

Exploring Acute Care Nurses' Decision-Making in Psychotropic PRN Use in Hospitalized
People with Dementia

by

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Abstract

This qualitative descriptive study used semi-structured interviews to explore how acute care nurses decide to administer “as needed” (PRN) psychotropic medication to hospitalized people with dementia. Eight nurses from three acute care units in a large tertiary hospital in Western Canada were interviewed using a semi-structured interview guide. Conventional content analysis yielded three themes that reflect nurses’ decision-making related to administering PRNs to hospitalized people with dementia: Legitimizing Control which involved medicating undesirable behaviors to promote the nurses’ perceptions of safety; Making the Patient Fit to maintain routine and order; and Future Telling involved pre-emptively medicating to prevent undesirable behaviors from escalating. Nurses provided little to no mention of assessing for physical causes contributing to behaviors; notably, not one participant mentioned pain. PRNs were seen as a reasonable alternative to physical restraints and were frequently used. Additionally, organizational and unit routines greatly influenced nurses’ decision-making. These findings provide an initial understanding into some of the ways nurses make decisions to administer PRN medications and may inform prescribing practices. More research is needed to better understand the complexities of nurses’ decision-making which will assist in the development of interventions for nursing practice.

Preface

This thesis is an original work by Brittany Walsh with no part of this thesis being previously published. I, Brittany Walsh was responsible for the thesis study's research design, literature review, methodology, data collection, data analysis, and creation of the manuscript. The analysis and manuscript composition were led by Brittany Walsh with supervision provided by Dr. Sherry Dahlke and Dr. Hannah O'Rourke. Ethics approval was received from the University of Alberta Research Ethics Board, Project Name "Exploring PRN Psychotropic Use in Hospitalized People with Dementia", No. Pro00085496, on October 15, 2018.

Dedication

I could not have done this without the unwavering love and support from my family and friends. To my husband, Michael Martyna, thank you for your unconditional love, support, and encouragement. To my parents, Michelle and Bob. Thank you dad for always reminding me to find balance throughout this process. Thank you mom for the many hours of listening to me read sections and helping correct my grammar.

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To the nurses who participated in this study, I am incredibly grateful to each of you for volunteering to reflect on and share your decision making in the use of PRNs. This thesis would not have happened without you. Thank you.

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Thesis Overview

This thesis is presented in the traditional manuscript format. This chapter begins with background information relevant to understanding the study focus. Chapter two provides the methodology. The study findings are provided in Chapter three followed by the discussion and implications in Chapter four.

Background

Dementia is a progressive neurodegenerative disease that impacts many members of society including patients, families, and healthcare workers (Canadian Nurses Association [CNA 2016]). The Diagnostic and Statistical Manual of Mental Disorders (5th ed. DSM-5; American Psychiatric Association (APA), 2013) defines dementia as “significant cognitive decline from baseline in the areas of “complex attention, executive function, learning and memory, language, perceptual-motor, or social cognition” (p.602), causing interference in everyday activities along a spectrum from mild to severe. In addition to cognitive decline, a person (or people) with dementia (PWD) may also exhibit behavioral disturbances such as psychotic symptoms (hallucinations, delusions), agitation, anxiety, depression, apathy, physical and/or verbal aggression, disinhibition, lability or irritability, motor disturbance, and night disturbances (APA, 2013; Kales, Gitlin, & Lyketsos, 2015). Behavioral and psychological symptoms of dementia (BPSD), neuropsychiatric symptoms, and responsive behaviours are all terms used in the literature to describe behaviors that can accompany dementia. Behaviors may be due to underlying disease progression, unmet needs, environmental factors, or any combination of these, and are present in virtually all PWD at one time or another over the course of the illness (Cerejeira, Lagartyo, & Mukaetova-Ladinska, 2012; Kales et al., 2015). Current options for

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addressing some of these behaviors include non-pharmacologic and pharmacologic interventions (Janzen, Zecevic, Klooseck, & Orange, 2013).

Non-pharmacologic interventions are often cited as first-line treatment for behaviors in PWD and have been gaining attention for a number of reasons including high prescribing rates of psychotropic medications and black box warnings for increased mortality with antipsychotics (Lopez et al., 2013; Rochon et al., 2008). In general, “non-pharmacologic interventions encompass a vast array of behavioural, environmental, and caregiver supportive interventions” (Kales et al., 2015, p.5) and can be aimed at preventing or reducing intensity, frequency, or duration of behaviors, and educating caregivers on techniques for how to support the person with dementia (Ayalon, Gum, Feliciano, & Areal, 2006). Non-pharmacologic interventions can also be used to postpone, minimize, or eliminate the use of a medication (Janzen et al., 2013) as well as to potentially reduce perceived caregiver burden (Ayalon et al., 2006). Examples include distraction, addressing unmet needs, music, reminiscence, and altering one’s approach to care (Ayalon et al., 2006; Brodaty & Arasaratnam, 2012). Despite the many non-pharmacologic interventions available, studies suggest that nurses often opt for pharmacologic intervention instead (Haw & Wolstencroft, 2014; Janus et al., 2017; Lindsey & Buckwalter, 2012).

Psychotropic medications are a commonly used pharmacologic intervention in PWD and encompass several classes of medication including antipsychotic, anxiolytic (specifically benzodiazepines), sedative hypnotic, and antidepressant (Dodler & McKinsley, 2011). Overall, the use of psychotropics in PWD has been cautioned. There are however circumstances in which use may be appropriate. Currently the recommendations of the Canadian Consensus Conference on the Diagnosis and treatment of dementia include the use of antipsychotic medications, such as olanzapine, risperidone, and aripiprazole for management of severe agitation in dementia, while

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emphasising careful consideration and review of associated risks and benefits (Gauthier et al., 2012). Additionally, primary mental health conditions, ongoing psychotic symptoms, and consistent agitation and aggression to which non-pharmacologic interventions are insufficient and are causing severe distress to the person may also warrant psychotropic intervention (Bueckert, Cole, & Robertson, 2017). According to the American Geriatric Society Beers Criteria (2015) antipsychotics and benzodiazepines are considered potentially inappropriate medications for use in older adults. These guidelines specify that chronic and as-needed use of psychotropics should be avoided for “behavioral problems of dementia” (p.2238), unless however, “non-pharmacologic options have failed or are not possible and the older adult is threatening substantial harm” (p.2238). The updated Beers Criteria (2019) provide a strong recommendation based on moderate quality evidence to avoid antipsychotic use in older adults except in particular conditions including schizophrenia, bipolar, or as antiemetic therapy during chemotherapy.

Prescribing of psychotropics for PWD is, or at least should be, individualized, and done only after consideration of the risks, family and patient input, factors that may be contributing to or exacerbating behavioral symptoms, as well as the intended/desired outcome (Alberta Health Services, 2015). Medications can be prescribed as scheduled (in which the patient receives it at regular intervals), or pro re nata (PRN) which translates to “as needed”. For a patient to receive a medication, both prescribing and administration of the ordered medication is required. The act of prescribing is generally done by physicians or nurse practitioners whereas the administration aspect in acute care settings is predominantly carried out by nurses (Baker, Lovell, & Harris, 2007; Baumann & Greif, 2017). PRN medications are often used in hospital (Baumann & Greif, 2017) as well as in long-term care settings (Voyer et al., 2015). Some of the most frequently

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encountered PRNs ordered are for nausea, pain, constipation, anxiety, and/or agitation (Baumann & Greif, 2017) and include medications such as psychotropics, analgesics, and antiemetics. Of the psychotropic medications, anxiolytics and antipsychotics are the most frequently prescribed and administered (Harper, Reddon, Hunt, & Royan, 2017). PRN medications are often ordered with a dose range and more than one route (e.g., oral, intramuscular [IM]), enabling nurses to determine the dosage, route, and the time of administration (Harper et al., 2017; Neumann, Faris, & Klassen, 2015). Therefore, the decision to administer a PRN is at the individual nurse's discretion (Hynninen, Saarnio, & Isola, 2014; Neumann et al., 2015). Despite the prominent discourse on reducing psychotropic prescribing in dementia, research to understand the administration aspect of PRN psychotropic use in dementia has been limited (Harper et al., 2017).

In 2016, there was an estimated 564 000 persons in Canada living with dementia and 56 000 of those were being cared for in acute care hospitals (Alzheimer Society, 2019). In addition, Statistics Canada reports that people admitted to hospital with a primary or comorbid diagnosis of dementia stay in hospital on average two and a half times longer than those without such a diagnosis (Johansen & Finès, 2012). With an aging population and longer hospital stays, it is likely that nurses are encountering people with dementia in the acute care setting more often. In fact, a US study found that 47.9% of acute care admissions were people aged 65 and over (Herzig, Rothberg, Guess, Gurwitz, & Marcantonio, 2016). Nurses in acute care settings have consistently identified environment, staffing, insufficient knowledge, and time as constraints to providing optimal care to PWD (Borbasi, Jones, Lockwood, & Emden, 2006; Clifford & Doody, 2018; Eriksson & Saveman, 2002; Moyle, Borbasi, Wallis, Olorenshaw, & Gracia, 2010).

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However, there is limited research on the administration of PRN psychotropics in the context of these constraints.

Systematized Review of the Literature

The purpose of the systematized literature review was to find any available research that has looked at the specific question of how acute care nurses decide to administer psychotropic PRNs to hospitalized PWD. A comprehensive search was conducted using the following databases: CINAHL Plus with Full Text, Medline, Embase, and Scopus. ProQuest was searched for thesis and dissertations as well. The search strategy was developed in consultation with a health sciences librarian and search terms were related to concepts of dementia, PRN psychotropics, decision-making, and acute care. There was no limit set regarding year of publication. Full details of database-specific search strategies and terms can be found in Appendix A. The author's personal collection and reference lists were also searched for additional articles.

A total of 677 records were retrieved; 259 from CINAHL, 36 from Ovid Medline, 85 from Scopus, 287 from Embase, and 1 from ProQuest. Hand searching and grey literature search yielded 10 additional studies. Inclusion criteria were: written in English; full text availability; setting of medical units in acute care; sample of hospitalized PWD; and study aim related to nurse decision-making in PRN psychotropics. Studies were excluded if: context/setting was outside of hospital (long-term care, assisted living, outpatient clinics); full text was unavailable; written in a language other than English; aim was not related to nurses' decision-making and PRN psychotropics; or the setting was a specialized unit (i.e. ICU, psychiatry).

All records were screened by examining the title and abstract to identify articles that may meet the inclusion criteria. At this point, any study that appeared to relate to decision-making

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about psychotropic PRN use, psychotropic PRN use in acute settings, or psychotropic PRN use in PWD was read in full to assess whether it met the inclusion criteria. 43 studies were read in full. The systematized and comprehensive literature search revealed that there were no studies exploring acute care nurses' decision-making regarding PRN psychotropic use in hospitalized PWD. This gap in the literature provided the opportunity to explore branches of related research using a traditional (i.e., narrative and not systematized) approach to reviewing the literature. The results of this traditional review are described below to provide the broader context and understanding of research related to psychotropic PRN use in PWD.

Traditional Review of Related Literature

Given the lack of studies regarding the decision to administer PRN psychotropics to hospitalized PWD, research from long-term care (LTC), inpatient psychiatry, and specialized geriatric psychiatry units was valuable in trying to understand the complexity of PRN use in vulnerable populations.

Psychotropic PRN use in LTC

Psychotropic medications are widely utilized in LTC (Janzen et al., 2013). Within the Canadian context, Rios et al. (2017) found the overall prevalence of antipsychotic use in people with dementia was 48% in LTC. A Canadian study found that 19.9% of residents in their sample had been prescribed PRN psychotropics (Voyer et al., 2015), in German nursing homes 35.9% of antipsychotics are prescribed PRN (Allers, Dorks, Schmiemann, & Hoffman, 2017), and in Australia 57.1% of prescribed PRNs are anxiolytics and hypnotics (Moyle et al., 2017). Additionally, across twelve LTC facilities in Canada nearly a third of neuroleptic prescriptions were written and administered on a PRN basis, while 64.5% of benzodiazepines were written and

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administered on a PRN basis (Hagan et al., 2005). These studies suggest that PRNs are still common in LTC settings across the globe.

