M. G. (2004). Recognizing and managing antipsychotic drug treatment side effects in the elderly. *Primary care companion to the Journal of clinical psychiatry*, *6*(Suppl 2), 14-9	PowerPoint
Purpose of Project	4”	DNP paper section 1 Purpose statement	PowerPoint

CMS initiative	4”	Centers for Medicare and Medicaid. (2013). Atypical antipsychotic medications: use in adults. Retrieved from https://www.cms.gov/medicare-medicaid-coordination/fraud-prevention/medicaid-integrity-education/pharmacy-education-materials/downloads/atyp-antipsych-adult-factsheet.pdf	PowerPoint
Alternative to managing behaviors in Long-term settings	5”	Buchanan, J. A., Christenson, A. M., Ostrom, C., & Hofman, N. (2007). Non-pharmacological interventions for aggression in persons with dementia: A review of the literature. *The Behavior Analyst Today, 8*(4), 413-425.	PowerPoint
The Evidence	8”	Hicks-Moore S.L. and Robinson, B.A. (2008). Favorite music and hand massage: Two interventions to decrease agitation in residents with dementia. SAGE Journals. Retrieved from https://doi.org/10.1177%2F1471301207085369	PowerPoint
Caregiver Training.	5”	Joaquin, C, D’Amato, M., Perez, A. Villarina, A. L., & Miller, S.E. (2018). Evaluating the effectiveness of a formal dementia training program; abilities care experts. Retrieved from https://scholar.dominican.edu/masters-theses/297	PowerPoint
Presentation of CPG	10”	Centers for Medicare and Medicaid. (2016). State operations manual (SOM) surveyor guidance revisions related to psychosocial harm in nursing homes. Retrieved from https://www.cms.gov/Medicare/Provider-Enrollment-and	PowerPoint Small-Group Discussion
Open discussion about impressions of CPG, potential barriers to adopting it and suggestions about implementation	30”	Appendix C questions outlined in the DNP project	Small-Group Discussion
Survey questions	10”	Outlined in Appendix C of DNP project	Small Group Discussion

Appendix C: Data Collection from the Expert Panel Regarding the CPG

Round 1 Questions:

What are your impressions regarding the Antipsychotic CPG?

What barriers do you see to full implementation and reduction of the use of antipsychotics in our setting?

Are there any revisions that you would recommend to overcome the obstacles in our path to success?

Round 2 Questions:

What timeline would you suggest for implementation? What tools would you like to see accompany the CPG rollout?

Are there any other implementation concerns that should be considered? If so, please elaborate.

Round 3 Questions:

Do I have your full support to implement the CPG as of May 2019?

Antipsychotic and Presentation Questions

Following this presentation, please rate your agreement from 1 (strongly agree) to 5 (strongly disagree).

1. The objectives of the presentation were clearly defined.
   Strongly disagree 5 4 3 2 1 Strongly agree

2. The topics covered were relevant to my current practice.
   Strongly disagree 5 4 3 2 1 Strongly agree

3. The CPG (CPG) was well organized and easy to follow.
   Strongly disagree 5 4 3 2 1 Strongly agree

4. I have a better understanding of dementia disorder.
   Strongly disagree 5 4 3 2 1 Strongly agree

5. I have a better understanding of neuropsychiatric symptoms associated with dementia.

Strongly disagree 5 4 3 2 1 Strongly agree

6. I have a better understanding of the adverse effects of antipsychotic medications.
   Strongly disagree 5 4 3 2 1 Strongly agree

7. I have a better understanding of non-pharmacologic interventions in the management of behavioral disturbances.
   Strongly disagree 5 4 3 2 1 Strongly agree

8. I will apply the knowledge learned from this presentation in my everyday practice.
   Strongly disagree 5 4 3 2 1 Strongly agree

9. The presentation met my expectations
   Strongly disagree 5 4 3 2 1 Strongly agree