Building off a previous study, Voyer et al. (2015) examined the duration of behaviors in PWD and associated PRN use. They found that verbal agitation was the most frequent and persistent behavior expressed by people with dementia, consistent with findings from Cohen-Mansfield (2009). In long-term care, 'demanding attention' and 'nocturnal behaviors' were significantly associated with PRN antipsychotic administration (Voyer et al., 2015). Several studies postulate that PRN medications are not necessarily being utilized for behaviors that are amendable to treatment with psychotropics, but rather PRNs are most often used for behaviors that nurses deem to be disruptive (Hagan et al., 2005; Voyer et al., 2015). Similarly, in investigating staff perceptions toward non-pharmacologic interventions, Janzen et al. (2013) found that PRNs were being given preventatively to reduce agitation, sometimes for the purpose of allowing staff to complete daily work tasks. This raises concern over what the medications are being used for and may suggest potential misuse of PRN psychotropics (Janus et al., 2017;; Voyer et al., 2015).

Psychotropic PRN Use in Specialized Geriatric Psychiatry

There are some concerning findings from studies that have looked at PRN administration trends and practices within the context of specialized geriatric psychiatry units or geropsychiatric hospitals (Baker et al., 2010; Dodler & McKinsey, 2011; Harper et al., 2017; Haw & Wolstencroft, 2014; Lindsey & Buckwalter, 2012; Neumann et al., 2015). Neumann et al. (2015) did a two-year retrospective chart review of PRN psychotropic use in PWD (n=170) and looked at nursing selection of a dose of PRN when a range was provided. They found that when a dosing range was prescribed, 77% of the time nurses decided to give the higher dose, irrespective

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of the patient's prior exposure to psychotropics. Rates of PRN administration increased at shift change (Neumann et al., 2015) despite no significant difference in behaviour frequency by shift (Sourial, McCusker, Cole, & Abrahamowicz., 2001) suggesting potential use of PRNs for staff convenience. In both long-term care and specialized geriatric psychiatric units, nurses felt that PRNs were appropriate for verbalizations and relied mainly on chemical intervention for behaviors (Harper et al., 2017; Voyer et al., 2015).

Similar to long-term care findings, quantitative studies done in specialized geriatric psychiatry units support that anxiolytics (e.g., benzodiazepines) are the most administered PRN psychotropic (Baker et al., 2010; Harper et al., 2017; Neumann et al., 2015). Survey and chart review findings from this type of unit indicate that nurses rely heavily on chemical interventions to address patient behaviours, and that documentation practices demonstrate misunderstanding and/or inappropriate use of PRN psychotropics (Harper et al., 2017; Neumann et al., 2015). This work has led some to claim that PRN administration often follows patterns that are centred around what the care provider wants rather than on what the person receiving the medication needs (Harper et al., 2017; Neumann et al., 2015; & Kwasny, Hagan, & Armstrong-Esther, 2006), which is in keeping with findings from general inpatient psychiatry and long-term care. Nurses are integral in PRN administration and, though at times well intentioned, PRN use has been linked to nurse beliefs about patient comfort and safety and clinical experience which may vary from one environment to another and are not necessarily based on best practice (Haw & Wolstencroft, 2014).

With respect to nurses' decision making in the use of PRN psychotropics, the largest volume of research has come from studies done in inpatient psychiatry units and specialized geriatric psychiatry. Quantitative studies have attempted to look at decision-making around PRN

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administration through questionnaires, surveys, and chart reviews (Harper et al., 2017; Usher, Lindsay, & Sellen, 2001). There were just four qualitative studies related to nurses' decision-making and PRN psychotropic use identified during this traditional literature review, and all were in general inpatient psychiatry settings (Baker et al., 2007; Jimu & Doyle, 2019; Usher, Baker, Holmes, & Stocks, 2009; Usher, Baker, & Holmes, 2010). Though a general inpatient psychiatry setting and population is different from the proposed target population (people with dementia) and setting (medical/surgical units), these studies are relevant because they specifically look at nurses' decision-making and psychotropic PRN administration practices.

Psychotropic PRN Use in General Inpatient Psychiatry

A qualitative exploratory descriptive study done by Usher et al. (2009) looked at physician and nurse decision-making process in the prescription and administration of PRN psychotropic medication on acute psychiatric inpatient units. Their interviews yielded several concerning findings leading them to conclude that "decision-making in relation to the administration of as needed medication was guided more by custom and practice and informal personal protocols than reference to evidence or to practice guidelines" (Usher et al., 2009, p.988). Additionally, when Baker et al. (2007) used semi-structured interviews to explore PRN psychotropic medication practices of nurses, pharmacists, and physicians they found that PRNs were used as a first rather than last resort and that PRNs were administered for reasons other than those indicated by the prescriber, suggesting that there may be a "punitive element" (Baker et al., 2007, p.166) to some administration of PRNs. This reinforces findings from other studies that the nurse's view of PRN administration is disconnected from the prescriber's intention (Baker et al., 2010; Martin, Arora, Fischler, & Tremblay, 2017). Prescribers expressed that the act of

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prescribing often occurs to reassure nurses rather than clinical need of the patient (Baker et al., 2007), potentially adding tension to an already less than ideal environment.

Baker et al. (2007) and Usher et al. (2009) note that administration of PRN psychotropics on inpatient psychiatry units tends to be based on cues, beliefs, thoughts, and indications that are not evidence based and do not follow best practices. Again, the suggestion is made that a lack of evidence surrounding the administration of PRN psychotropics may contribute to misuse, whether unintentional or intentional, of these medications.

Jimu & Doyle (2019) conducted a qualitative descriptive study that looked at mental health nurses psychotropic PRN administration process. Nineteen (n=19) nurses from 3 inpatient psychiatry units in Ireland were interviewed using semi-structured interview guides. The authors found that assessment of the psychiatric patient was important and like the previous two studies, PRNs were used for safety but also for nurse ease. Jimu & Doyle (2019) reported that participants felt their nursing autonomy and decision-making was threatened when physicians wrote orders that were too specific or rigid. Additionally, nurses did not feel equipped or skilled to apply non-pharmacologic interventions.

Psychotropic PRN use in Acute Care

As previously mentioned, there were no studies on general medical units that aimed to look at nurses' decision making in the administration of psychotropic PRNs for hospitalized PWD. Behavioural and psychological symptoms of dementia occur in approximately 75% of people with dementia admitted to acute care (Sampson et al., 2014). Despite this, few studies provide insight into the use and prevalence of psychotropic PRN administration in acute care. (Herzig et al., 2016; Kwasny et al., 2006; Pek et al., 2017). Baumann et al. (2018) found that

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benzodiazepines are the most frequently prescribed psychotropic PRN to hospitalized older adults.

Kwasny et al. (2006) reviewed pharmacy records of six acute care units (variety of medical, surgical, rehabilitation, and elder care) in a Canadian hospital and, similar to studies from long-term care, found that benzodiazepines and antipsychotics were the most commonly prescribed PRN psychotropics. However, this study only looked at PRN prescriptions, and not administration, so whether these medications were administered is unknown. Kwasny et al. (2006) also examined nurses' (n=140) perceptions towards chemical restraint using the 'Perceptions of (Chemical) Restraint Use Questionnaire'. The underlying assumption (of the questionnaire) was that a nurse who rates reasons for chemical restraint use as having high importance would be more likely to use chemical restraints. Reasons of safety, agitation management, preventing suture opening, and 'providing quiet time' were rated highly by nurses as reasons for chemical restraint (Kwasny et al., 2006). Insufficient staffing, preventing wandering, preventing a fall, and keeping a confused person from bothering others were also perceived to be important reasons for using chemical restraints (Kwasny et al., 2006). Considering nurses "liberal and potentially erroneous beliefs about the use of chemical restraints" (Kwasny et al., 2006, p.140) the authors suggest that further research is needed looking at nurses decision-making role in the administration aspect of PRN psychotropics in acute care. The concerning findings from the areas of long-term-care, psychiatric settings, and acute care regarding PRN administration in vulnerable patient populations support the need for further research into the processes used by nurses to make PRN administration decisions in hospitalized PWD.

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Purpose Statement

The aim of this qualitative descriptive study was to explore and describe how acute care nurses make decisions about administering PRN psychotropic medications to hospitalized PWD.

Research Question

1. How do nurses decide to administer PRN psychotropic medication to hospitalized people with dementia?

Chapter Two

Method

Research Design

A qualitative descriptive study design was used to answer the research question of how do nurses decide to administer PRN psychotropic medication to hospitalized people with dementia? Qualitative description is an approach to research that is often used in healthcare environments to explore or describe a poorly understood or complex phenomenon of interest (Colorafi & Evans, 2016; Kim, Sefcik, & Bradway., 2017; Sandelowski, 2000). This approach was chosen as it uses low inference description which allows the researcher to stay close to the data and represent the participant responses using verbatim quotes (Colorafi & Evans, 2016; Sandelowski, 2000). Generally drawing from a naturalist perspective (Sandelowski, 2000) the goal is to provide a “comprehensive summary of events in the everyday terms of those events” (Sandelowski, 2000, p. 336). Qualitative description aims to encapsulate all the elements of an event that come together to make it the event that it is, providing a useful approach to exploring a poorly understood phenomenon (Kim et al., 2017 Sandelowski, 2000).

Setting and Sample

The study setting was three medical units at a tertiary care hospital in Western Canada. Two of the units were family medicine units, the other was a combined geriatric- stroke unit. Medical units were chosen because a) they admit a wide array of clinical conditions and have a high probability of having people with dementia as patients; b) medical/surgical units are not just limited to tertiary hospitals, but they are common in both rural and urban hospitals and; c) a large proportion of nurses work in acute care and administer PRN psychotropics.

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Following University of Alberta Research Ethics Board (REB) 1 approval and health agency approval, a meeting occurred between the unit managers, my supervisor, and myself where the research study was discussed and managers were provided recruitment posters to put on their units. Nurses from all three units were invited to participate in the study. ‘Nurses’ referred to either registered nurses, licenced practical nurses, or registered psychiatric nurses, as administering medication is within the scope of each and staff mix on each unit may include any of these positions.

Purposeful sampling was used to recruit nurses. The concept of purposeful sampling “means that the inquirer selects individuals and sites for study because they can purposefully inform an understanding of the research problem and central phenomenon of study” (Creswell & Poth, 2018, p.158). Nurses were purposefully chosen because they are directly involved in medication administration, have frequent contact with PWD in hospital, and are delegated the decision-making related to PRN administration. To be eligible, participants had to be employed as a nurse on any of the three units and had previously cared for a PWD in that role. Those in non-nursing positions such as health care aides, physicians, and managers were not eligible to participate as the focus of this study was on nurses’ decision-making.

Recruitment and Sample Size

Recruitment strategies included hanging posters in the staff area and an information session on the unit. The poster included study information such as the purpose of the study, time requirement of participants, confidentiality of participants, participant eligibility, and contact information of the researcher. See Appendix C.

The three medical units have a combined total of approximately 45 nurses, which includes 24 registered nurses and 21 licensed practical nurses. Based on a systematic review of

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55 published qualitative descriptive studies by Kim et al. (2017) which found 60% of the studies had sample sizes of 8-20 participants, I anticipated a sample size of approximately 11 participants. This was a preliminary estimate, and the iterative process of data collection and analysis resulted in saturation at eight participants. Saturation is said to be reached when categories and themes are clearly connected and supported by multiple participants (Creswell & Poth, 2018).

Data Collection

Data collection occurred following the receipt of written, informed consent and included conducting interviews, recording field notes, and keeping a reflexive journal. Management of the three units wanted to support staff who wished to participate by providing two days of staff coverage for the interviews. This provided nurses with two options: 1) those who wanted to participate during their shift could attend an interview on one of the days with coverage or 2) those who were not working or preferred a different date or time could contact the researcher and an alternate date would be arranged. No participants expressed a desire to set up a different time or date, with all eight interviews occurring over the two days that were two weeks apart. The purpose of having time between the interviews was for analysis and to further guide data collection. Interviews occurred in an office space separate from the units.

All interviews were audio-recorded and followed a semi-structured format with pre-formulated questions guiding the process. See Appendix D. The interview guide questions were open-ended and informed by the literature review and previous interview guides that had similarly looked at decision-making (Lichtner et al., 2016; Usher et al., 2009). In addition, an interview detail sheet was used to document the demographic data for each participant and for

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descriptive and reflective notes to be taken by the researcher (Cresswell & Poth, 2018, p.193). See Appendix E for the Field Note template.

I started the interviews by reintroducing myself and the study, confirming voluntary participation, obtaining written informed consent, and providing the opportunity for questions before starting the recorder. The first few questions assessed knowledge and established the frequency with which participants cared for PWD. Next, I asked about PRN orders, in order to understand current medication usage as well this directed future questioning related to decisions about route, time, and dose. Finally, a number of questions related to decision-making were posed. Interviews ranged from 15 to 51 minutes in length (average was 28 minutes).

The audio files were downloaded, saved, and then deleted from the recording device. Following transcription of the interviews, the files were cleaned and all potential identifying data were removed. Participants were then assigned pseudonyms for anonymity and confidentiality. The files were stored on a password encrypted device. Interview notes and consent forms were kept in a locked cabinet at the University of Alberta.

Data Analysis

Data analysis began with the first interview and continued concurrently with data collection. This helped guide sampling and tailored my interview questions. After the first three interviews some questions were adapted as they were found to be repetitive. Additionally, early in the interviews I found that participants were responding to individual decision-making questions from a group perspective so interview questions were reviewed for ambiguous language.

Transcripts were analysed using conventional content analysis. A conventional approach was chosen as it is appropriate when the aim of the study is to describe a phenomenon (Hsieh &

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Shannon, 2005). The first three transcripts were read over to get a sense of the data. Each one was then read multiple times to “achieve immersion” (Hsieh & Shannon, 2005) and to provide familiarity to the text (Graneheim & Lundman, 2004; Priest, Roberts, & Woods, 2002). Reading the data word by word and highlighting words from the text that reflected a key concept initiated the coding process (Hsieh & Shannon, 2005). Next, I made notes about my initial impression in the margin of the transcripts. Each code and definition were added to a word document to provide an audit trail. As with most qualitative approaches, data was simultaneously analysed as analysis “involves a back and forth movement between the whole and parts of the text” (Graneheim & Lundman, 2004, p.107). This process shaped and informed my codes, adding to the depth and quality of data analysis (Hsieh & Shannon, 2005).

After reading through and assigning codes to three transcripts, my supervisors also read and assigned codes to the same three. We subsequently met and discussed the codes for those transcripts and developed a coding framework. I independently coded the remaining transcripts, meeting and discussing with my supervisors when needed. The codes were added to the codebook where they were defined, and supporting data was attached (See Appendix F). Codes that were in direct contrast to each other prompted additional exploration into the text and were noted in my memos. The goal of content analysis is to organize large amounts of text into smaller categories, therefore once all the transcripts were coded, related or linked codes were clustered together into categories (Hsieh & Shannon, 2005). Definitions and exemplar quotes were then attached with each category. My supervisors and I met and discussed the codes that comprised the category as well as the relationships between the categories. Agreement about categories was achieved through discussion and reflection and was important for theme

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formulation (Graneheim & Lundman, 2004). The final part of the analysis involved writing up the findings using verbatim quotes from the transcript text to represent categories and themes.

Memoing occurred throughout the analysis process and was important in creating an audit trail (Cresswell & Poth, 2018). I made notes about my thoughts and impressions of the data, which recorded the development of the analysis process (Cresswell & Poth, 2018).

Memoing was done for each participant transcript and as well as the overall analysis. I further developed my audit trail by using a table to link data (participant ID) to code, category, and theme.

Rigor

In qualitative research the trustworthiness of a study can be evaluated by assessing aspects of credibility, dependability, and transferability (Graneheim & Lundman, 2004). Credibility deals with the appropriateness of data collection methods and participant selection; intercoder agreement; and how well data is represented by the respective categories and themes (Graneheim & Lundman, 2004). In this study credibility was promoted by memoing throughout the analysis process; having my supervisors review and code initial transcripts and then meeting to discuss the codes; keeping a code list and shared codebook; having debriefing meetings with committee members; and reflective journaling. Additionally, credibility was enhanced by supporting the findings with participant quotations and identifying and analyzing negative cases (Cresswell, 2014; Lincoln & Guba, 1985 in Hsieh & Shannon, 2005). Dependability involves the extent to which consistency is maintained, considering that certain aspects of the study may evolve/change (e.g., interview questions, codes) as data collection and analysis inform each other throughout the study (Graneheim & Lundman, 2004). Engaging in frequent and open dialogue with my supervisors and documenting key decisions that guided data collection and analysis

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promoted dependability in this study. Transferability, the extent to which findings can be applied to various settings, was facilitated by providing clear descriptions of the setting, participants, data collection, and analysis (Graneheim & Lundman, 2004). Additionally, the use of multiple data collection strategies promotes rigor through triangulation (Kim et al., 2017) and taking field notes to complement interviews supported this.

Chapter 3

Findings

In this chapter I will first describe the participants' characteristics, including demographics and their knowledge related to dementia and understanding of medications to provide the context for nurses' decision-making processes related to administering PRN antipsychotics. Then, three themes will be presented that illustrate underlying rationale driving nurses' decision-making for use of PRNs: to medicate current behaviours for perceived safety risk, which is represented by the theme Legitimizing Control; to medicate to maintain routine and order, which is reflected by the theme Making the Patient Fit; and pre-emptively medicating to prevent behaviours from escalating, which is represented by the theme Future Telling. These themes occurred within a decision-making process (Figure 1). This decision-making figure is not all encompassing but is meant to provide a simplified visual representation of the process nurses described.

Participant Demographics

Participants included eight nurses from three medical units at a tertiary hospital in a large western Canadian city. Two of the units were family medicine units, the other was a combined geriatric- stroke unit. Six of the participants worked on the family medicine units and two worked on the geriatric-stroke unit. Of the eight participants, six were Registered Nurses (RN) and two were Licenced Practical Nurses (LPN). All participants were female, aged 26 to 53 years old. Years of nursing experience ranged from 2.5 to 32 years. Three participants held diplomas, four had degrees, and one participant had two undergraduate degrees. Only one of the participants had completed formal dementia education through a university course. Another participant completed a dementia course through the health authority. Two participants reported

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receiving informal education through in-services and participating in previous dementia related research on the unit. The remaining four participants reported no additional dementia education. Learning about dementia and psychotropic medications occurred mainly on the unit and from their nursing programs. Several nurses reported that there was hospital mandated education about dementia and the least restraint policy, which all but one had completed. Participants described an informal process of learning. For instance one nurse learned about a shift from haloperidol (Haldol) to loxapine while calling for a PRN: “there’s lots of little, “oh here’s a tidbit for you”... you just hear sometimes if somebody is really having a hard time and you page the doctor for something to aid them, then it might be during an interaction like that” (Participant Y). Other nurses got information from overheard conversations about a recent study someone read. All participants reported wanting more education around psychotropic medications and PWD.

Knowledge of Dementia

Regardless of whether participants had formal education related to dementia or not, participants described dementia as a disease process, highlighted the need to rule out delirium, and identified negative effects of psychotropic medications. Participants typically described dementia as a gradual decline in cognition and function, involving short term memory loss and eventually leading to behaviours and impairment in activities of daily living: “it’s degeneration of the neurons...depending on where that degeneration is, then comes certain behaviours, cognitive issues, memory capacity and stuff like that (Participant T). Many acknowledged that there were a number of different types of dementia and that dementia is considered an ‘umbrella term’. According to participants, dementia was “seen in mostly the elderly” (Participant Z) although “could be younger or older but it’s progressive” (Participant R) and was frequently associated with agitation and sundowning. One nurse specifically stated that dementia is “not a

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normal part of aging” (Participant Y). Recalling long term memory and a lack of insight was also frequently described: “It’s a lot of forgetfulness, but it comes with the lack of insight that you’re forgetting” (Participant W).

Nurses were aware of a PWD if it was noted on the chart, handed off in report, or if it was diagnosed while the patient was on their unit. They were not quite sure how dementia was diagnosed although acknowledged that physicians, usually geriatricians, made the diagnosis, and that occupational therapists were also involved to administer cognitive and functional tests. Observing behaviours and relaying information to other members of the team was considered the nurses role.

“I think frontline, just observing behaviours, observing patients’ abilities, and then reporting back...we do have rounds daily in the morning where the nurses do go and speak to the team and report any behaviours or any changes. Not just physically but also if we’ve noticed some mental health changes or memory or inability to follow communication, follow conversations as well. Physicians don’t always see that right away” (Participant R).

Dementia alone was not a reason for admission to hospital, “We don’t generally admit people with dementia. That wouldn’t be an admitting diagnosis.” (Participant Q). All but one of the participants described needing to rule out delirium when a PWD was admitted to hospital. The nurses suggested that if the person did not already come with a diagnosis of dementia, then dementia could not be considered until delirium was ruled out. Acute onset and increased confusion led nurses to suggest further investigations to rule out delirium “Generally it’s not something acute, if it’s acute then we don’t necessarily assume that that’s dementia when they

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come in, we always look at- is there some sort of infection, a UTI going on...when it's quick we always investigate to make sure if something else is not happening first" (Participant Q).

Medication Knowledge

Although participants described a variety of psychotropic medication, trazodone was the most frequently cited PRN, and all participants reported its usage. Haldol was also mentioned by all participants, but there seemed to be a shift away from use. "A lot of our patients can't take Haldol. It actually makes them worse- the Lewy body dementias and things like that. It's pretty rare to see Haldol" (Participant S). Nurses also described use of olanzapine (4 participants), loxapine (2 participants), quetiapine (2 participants), and zopiclone (2 participants). Lorazepam was specifically mentioned to be uncommon and infrequently ordered. While not considered a classic psychotropic medication, one nurse noted the use of melatonin as a PRN for sleep.

Most often, only one PRN was prescribed at a time. Therefore, nurses did not have to decide between PRN medication options. However, some participants reported having a dose range available while others reported no range. "we don't generally have a range, it's a dose and they prescribe, say 2.5 [mg] rather than 2.5 - 5 [mg], for most of our patients" (Participant R). In contrast, Participant Y noted "the more aggressive the person is, the higher dose we wind up giving". There was concern over having dose ranges available: "the unfortunate part of it is that they [PRNs] can easily be overused, especially when it's at a nurses' discretion and you have a range. Sometimes we'll get ranges where it's like 'Okay give 25 to 50 milligrams of trazodone every four to six hours.' That 50 milligrams of trazodone every four hours is considerably more than 25 milligrams every six hours" (Participant X).

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Nurses varied in their ability to articulate negative effects of psychotropic medications. Some could clearly articulate known side effects and adverse events including QTc prolongation, extrapyramidal side effects, dyskinesia, and over sedation, while others gave vague descriptions which included being “a bit too relaxed”, “super flat and non-engaging” (Participant Y) as side effects. Five participants additionally acknowledged that age, kidney function, weight, and sex can affect drug pharmacokinetics: “... of course, a person’s physique plays into it too. A guy who’s 250 pounds versus a lady who’s 83 or something pounds, that’s going to affect consideration for dosing” (Participant Y).

Nurses saw different PRN medications prescribed, but they understood the medications as all having similar indications (behaviours) and effects (settling or calming). Nurses did not seem confident in their knowledge of psychotropics: “whether I would feel comfortable in my knowledge of the drug for that patient would be a different idea” (Participant R). Monitoring for negative effects of the medications was considered the responsibility of the physician: “like uhm dyskinesia, those extrapyramidal effects. I don't know if that's related or not. It's hard to say. It's not for me to diagnose things like that” (Participant T). Additionally, according to the nurses, tracking of polypharmacy and appropriate dosages for patients was also considered the responsibility of the physician or pharmacist. Participants perceived that medication decisions were based on physician preference resulting in medication changes that nurses felt were not necessary. “Sometimes a new physician comes on and they don't like the orders, they prefer some medication over a different one, they change it and we have this whole thing to do again” (Participant X). No nurses mentioned the use of guidelines or studies related to PRN use in PWD, despite one of the interview questions specifically asking about it. The extent of nurses’ engagement in accessing evidence was limited to drug manuals and the Pyxis machine

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(medication dispenser). Additionally, pharmacists, when available, were considered assets and nurses felt comfortable going to them with questions.

Legitimizing Control

Legitimizing control reflects how nurses' conceptualization of safety in acute care is used to rationalize controlling actions. Nurses' decision-making started when a PWD exhibited a behaviour, at which time they interpreted the behaviour and assigned a level of risk - the higher the risk the greater the perceived harm. The level of perceived harm determined the nurses' next actions, which often culminated in the use of PRNs. They legitimized their control over the PWD and the environment in three main ways, described in the categories below: 'Labelling behaviours as agitation and aggression', 'In the name of safety', and 'When redirection and distraction don't work'.

Labelling Behaviours as 'Agitation and Aggression'

All interviewees identified 'agitation and aggression' as the primary indication for PRN use but used these terms to characterize many behaviours and emotions. Nurses used the terms 'agitation and aggression' to encompass physical aggression, screaming, yelling, calling out, repetitive speech, pacing, wandering, exit seeking, going into other patients' rooms, trying to mobilize, fidgeting, and spitting pills out. Resistance to care and being uncooperative were also often clustered with agitation and aggression and described as a reason for PRN use. One nurse described behaviour that would warrant a PRN: "usually when they show signs of aggression, either yelling or just like being very uncooperative with care, being resistant, using aggressive language or even throwing stuff, hitting staff, that stuff is usually when we decide to do that [use a PRN]" (Participant Z). Another shared, "aggression would be one. Sometimes it's also exit-

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seeking patients. Patients who are uncooperative with a bit of aggression towards it. They're hitting, punching, spitting at us...or if they're overly trying to leave" (Participant R).

Nurses' decision on route of administration was influenced by patient compliance and perceived risk of harm. Physical aggression or violence, reflected by actions such as hitting, slapping, or punching, were considered high risk for harm and unanimously warranted a PRN. Half the participants described using an injection first because they wanted something fast acting as to prevent perceived harm, "if they're aggressive, then the fastest acting route, IM" (Participant T) and "if they're being violent I'm going to give them injection... they're going to hurt someone or their caregiver" (Participant Q). Others reported trying an oral PRN first, "I would say the patient's cooperation at the time. I personally try oral first because sometimes a needle will escalate things more...If I try and they're still not cooperating, they're still trying to punch and push me away, then...I would likely go to the [subcutaneous] route" (Participant R).

Verbalizations, night behaviours, and emotions such as anger or anxiety were considered lower risk for harm and more likely to be targeted with an oral PRN. "if they're just agitated like 'get your hands off me', like this, of course you can offer the oral" (Participant Q). Trying to mobilize, pacing, and wandering also were reasons nurses considered PRNs, "certain comments, or pacing, wandering, fidgeting, then you know you might need to give them a PRN" (Participant T).

Participants unanimously described psychotropic PRNs as having a role in helping patients 'settle' or 'calm down'. This nurse summed up all participants responses to the role of PRN use: "...to calm them down at whatever they're doing. Sometimes they're yelling, to calm them down... to stop them from doing whatever behaviour it is" (Participant T).

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In the Name of Safety

Nurses used PRNs as a way to minimize potential risk and maintain what they perceived to be a safe environment. Those interviewed unequivocally stated that psychotropic PRNs were used for ‘safety’ and deemed PRNs to have an important role in protecting the PWD from harming them self, staff, or other patients on the unit. When asked about what guides her decision-making, this nurse replied: “the number one is generally safety...you can always try talking them down, then you try the oral, if they’re still like “no, I’m not taking anything from you”, then you try [subcutaneous] or IM because you can’t risk the safety of themselves or the staff or the other patients” (Participant W).

In addition, PRNs were seen as a way to protect others by removing the PWD’s potential to cause harm or create an unsafe situation. From nurses’ perspective, dementia-related behaviours compromise unit safety. One nurse explained, “if it seems like it would be less dangerous to give it than to let them continue to be stressed. If that stress continues are they going to fall, are they going to interfere in a dangerous way with another patient?” (Participant Y). Another stated “it’s more of a safety thing really. Like if they’re either able to harm themselves or others, then yes, we would use it” (Participant Z).

The above quotes highlighted that nurses considered giving PRNs based on the presumed ‘ability’ to do harm or create and unsafe situation without the unsafe situation necessarily being present. This prediction of behaviours is related to another theme, Future Telling, which is described later.

Two nurses explained that behaviours that interfered with medical treatment or required the assistance of staff (such as mobilizing), while not necessarily classified as agitation or

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aggression, were considered to have a high risk of potential harm to the patient, and thus often required PRN use. “I think the thing we see the most is agitation..., but a lot of behaviour is like frequently trying to mobilize when they’re unable to mobilize on their own, or pulling of IV tubing, foleys, that type of thing. Usually it’s when a patient is more of a harm to themselves than anything” (Participant X). Another nurse agreed, “if you’re pulling out the foley, if you’re going to pull that like PICC line, we have to chemically restrain, because you can’t pull those out...we need to treat” (Participant W).

Nurses employed a number of strategies to monitor PWD to identify behaviours quickly and ensure ongoing ‘safety’. Chair and bed alarms were the most frequently described strategies. Some mentioned the use of patient watch (one-to-one surveillance). However, if that was not possible, nurses described moving patients into hallways to be in their line of sight. “We try to make sure that they’re in our line of site, so we sit them outside...like alarms, chair alarms, bed alarms, things like that” (Participant T). These strategies were sometimes utilized for multiple patients simultaneously: “sometimes we have multiple confused patients, they will all be out in the hallways... that can work sometimes because they’ll be having their own individual conversations, but as long as they can see that somebody is talking and listening, they are okay with that. Sometimes that’s not enough” (Participant W). Behaviour tracking, which was a hospital directed policy, was frequently mentioned as a way to monitor behaviours patterns and identify triggers for behaviours. Use of these forms justified certain occasions for PRN use such as for a ‘bad day’.

“Well, with the new policy, we are trying to do more behaviour [tracking]. Like are they throwing their meal tray every meal every time they see they have this on their tray, like peas on their tray. Are they trying to tell you, ‘I hate this food’? If there is a repeated

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pattern, we can try to change it. When its initial, when they are just throwing things, you can take it as maybe they're having a bad day. If at lunch they are acting out, you're careful with supper. You're not necessarily giving anything, but you're careful with supper and seeing like do you need to feed them, or are they calmly feeding themselves? If they're still going to throw everything, then management wise we can try to feed them. If they really don't want us to feed them and they're just getting more hyped up then it might be time a PRN" (Participant W).

In addition to behaviour tracking, more than half of the nurses mentioned the hospital's least restraint policy, for which all but one had received training. This policy discouraged use of physical restraints which seemed to temper the negative aspects of the use of chemical restraints. There seemed to be agreement that physical restraint was a last resort. With some of the perceived harms mitigated, chemical restraints were considered more acceptable because they decreased or avoided the use of physical restraint.

When Redirection and Distraction Do Not Work

Nurses believed that controlling undesirable behaviours was a legitimate reason to use a PRN if redirection or distraction did not work. Behaviour monitoring strategies or non-pharmacologic interventions were implemented if the behaviour did not pose an acute risk at the present time. Nurses described strategies for addressing undesirable behaviour as being on a continuum. On one end, non-pharmacologic strategies were used; on the other end was physical restraint, which was used as a last resort. PRNs seemed to fall somewhere in the middle and were used when distraction and redirection failed to resolve the undesirable behaviour: "we do it really quite frequently, typically tends to be with increasing agitation. Particularly if there's increasing

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agitation that we can't change with just like verbal redirection or trying to change the environment" (Participant X).

The initial and most common non-pharmacological intervention cited by participants was redirection and distraction. Nurses widely applied these interventions to nearly all behaviours. This included things like providing the patient with supplies for colouring or, "sometimes we'll get them to fold towels and just unfold them because it keeps them busy" (Participant R). Including the patient in a recreation group, calling the family, and reorienting the person to their surrounding were also suggested. "We try recreation or other activities that are distractions from that behaviour. We let them call their family or we try to get family involvement" (Participant T). One participant suggested having health care aides walk the patient: "have aides and say, look, we need someone to walk him, because they need to get up and walk, can you just do a few laps?" (Participant Q), which allowed nurses to be doing other things.

Nurses viewed these interventions as a way to 'engage' the patient and to avoid time spent sitting idle: "keeping busy, we do have some activities. Colouring, cards, so that we can engage the patient as well and not just leave them idle" (Participant R). The goal was "making sure that they have things to keep busy" (Participant Q) to prevent undesirable behaviours. However, the activities provided did not require nurses to engage with PWD.

One alternative strategy was talking to the patient, which was seen as a way to either calm the patient down or to find out what might be contributing to the behaviour. "You can sit down, chat with them, 'What can I do for you?' [if] they're still not settling then you can offer them an oral" (Participant Q). Three nurses suggested toileting the patient, two others described ways to change the environment, and one suggested offering food/nourishment.

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Many participants had a trial and error approach to implementing interventions, without assessing for underlying cause: “try colouring, they don’t like that? Okay let’s think of something else...that didn’t work, lets try something else...” (Participant R). Other participants suggested the use of family as an intervention: “we would sometimes call the family, they would talk to their family on the phone,... but if it doesn’t work then definitely we have to use PRNs” (Participant Z). In contrast to many of the nurses who applied interventions without describing an assessment process, one nurse utilized non-pharmacologic interventions to specifically target an underlying need: “I’m definitely examining all the options, maybe the patient is restless because they aren’t able to tell me- maybe they need to use the washroom, maybe they want a snack, maybe they are thirsty, checking all those things (Participant Q)”.

Despite the frequent mention of redirection and distraction, few nurses mentioned its effectiveness. Furthermore, many described that implementing non-pharmacologic interventions takes time, time that they did not have. Nurses described several more advantages than disadvantages of using psychotropic PRNs (see Table 1). Nurses’ strong beliefs about the perceived benefits to PRN use likely contributed to their use and acceptance.

“Advantages is ... controlling- not controlling but helping with their behaviours and for patient safety in terms of - if they’re trying to crawl out of bed, fall, and stuff like that. We only have a limited amount of staff as well; it is helpful that we can give them something and then when they respond to it then we’re able to not have to be there one-on-one for the patient” (Participant Z).

As this participant identified, PRN use could reduce the need for more staff and free up nursing staff for other activities.

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Chemical restraints were viewed as preferable to physical restraints in situations where the behaviour did not resolve with redirection or distraction, “We’re really trying not to restrain the patients, because that can cause more harm too, right? So a chemical restraint would be preferable over physical for sure” (participant Q). While there was acknowledgement of physical restraint harms, some nurses shifted to a more positive view of chemical restraints, “it’s better than being tied down to a bed (participant Z)”. In other words, nurses viewed PRNs as the lesser of restraint evils.

Making the Patient Fit

This theme reflects how PRNs were used to maintain routine and order in an environment that prioritized traditional medical tasks. Participants’ descriptions highlighted that acute care was not designed for PWD and thus nurses engaged in practices to try and make them fit into the acute care setting.

Environmental Influences

A common sentiment from participants was that the acute care environment was not well suited for the PWD. Environmental factors such as unit busyness, noise, and staff factors, which included number and competency of staff, all influenced PRN use. Unit busyness was often related to medical acuity and nurses described having to prioritize their responsibility for many patients with varying degrees of acuity over PWD’s needs.

“There are definitely times where you’ve missed your break and you’ve got a code happening or something else is going on and you have this person who’s really agitated and someone else’s vitals are really bad. I go to what’s going to kill someone first, I got to look at this really sick patient. And I’ve seen that where you’re just like- you know

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what? Just give them the trazodone because we can't, I don't have time to sit there and try to bring them down. That's just one of those things" (Participant X).

The above quote highlights what many other participants described: the perceived inevitability of PRN use as a strategy to manage their workload. While one nurse disagreed: "that's not a reason to be giving anti-psychotics, because you have a heavy patient load" (Participant Q). Some nurses described feeling defeated and as though they did not have a choice but to use PRN medication. One of several nurses explained, "we try to provide, let's say, a calmer environment or consistency but it's the hospital. There's always something going on, alarms, things like that...there's not much you can do" (Participant T). Interestingly the behaviour monitoring strategies (chair and bed alarms for example) that several nurses discussed earlier seemed to contribute to the unsuitability of the environment that this nurse described.

Nurses' time and availability for applying non-pharmacological techniques for a PWD was often determined by the busyness of the unit. One nurse explained that, when the unit had less medically acute patients, she felt there was more time to spend providing reassurance and relaxation techniques instead of using PRNs.

"...when we had like a bunch of general internal patients...we certainly had our focus split between dealing with the chest tubes and et cetera from those patients... now we can certainly focus a bit more of our attention on like using other techniques to help relax people and make them feel more like, you know, like reassure them and stuff rather than just go straight to "Okay, you're agitated, let's drug ya." (Participant Y).

At times the physical environment contributed to PRN use. One nurse explained how the lack of private rooms could contribute to risk of PWD harming others, which distressed families.

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“Sometimes they can harm themselves or others, we don’t want that. We have very little private room so these patients are often in rooms with other people. Their families are upset because they’re so agitated” (Participant Q). Distressed family and fear of the PWD doing harm led nurses to use PRNs to try and quickly calm the environment.

Alternatively, the physical environment could be altered to successfully mitigate PRN use, as this nurse reported: “[the unit] painted the door so that it looks like something else, not a door [so] if they’re exit-seeking or something they won’t necessarily go through there” (Participant S). It was unclear how often nurses used the environment to their advantage in calming a PWD. It’s also worth noting that the time it takes to make environmental changes (such as painting a door) is longer than the time it takes for a nurse to administer a PRN.

Nurses viewed the displacement from home to acute care and the resultant change in environment as a destabilizing factor that could contribute to undesirable behaviours.

“It could be a change of place. They don’t know where they are necessarily. Everything is different. Their routine is changed from home” (Participant R). This excerpt also supported the category ‘Fitting the routines’, which is described later.

Unexpectedly, only three participants described staff factors, which included quantity of available staff and individual characteristics, as influencing PRN use. One nurse identified that the lower numbers of staff on nights meant higher staff to patient ratios and contributed to PRN use: “Night shift, they call a lot for PRNs if it’s not ordered. The limited amount of staff, they can’t, they can’t. The patient is agitated, they can’t be there all the time. There’s only two RN’s and two healthcare aids in the nights for 18, sometimes 20 people” (Participant T). In contrast, another participant felt that staffing was generally adequate, and that individual staff

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characteristics had a greater influence on whether de-escalation would be effective. “You can't just have an extra person on because somebody's agitated for 10 minutes... You also run into problems of people who are really bad at calming people down and actually make it worse and you just don't want them to go near them” (Participant X). The above quote highlighted that sufficient numbers of staff alone did not remedy environmental constraints leading to PRN use. While there were many environmental factors that influenced PRN use, the most prominent finding was the low priority placed on the needs of PWD in the acute care environment and the perceived amount of time required to address behaviours in PWD.

Fitting the Routines

It was evident that hospital and unit processes created routines that nurses were accustomed to working in and, when PWD were admitted, these routines were disturbed. Though largely invisible to the nurses, several routines were deeply engrained and impacted nurses' decision-making as they cared for PWD. One example of a routine was admission to the unit. The excerpt below acknowledged how, on admission, the process and associated tasks actually may create behaviors:

“We have a protocol that we have to do...there's...a lot of people that are around...transferring them from one bed to another...everybody's talking... [the PWD] not knowing why or what we're doing...blowing up a blood pressure cuff is painful sometimes for some patients. With dementia they don't know, 'why are you hurting me'. I think that some of those create behaviours that we as nurses sometimes don't remember...because we're focused on what we need to do” (Participant R).

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Several participants expected a PWD to have behaviors early in the admission, “it’s usually when they’re first newly admitted, they’re pretty unsafe” (Participant T). However, rather than identifying ways to support the person’s previous routine, they described using PRNs to correct sleep disturbances and facilitate adjustment to the unit with newly admitted patients.

“When you get a new admission, they’re in a totally different environment, the sounds are different, the people are different, the lights are different, so they’re agitated. Give them a week and they get better but that’s because they’re getting used to it...used to the people, the routine... We can try a lot of different things but if they’re still agitated, which might not be uncommon, then you might get the PRN loxapine or something just to settle (Participant W)”.

Nighttime was associated with another routine when nurses had a lower threshold for administering PRNs. PRNs were used for nighttime behaviours as way to maintain sleep patterns and day/night routine with many of the nurses emphasizing: “when we have patients that are new...we’re trying to make them sleep at night, sometimes we might use those medications to get their clock resettled” (Participant Q). It was imperative to nurses that they normalize the sleep patterns of a PWD. “Sometimes it’s just a matter of a sleeping pill be it zopiclone or even melatonin, just getting their days/nights fixed sometimes can be enough to help with agitation or whatever” (Participant Y). Another described the ‘dual benefit’ PRNs have of resolving behaviours and promoting sleep, “for overnight, calling out kind of behaviours, crawling out of bed, that kind of stuff. Overnight we usually use trazodone or Imovane (zopiclone) or something like that, just to help them sleep as well.” (Participant Z). This further illustrated the types of behaviours for which nurses would use PRNs.

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While there was great support for PRN use at night, many nurses also indicated that there was also an ‘appropriate’ time frame to administer these medications as to prevent disruption of the day/night routine. Time frame specifics varied among the nurses, as one noted: “there's a time frame. You don't give anything to settle a patient after one or two pm. The idea is to get them to sleep through the night” (Participant W) while another nurse emphasized “unless someone’s really aggressive I will not give a sleeping pill or PRN after a certain time because I know what’s going to happen the next day (Participant X)”. They both described a similar goal: wanting the PWD to sleep through the night but not the next day- (a finding further described in the next category). There were many reasons why nurses did not want PWD sleeping through the day. This participant provided a glimpse into the effect ‘untimely’ PRN administration can have on patient and staff routine.

“We recently had this with a patient,... we had managed just to get him stabilized and he was good for about a week- he would sleep at night...then he had one bad night... at five in the morning they decided to give him a trazodone.... then that patient slept all day. His scheduled medications that we had figured out were changed, there was a decreased PRN... now I come on and he’s awake all night and agitated because I’ve got nothing to calm him down and no one wants to give anything else...” (Participant X).

Nurses’ efforts were to make PWD fit into the unit routines and once established, the need for PRNs decreased: “sometimes it’s all about finding a new routine for the patient and then you can see okay we don’t need that PRN anymore” (Participant Q).

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Seeking Middle Ground

Building on the previous category, this category reflects how nurses tried to find what some called “middle ground”, which was a balance between disruptive behaviors and over sedation. Participants found it challenging to balance disruptive behaviors and over sedation and, to some extent, used PRNs to manage their own distress. Effectively using PRNs “takes a bit of finesse” (Participant X), something several nurses agreed with as they acknowledged not wanting to overmedicate patients but indicated that some degree of medication usage was often necessary to dampen the undesirable behavior to a more manageable level. “Giving them these medications yes it does settle them but it also takes away their ability to do things that they want to do, it’s hard to find somewhere in the middle where like they can still be able to be themselves, do what they want” (Participant Z).

Nurses found it difficult to see a PWD distressed, “the amount of stress I see some people going through, if [medication] can help keep them from that... certainly from my perspective... it seems like it’d be better not to have that stress” (Participant Y). Another nurse voiced some of the impact that witnessing that distress had on her decision-making: “because you see how it affects them, you’re with them, you see the agitation, aggression. Yes, you want to do something about it but at the same time do you want to give them so much?” (Participant Z). Adjusting the PRN until the undesired behavior was managed was one way nurses found middle ground.

“We do want them to settle quickly, so they don’t do more harm...but then we start backing off. Okay, this one makes them too drowsy- that’s not our goal. Let’s wean them off some of these other ones and try maybe a lower dose or a different medication that has a good effect, a proper effect- now they’re sleeping cycle is a little more settled, now they’re getting used to our routine” (Participant Q).

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As this quote demonstrates, nurses assumed an understanding of the PWD's emotional state and targeted the distress with a PRN. There were many factors nurses were thinking about in trying to find the middle ground for each PWD.

“I've definitely seen where this patient is acting out so let's give a bunch of medications to settle them. Then all of a sudden like they're snowed right, when you don't want to do that but at the same time you don't want to tie them down...it's like finding a middle ground” (Participant Z).

These decisions were often ethically laden and nurses believed that using these medications was in the best interest of the PWD.

“When you see a patient that's anxious and agitated and sometimes crying, weeping ‘Please don't give me anything that's going to make me fuzzy’ - that's not what we're trying to achieve by those medications and that's why we need to try the one that works for that patient...no one wants to walk around feeling “I can't remember anything anymore, I don't recognize simple day-to-day things”...the [PWD] will never necessarily understand...why we're giving them medication however, we can see evidence when we find the right one for that patient- they're settled, they're happy, they're content...not snowed, not [sitting]in a chair all day, [they can] still walk and do things... because this medication is working for them” (Participant Q).

As the above nurse identified, a PWD sometimes understood the effects the medications had on them. Nurses considered this but seemed to believe that rather than finding an alternative strategy for managing the undesirable behavior, it was a matter of finding the right medication, or combination of medications.

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Collective ‘we’

Nurses used language that contributed to a particular nursing culture where PRN decision-making was considered a collective decision rather than an individual nurse’s decision. There were two branches related to this finding: 1) where the use of “we” suggested there was a common understanding for how all nurses practiced on the unit and 2) where the use of “we” suggested a diffusion of responsibility when the decision or consequence of the decision was perceived to be negative.

Nurses’ use of ‘we’ demonstrated a belief in a communal practice. Despite being asked to specifically respond about their individual practice, participants often described group practice.

“we give it[PRNs] all the time, it’s very common on our unit...unless they show like an actual act of aggression or that *we can’t redirect* them in another way, like *if we can’t just use distractions*...then *we would give* the medication, it’s not really something *we* try to do *unless we don’t have another choice*” (Participant Z).

Nurses assumed that, because they did a practice, others on the unit also do: “If they have recent vitals *we’re going* to be keeping track of that [prior to PRN use]” (Participant X). However, she was the only nurse who said she would do so. There were several other situations like this, where one nurse spoke of a believed group practice using ‘we’ but then no other participants described it in their decision-making. This highlights how even when nurses were describing their individual practices they identified them as group practices.

Interestingly, one participant responded from the perspective of the group initially, but then transitioned to individually identifying with the decision. “*We often or I often* think maybe they need some stimulation. Then *I may try* crosswords...sometimes it takes a little bit longer,

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but *we try, or I try- most of the nurses I think try* by trial and error” (Participant R). The latter part of this quote highlighted the belief that most nurses practiced similarly. It is unclear if the change to describing individual strategies signified that each nurse had specific strategies, or if they were commonly used practices on their unit. Nurses referred to non-pharmacological interventions in general as a communal practice, as something they would all try to do before a PRN: “*we’ll try to do other things first*” (Participant S) and “*we’re really moving towards trying all other avenues before we go straight to antipsychotics*” (Participant W).

The use of *we* in diffusing responsibility was used when the action was one that could draw judgement. “...*we decided that we should give him a PRN, but obviously he wouldn’t take it orally, and then we had to get security to come in and help settle the patient while we gave him the PRN*” Participant (Z). Nurses used ‘*we*’ in situations which diffused an action like PRN use across more than one person. For example, Participant W says “*I give them the option. There’s two of us and I say, “can you take this medicine for me, if you cannot we’re going to have to give you a shot”*. They get the option”. In this quote, the point at which the nurse gave the PWD an option is perceived as positive and framed as an individual practice using ‘*I*’. However, the quote also exemplified how the administration of the PRN was then no longer an individual decision, but something decided together, using ‘*we*’.

Throughout the interviews staff identified individually with a decision when it was viewed as a positive decision with the potential for a positive outcome. When there was little ambiguity in the situation and nurses were more certain with their decision, they seemed to identify individually with that decision as well. Situations of certainty included when the behaviour was violence or physical aggression. This is when nurses most often described their decisions as individual, using ‘*I*’. Situations of uncertainty included when a PRN was needed

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because redirection and distraction did not resolve the behaviour. Here nurses refer to group decision-making, using 'we'.

Future Telling

Nurses used PRNs to prevent behaviours predicted to happen if they did not use medication. Their decisions about using medication relied heavily on identifying patients' patterns of behaviour, either that they had witnessed or had been passed on to them from other nursing staff. Using PRNs to head off behaviours was collectively thought to be a good idea. By 'knowing the patient', nurses believed they could anticipate behaviours, which allowed for quick recognition and early medication administration (before the behaviour escalated). They relied heavily on their abilities to predict behaviours before they happened which led to nurses often bypassing assessment of the patient for potential underlying unmet needs or physical causes. Two categories related to future telling were identified from the interviews: knowing the patient and finding patterns and predicting behaviours.

Knowing the Patient

All participants wanted or needed to 'know the patient', but how they accomplished that differed. Nurses used a range of information sources to guide their interpretation and management of the PWD's behaviour. For example, some nurses wanted to know personal details about the PWD, while others wanted information about the patient's behaviour patterns in hospital. Several nurses indicated that information about the patient's previous level of functioning and behaviours, also known as 'baseline,' was considered important and could be obtained from talking to the patient, family, or looking in the chart. Nursing handover, report,

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and nursing notes were also identified as ways participants acquired information about behaviours.

Some nurses reported knowing the patient through background personal information. They would use this personal understanding of the patient to try to match the behaviour to known historical information and then match the intervention to the behaviour based on that history. One nurse explained that, when family comes, “I like to ask them what their career was, what did they like to do, and what were their hobbies, that sort of thing” (Participant S). Later, she described how that information about the person influenced her understanding and interpretation of the person’s behaviour: “If you always see them agitated at a certain time of day, there might be something about that time of day, like is that the time of day they walked their dog or fed their dog, or is that they time they went to work or that sort of thing”. Further, the nurse attached personal meaning to the behaviour: “you find out about their history and then suddenly things they’re doing make sense. If somebody was say a nurse, then you understand why they keep following you around, or if they were working in construction then they often just want something to build or do” and could then tailor an intervention to that patient. This approach to understanding behaviours seemed to result in greater use of non-pharmacological interventions. However, there was still evidence of using predictive patterns to deliver PRNs based on personal histories “as you get to know them, and if you can see it’s coming, the agitation. If you can catch it before it gets really bad, that’s the time. A pill kind of thing” (Participant S).

In contrast, some nurses wanted information about patient behaviour patterns in hospital. Information related to this was mostly sought through patient handover and report. The nurses that looked to handover and report generally sought information related to PRN use and patterns of administration rather than trying to understand the behaviour in that moment. “Your biggest

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information is at hand over from other nurses and you rely really heavily on that because if it [the behaviour] is a consistent issue then we are able to do it [use a PRN] scheduled, but until then it's really passed down" (Participant X). Further, she provided an example of the impact missing information from report can have: "If I come on, say for a nightshift, and there's someone who typically tends to get agitated at night. Unless someone passes that knowledge onto me, I might not know what's going on until they start getting quite agitated". This demonstrated a reliance on passed down information rather than on an assessment of the PWD and potential underlying causes of the behaviour.

Information from shift report primed nurses to consider PRNs, which worked to propagate the use of PRNs in certain patients: "one thing that's helpful is if they write on our team sheets, sometimes they'll say, 'suggest a PRN for a patient this time' or 'typically sundown's or sometimes it's on our MAR [medication administration record]" (Participant X). This type of information also identifies how nurses worked together to promote a common mindset of strategies to use on their unit to maintain PWD sleep/wake cycles and make them fit on the unit.

In contrast, the following excerpt provides an example of how knowing the patient reduced the use of PRNs in this particular patient. "Most staff know him very well now so we often are able to redirect within what he's thinking. He will ask like, 'when is the meeting? Is that this afternoon?' We're like no, that is set for Wednesday. Today is Monday, so we've got time to prep for that. He's OK then, he is calmer. He's able to move on from that thought." (Participant R).

The type of information sought by nurses seemed to be based on their understanding of the potential etiology of behaviours. The approach which sought to match behaviours with

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personal history seemed to promote greater use of non-pharmacological interventions.

Participants valued acquiring as much knowledge about patients as they could, and this knowledge both prevented and promoted PRN use.

Finding Patterns and Predicting Behaviours

This category expands on how nurses used their knowledge of the PWD to predict and pre-empt behaviours. Participants recurrently described using their knowledge of the patient to anticipate behaviours and pre-emptively treat behaviours with PRNs. Behaviour monitoring, strategies that were mentioned earlier, were also a way nurses identified patient patterns.

“We’ll sometimes give it as well if we notice; even if it’s not scheduled; if we’re noticing a pattern of behaviour. Let’s say, in the evening, around 6 o’clock, the patient frequently tends to become agitated, increased confusion, then we may encourage using a PRN, at around five o’clock or five thirty pm just to try and head that off” (Participant X).

Participants reported familiarity with regularly scheduled psychotropic medications being used in the early evening for sundowning. Nurses recognized this prescribing pattern and would give PRNs that then became scheduled, thus reinforcing the pattern. “If you are always giving a PRN and it’s 4pm and it’s working, and they’re settled and they’re calm, maybe that’s their new baseline. Then the doctor will take that into consideration and it becomes scheduled” (Participant W).

Nurses used their knowledge about each PWD and their unique behaviour patterns to decide whether or not PRNs were required for a certain behaviour. “You kind of learn the patient and you learn what their patterns are...you know hey this is a patient I need to consider when I see these particular signs that they can go off. This [other] patient, I can probably redirect them

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it's fine”(Participant X). The more time the PWD spent on the unit the better the nurses felt they could identify patterns and anticipate behaviours, “usually our dementia or delirium patients stay longer so we have a little more time to notice triggers, notice what their behaviours are” (Participant R).

In some cases, nurse’s knowledge of PWD and their patterns prevented use of PRNs: “You can anticipate certain behaviors or understand where they maybe come from. Obviously, we might know it’s, like, oh, this person gets agitated when they’re wet or something so rather than be like ‘Oh, they’re agitated let’s give a [PRN]’ we can be like ‘no, they need to be changed’. I guess we can apply that historical experience to that particular patient” (Participant Y). This patient was fortunate because their particular pattern was correctly identified as secondary to wetness, however other patients can have the cause for their behaviour misidentified when relying on patterns. Several nurses described that knowing a PWD pattern allowed them to use PRNs to ‘head off’ behaviours. This could contribute to continued PRN use when another intervention could address the true cause. It was not clear if nurses relied on previous patterns in addressing new emergent behaviors or behaviours outside a PWD’s usual pattern.

Apart from individual patient patterns, nurses expected a general disease pattern in PWD. This included an acceptance that behaviours were an expected part of dementia. Underlying this acceptance was the belief that behaviours were inevitable and due to the neurodegenerative disease of dementia: “it’s hard for dementia patients because the way they think is different” (Participant Z). These beliefs led nurses to assume that the underlying cause of the behaviour was non-modifiable and part of the dementia disease process, which led most nurses to

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infrequently assess for other underlying causes before PRN use. Moreover, as the quote below illustrates, delirium was rarely considered later in admission.

“Certainly, as a new patient you need to explore all those options for the first couple of weeks because it may be an infection thing that is causing them to be restless. If it isn't anymore after a week or so then we can get to know a little bit of their personal habits and realise that we don't always need to prescribe a PRN for that patient. You also get to know when they are not acting like themselves too and maybe they do need something to settle them because something's got them going. It isn't necessarily that their sick again, it's just there having an off day just like everyone else” (Participant Q).

If a PWD exhibited behaviors that could signify an acute process after they had been on the unit for awhile, the behavior was not recognized as a potential acute change; rather, it was considered as a ‘bad’ or off day.

Nurses described difficulty understanding and communicating with people with dementia. As one nurse noted “you ask them what it is they need or want or what they’re seeking, they can’t seem to either express it, say it exactly, or they don’t even know” (Participant T). Which, as another interviewee suggested, could lead to responsive behaviours “sometimes people are acting out because they can’t verbally explain to you what they want, and when you can’t understand what they’re trying to tell you, then things aren’t getting through” (Participant W). Perhaps these communication challenges contributed to nurses use of PRNs rather than assessing for possible delirium and or unmet needs when PWD exhibited undesirable behaviours.

Conclusion

The findings from this study highlight some of the complexities of nurses' decision-making in the administration of psychotropic PRNs to hospitalized PWD. While nurses described their decisions as being largely based on the patient's behaviour, this study found that there were a number of more subtle influences. The use of PRNs was a way for nurses to maintain control over their environment and is reflected in the first theme Legitimizing Control. Safety was a prominent factor that nurses were conscious of throughout the decision-making process. Nurses adhered to trying to keep patients safe through 'Labeling behaviours agitation and aggression' and then using PRNs 'In the name of safety' and 'If redirection and distraction do not work'. Organizational and unit routines strongly influenced nurses' PRN decision-making, which was represented by the second theme 'Making the Patient Fit'. Nurses adhered to routines in their practice and they used PRNs to align PWD with unit routines. They did this through 'finding middle ground', where PRNs were intended to prevent disruption and maintain unit order while avoiding over sedation. Further, the category 'collective we' described the impact of unit culture on nurses' decision-making. The third and final theme, Future Telling, provided insight into how nurses used their knowledge of a PWD to predict behaviours, which worked to both prevent and promote PRN use. These findings are a first step in understanding nurses' PRN decision-making and provide the groundwork for future studies.

Chapter 4

Discussion

Nurses' decision-making in the use of psychotropic PRNs is an under-researched area with only a few studies, limited to LTC or psychiatry. To my knowledge this is the first study undertaken to assess nurses' decision-making in administering psychotropic PRNs to hospitalized PWD admitted to acute medicine units. The key findings from this study were that nurses focused on managing risk, used cognitive shortcuts, minimal or absent assessment, and lacked knowledge related to managing behaviours and symptoms of dementia. Additionally, the role of the environment, which consisted of organizational and unit routines, played an important role in nurses' decision-making.

Balancing Harms and Risk

Similar to other scholars' findings, nurses in this study viewed keeping patients safe as a key aspect of their work (Dahlke, Phinney, Hall, Rodney, Baumbusch, 2015; Dahlke, Hall, Baumbusch, 2017; Dahlke, Hunter, & Negrin, 2019; Digby, Lee, & Williams, 2016; Ludwick, Meehan, Zeller & O'Toole, 2008; Moyle et al., 2010). In Dahlke, Hunter, & Negrin's (2019) review of acute care nurses' perspectives of safety and harm, they found that nurses seek to keep hospitalized older people safe by using physical and chemical restraints to limit mobility, as a way to prevent falls, manage workload, and minimize patient removal of medical equipment. This was similar to the current study where PWD were considered safer when they were less active and less mobile.

In addition, behaviour monitoring, constant observation, and putting PWD close to the nursing station were safety strategies that nurses used in this study to justify controlling patients

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in a system that focused on risk aversion and efficiency. Nurses perceived that the acute care environment was not an appropriate setting for PWD, and this may have contributed to liberal application of safety measures in an effort to protect the PWD from the environment. Curtis et al. (2013) looked at balancing technical safety and therapy in the design of psychiatric wards and found that the heavy reliance on technical safety and surveillance of patients impeded therapeutic care. Likewise, tactics to establish safety were oriented towards the physical environment and focused on physical risk, as is seen in the monitoring strategies reported by nurses in the current study, at the cost of other important aspects of a safe, healing environment (Curtis et al., 2013).

Many scholars have identified that hospitalization increases risk of functional loss among PWD (Butcher, 2018; Dahlke et al., 2017; George, Long, & Vincent, 2013; Zisberg, Shadmi, Gur-Yaish, Tonkikh, & Sinoff, 2015). In a case report by Butcher (2018), the author describes ‘cascade iatrogenesis’ - highlighting how the misinterpretation of a behaviour in a person with dementia can lead to use of sedative medication, in turn causing drowsiness and further reducing mobility, which increases functional decline as additional complications such as muscle wasting and pressure ulcers ensue. The lack of nurse recognition of the influence of hospitalization upon functional decline was evident in this study where nurses focused on trying to control risk of physical harm to the PWD, staff, or other patients. Nurses in this study not only emphasized the risk of not using PRNs but also downplayed the potential harms of PRN use. PRNs were perceived as relatively benign in risk and had numerous benefits; therefore a significant portion of behaviours were deemed as higher risk of harm than administering a PRN. Within acute care Kwasny et al. (2006) found that nurses had liberal attitudes towards PRN use and placed high importance on using chemical restraints to protect staff and manage agitation. Janzen et al (2013) support this finding with their qualitative study in LTC where nurses found PRN medications to

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be quick, easy, effective, and long lasting. Additionally, Janzen (2013) concluded that nursing staff believed the gained benefit from non-pharmacologic interventions did not outweigh the time invested in delivery, similar to the findings in the current study.

The strategy of ‘redirection and distraction’ as described in the present study, required minimal nurse engagement or meaningful interaction, as the PWD was often given an activity to keep them busy. Qualitative studies from LTC show that while nurses frequently report using such strategies, up to 89% of the time (Ervin et al, 2012) documentation practices of non-pharmacologic interventions has been poor (Lindsey & Buckwalter, 2012; Martin et al., 2018). When there was documentation, distraction and redirection were the most common (Lindsey & Buckwalter., 2012). Similar to the current study, Yous, Ploeg, Kaasalainen, & Schindel Martin (2019) found that nurses “used simplistic forms of non-pharmacological approaches” (p.8). These strategies required low investment from nurses in terms of time and resources and sometimes nurses did not even need to be present (Yous et al., 2019).

Abbreviated or Missing Assessment

This study suggests that nurses use many cognitive shortcuts in their decision-making about whether to administer psychotropic PRNs. This was based on underlying beliefs about dementia that often led them to jump to conclusions about the cause of behaviours without completing an assessment. Nurses’ predictions of what could happen if they did not give a PRN also influenced their decision-making. Cognitive processes involved in decision making can be thoughtful and systematic, or quick and intuitive. Cognitive shortcuts or heuristics come from behavioural economics and cognitive psychology and refer to quick, intuitive mental processes used to process information and make decisions (Balakrishnan & Arjmand, 2019). Balakrishnan & Arjmand, (2019) argue that “inappropriate reliance on heuristics and intuitive thinking in an

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unfamiliar or complex situation can lead to error and harm” (p.37). Cognitive shortcuts in decision-making are not unique to nursing practice and have been described in other areas including medicine, allied health, and business (Balakrishnan & Arjmand, 2019; Matlock et al., 2017; Nouri, Imanipour, Talebi, & Zali, 2018; Vazquez-Costa & Costa-Alcaraz, 2013). These shortcuts can allow people to make timely decisions, however, they may also perpetuate bias and cognitive errors (Miles, 2010). Few studies have looked specifically at nurses’ implicit biases, however what does exist in the healthcare literature suggests that implicit bias relates to less investment and effort, adversely affecting assessment and care (Narayan, 2019). The use of shortcuts may be one way in which nurses try to cope with uncertainty. In the Cranley, Doran, Tourangeau, Kushniruk, & Nagle (2009) narrative review of 23 studies on nurses’ clinical uncertainty, the authors found that experience, attempting to predict events, and verifying with peers were techniques nurses use when faced with uncertainty. Similar to the findings in this study, Cranley et al. (2009) found that nurses used heuristics, or mental shortcuts, in situations of uncertainty. Nurses in the current study described deciding about PRN use as a situation that involved varying degrees of uncertainty.

Nurses’ interpretation of behaviours of PWD could be greatly influenced by their personal experience with this population, which in turn impacts their decision-making regarding interventions. Several nurses in this study recalled either witnessing or experiencing physical aggression. Thus, they may perceive PWD as more threatening or at greater risk of harming themselves or others than is true in the given situation. Aggression was considered an automatic reason for PRN use, so when nurses encountered a situation in which they predicted aggression, a PRN was used.

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In general, nurses in this study did not seem to have a systematic or consistent approach to assessing behaviours. For example, evidence of the nursing process (assessment, diagnosis, planning, implementation, evaluation), which is a basic part of nursing education and practice, was not evident in participants' descriptions of their decision-making. Several studies suggest that behaviours in PWD may be a response to the environment, healthcare staff approach, expression of unmet need (Cohen-Mansfield, Dakheel-Ali, Marx, Thien, & Reiger., 2015), or related to an underlying physical cause such as pain, constipation, or delirium (Feast et al., 2018; Sampson et al., 2015). In order to recognize the most likely contributors and intervene accordingly, an assessment is required. Findings from this study showed that, although nurses considered a change in environment as a cause for behaviour, unmet needs and underlying physical conditions were rarely mentioned, despite specific questions to participants related to 'what else' may contribute to behaviours. Most notably, no participants suggested assessing for pain or mentioned pain as potentially contributing to the behaviour. This is critical as pain has been consistently underrecognized and undertreated in hospitalized PWD (Feast et al., 2018; Lichtner et al., 2016; Sampson et al., 2015) and those in long-term care or nursing homes (Cohen-Mansfield et al., 2015). Additionally, Sampson et al. (2015) found a strong association between pain and aggression in PWD admitted to general hospital wards. Using psychotropic PRNs for aggression without a complete assessment suggests that the underlying cause may remain untreated.

Interestingly, while nearly all participants mentioned the need to rule out delirium on admission, there was no mention of needing to rule out delirium when behaviours resurfaced later in the admission. This finding was supported by Gallagher et al. (2016) who found that across 35 hospitals in Ireland there was suboptimal assessment in PWD prescribed

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antipsychotics. The findings from this study agree with the suggestion by Neumann et al. (2015) that nurses' "routine and lack of proper assessment of symptomology" may lead to overuse of psychotropics (pg. 253).

Nurses in this study often relied on nursing hand over to get information about a PWDs behaviour, rather than individual assessment of potential underlying cause. A study by Carder (2011) similarly found that healthcare aides based their decision on patient's non-verbal cues and "residents' usual behaviour and unique ways of expressing symptoms" (Carder, 2011, p. 53). Also highlighted was the healthcare aides practice of learning about their patients through tacit forms of knowledge, including interpreting facial expression and body language, and explicit knowledge through communication with the RNs. In contrast to the current study, Carder et al. (2011) found that behaviours prompted medication administering healthcare aids to consider factors such as constipation or pain. Of note, healthcare aides are unregulated healthcare providers and have much less education than do professional nurses. It is also important to note that Carder's study took place in an assisted living facility in the United States. Not only do Canada and the United States have different healthcare systems but priorities between community and acute care may also differ.

One could argue that by not assessing a PWD's potential physiological or unmet needs prior to administering PRNs, nurses are not maintaining the functional needs of this population (Bail & Grealish, 2016). Bail and Grealish (2016) suggested that nurses ration care away from hospitalized complex older adults which contributes to functional and cognitive decline (2016). The current study suggests that in addition to nursing rationing activities such as mobility, hydration, and nutrition, they also ration assessments of hospitalized PWD.

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Knowledge and Education

This study found that nurses were able to describe dementia as a degenerative brain disease and could articulate how to recognize delirium early in admission; however, there were gaps in nurses' knowledge about behaviour identification and assessment. Dahlke et al. (2019) similarly found that acute care nurses had moderately high knowledge related to older adult pathophysiology but less so with respect to function, cognition, and abilities of hospitalized older adults. Many nurses held an erroneous, deterministic belief that having dementia directly equated to behaviours, a finding Yous et al. (2019) also noted in their qualitative study which looked at acute care nurse's experiences in caring for people that exhibited responsive behaviours. The biomedical model that is entrenched in acute care hospitals seems to perpetuate disease focused care and further shapes nurses' decision-making related to psychotropic PRN use. While there is no disputing that specific anatomic neurodegeneration relates to particular symptomology and behaviours (Levenson, Sturm, & Haase, 2014; Mortimer, Likeman, & Lewis, 2013), findings from the current study show that nurses were more inclined to attribute behaviours to the disease instead of assessing for a potentially underlying cause.

An integrative review by Digby et al. (2016) found that in acute care, nurses' lack of knowledge and education has frequently been identified as a constraint to providing optimal care to PWD. While the majority of nurses in the present study expressed the desire for more dementia related education, they seemed to expect their employer to provide this education. Scholars report that nurses want continuing education to be accessible, integrated into their work and easily available (Bahn, 2007; Govranos & Newton, 2014; Melnyk, Gallagher-Ford, Fineout-Overholt, & Kaplan, 2012). As a self-regulating profession, nurses are expected to reflect and identify individual learning needs, and then address those needs through continuing education

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(College and Association of Registered Nurses of Alberta [CARNA], 2019). Just one nurse in the present study believed it was her professional responsibility to seek further dementia education as she was often caring for PWD in hospital.

Nurses, in this study, did not seek out additional dementia education, but rather learned about dementia while on the unit through a variety of informal means. Occasionally, “tidbits” of information were passed on by other professionals to nurses. For example, when nurses would call physicians to get PRNs ordered, brief knowledge sharing would occur which most often related to a recent study. This highlights the informal way knowledge is shared on the unit between disciplines.

Overall, nurses’ deficit of foundational knowledge in concert with the patchwork way in which information was acquired and shared lead to an incomplete understanding of dementia. Findings from this study suggest that nurses require not just education that is focused on assessing, understanding, and responding to PWD’s expressions, unmet needs, and behaviours but also an organizational shift towards a unit culture of teaching and learning, which encourages discussion and reflection.

The Acute Care Environment

A dominant finding from this study was the impact of environment, which included organizational and unit routines, upon nurses’ decision-making related to administering PRNs. The important impact of context on nurses’ decision-making has been suggested throughout the literature (Casterle, Goethals, & Gastmans, 2015; Dowding et al., 2016; Estabrooks, Squires, Cummings, Birdsell, & Norton, 2009). Casterle et al. (2015) conducted a qualitative descriptive study to understand the impact of context on nurses’ decision-making related to physical

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restraints by interviewing nurses (n=21) on geriatric wards in Belgium. They found that contextual factors including interpersonal networks, policy and guidelines, physical environment, time of day, and staff availability all influenced nurses' decision-making when considering application of physical restraints. Casterle et al. (2015) found that nurses' decision-making involved discussion of physical restraint use at shift change. In the current study, nurses did not discuss PRN decision-making during shift change, but instead gathered information about behaviours to watch for, which could result in pre-emptive administration of PRNs. One reason for this difference may be the nurses' perception that physical restraints posed more harm than chemical restraints, therefore they sought to have the decision to use physical restraints validated by discussion with their peers. Ultimately, Casterle et al. (2015) concluded that "context can have a guiding, constitutive, or decisive role" in the decision-making process (p.649).

Nurses in this study described that psychotropic PRNs were used early in admission, and this is in keeping with other studies that have found hospital admission to be a time of 'disruption' for staff, carers, and PWD. Through observations and interviews with carers of people with cognitive impairment who had been admitted to acute care, Clissett, Porock, Hardwood, & Gladman (2013) suggest that "healthcare professionals find the admission of patients with cognitive impairment to be disruptive and that they respond to this disruption in ways that appeared to enable them to feel in control" (p. 1825). In Clissett et al. (2013), healthcare providers responded to disruption and gained control through communication, prioritisation, avoidance and emotional detachment. Similarly, respondents from the present study sought to control disruption associated with admission by controlling behaviors exhibited by PWD with the use of psychotropic PRNs. Scholars have acknowledged that the rigid structure of hospital and unit routines makes it difficult to provide individualized care to PWD, however,

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nurses' flexibility can overcome some of this effect (Pinkert et al. 2017). In the present study nurses identified that the acuity of patients on the units could influence their ability to be flexible in using non-pharmacological interventions for undesirable behaviours of PWD.

A surprising finding was nurses seemingly unintentional description of decisions as collective. Nurses did not seem to be consciously aware that they were responding to questions with 'we' when asked about their individual practice. Perhaps their use of 'we' reflected unit cohesion and nursing unity. In contrast, the use of 'we' may be a way of diffusion responsibility. The clinical and practice implications of the finding are unknown and warrants further exploration. It would be interesting to further explore whether this helps offset burnout and blame and personal moral distress thus creating a better environment for nurses to work in. Alternatively, this form of 'group think' could diminish nurses individual reflective practice because they do not see these decisions as their own.

Limitations

Managers on the units had voiced interest in looking at PRN use in people with dementia which suggests that the units are already acutely aware of some of the issues surrounding PRN use in PWD. They may have proactively implemented education strategies to mitigate use of PRNs. Thus other units who have not had education about responsive behaviours may be using nonpharmacological interventions less frequently than the nurses in this study. Another limitation of this study is that data collection accounted only for nurses' verbal report of their decision-making process, which could be significantly different than what occurs in practice. Decision-making is a complex and multifaceted process which can be difficult to articulate. Recall and description of decision-making may leave out aspects of the process that are not apparent to the participant, and some aspects of decision-making are by nature not obvious to the

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participant such as the case with mental heuristics. The cognitive processes involved in decision-making occur alongside a clinical process making it difficult for nurses to articulate and for researchers to interpret their decision-making.

Implications for Practice

The findings support that knowledge is necessary but insufficient to change practice. A comprehensive assessment of the environment prior to designing interventions to influence PRN use is a necessary step to ensure that any intervention aimed to change behavior of nurses or other professionals is correctly targeted to address the problem at hand (Sidani & Braden, 2011). Instruments have been developed to assess the contextual features (e.g., presence of a champion) of nursing units that may make them more or less likely to use evidence-based practice (Estabrooks et al., 2009). Further work to understand the contexts of nursing units may be helpful to determine how best to intervene to support evidence-based practice related to PRN use. Findings of the present study may prompt nurses to critically reflect on their practice and to consider what guides their decision to administer psychotropic PRNs to hospitalized PWD. Reflective practice contributes to self-awareness, and while it may cause discomfort, this is "...typically followed by relief and a rush to reconsider patient care" (Miles, 2010, p. 202). This study provides current and soon-to-be prescribers with a better understanding of the use of ordered PRN medications. Ideally, this study will trigger non-judgemental and meaningful discussion amongst those prescribing, those administering, and those receiving these medications.

Implications for Research

This study provides the groundwork for future studies related to nurse's decision-making related to administering PRN medications. This could include secondary analysis of the data through a decision-making theory lens. Such an analyses could complement the current study by providing a focused and theoretical perspective. Additionally, a mixed methods study utilizing observation about how practices are enacted alongside collection of quantitative data to better understand the frequency and amount of psychotropic PRN administered to PWD in acute care settings would answer questions related to frequency and dose of PRNs administered for hospitalized PWD. Future studies could further examine the influence of nurses language on unit culture, including exploration of 'collective we'. Additionally, examining the influence of the least restraint policy on nurses' decision-making related to PRN administration would be beneficial in better understanding the impact of policy.

Conclusion

This study describes how nurses decide to administer psychotropic PRNs to hospitalized PWD. Some findings were consistent with the existing literature such as the impact of routines, the acute care environment, organizational influence, and a focus on safety. There were also novel findings from this study, including the lack of assessment prior to psychotropic PRN administration, and the nurses' collective responses regarding decision-making. Nurses use of PRNs to accomplish tasks and maintain control in a biomedically focused environment supports previous research suggesting a need to shift the focus in acute care towards meeting the needs and maintaining function of hospitalized PWD. This study provides an impetus for further exploration and organizational change as there is a direct impact on patient care.

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Table 1

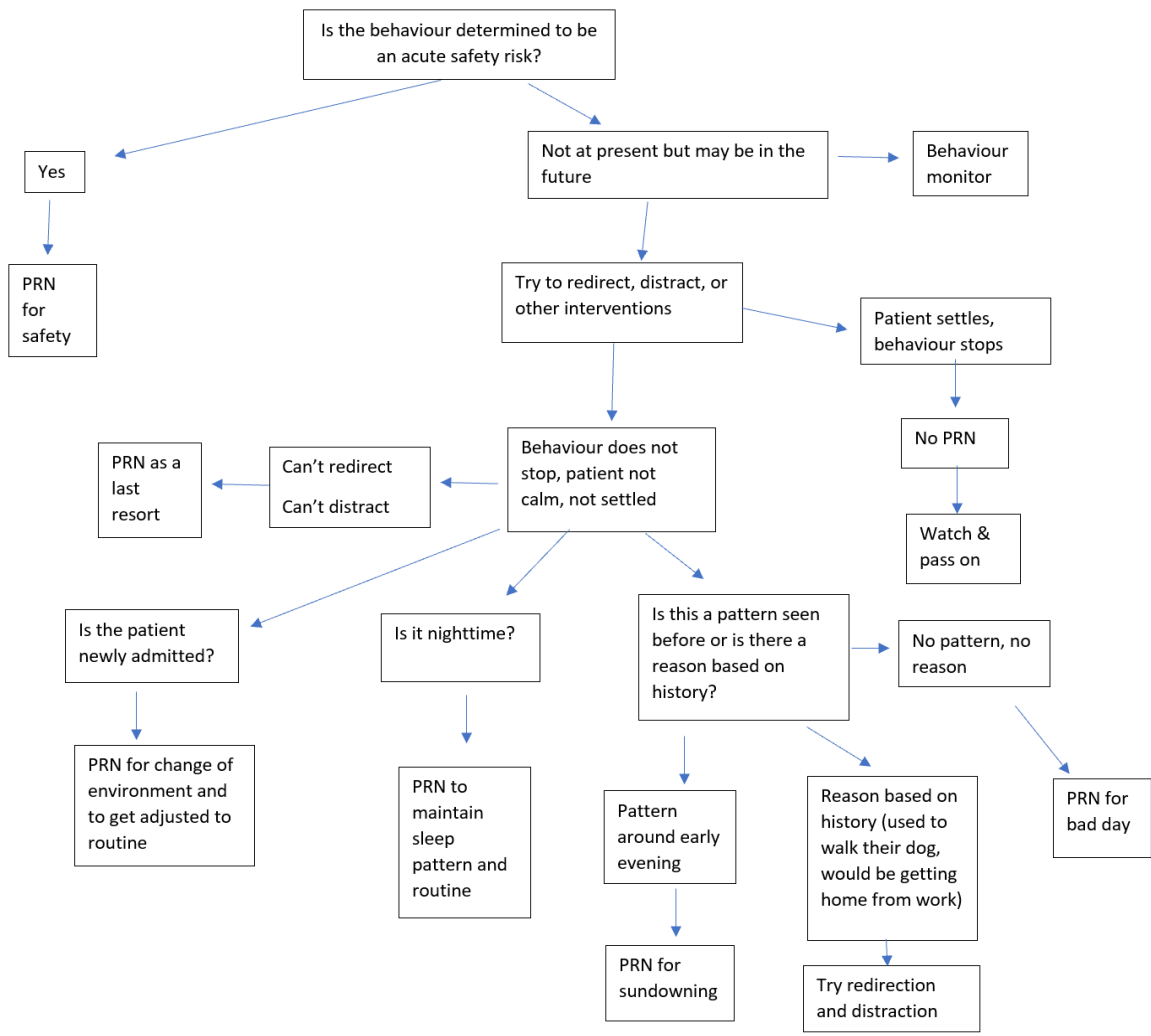
Pros and Cons of Psychotropic PRNs as reported by staff

Advantages	Disadvantages
<p>For Patient</p> <ul style="list-style-type: none"> • Calms down and are functional • Feel more settled • Helps people feel better • Less anxious • Feel more normal • Getting sleep • Help accept new life outlook • Happy • Content 	<p>For Patient</p> <ul style="list-style-type: none"> • Overuse or used unnecessarily • Over sedation • Additive effects from over sedation including decreased intake, lethargy, somnolence, dehydration • Traumatizing being held down for injection administration • Side effects: dyskinesia, EPS, QT interval changes • Falls
<p>For Staff</p> <ul style="list-style-type: none"> • Nobody gets hurt • Don't need to reason with the patient • More settled into unit routine • Can give it at an ideal time (when family are there and the patient is more likely to take it) • Safety • Nurses do not need to be there one-on-one for the patient • Enhances compliance • Makes care easier 	<p>For staff</p> <ul style="list-style-type: none"> • Might snow the patient, now they're sleeping during the day and "that's not what we want" • Family don't understand and get upset when they're used • Distressing to physically hold patient's down, specifically IM

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Figure 1

Decision-Making Tree



References

- Alberta Health Services. (2015). Appropriate use of antipsychotics. Retrieved from <https://www.albertahealthservices.ca/assets/about/scn/ahs-scn-srs-uaa-prescriber-pharm-faq.pdf>
- Allers, K., Dorks, M., Schmiemann, G., & Hoffman, F. (2017). Antipsychotic drug use in nursing home residents with and without dementia: Keep an eye on the pro re nata medication. *International Clinical Pharmacology*, 32, 213-218.
doi:10.1097/YIC.000000000000173
- Alzheimer Society of Canada. (2019). Dementia numbers in Canada. Toronto, Alzheimer Society of Canada. Retrieved from <https://alzheimer.ca/en/Home/About-dementia/What-is-dementia/Dementia-numbers>
- American Geriatrics Society Expert Panel. (2015). American geriatric society 2015 updated Beers Criteria® for potentially inappropriate medication use in older adults. *Journal of the American Geriatrics Society*, 63(11), 2227-2246. Doi:10.1111/jgs.13702
- American Geriatrics Society Beers Criteria Update Expert Panel. (2019). American geriatrics society 2019 updated AGS Beers Criteria® for potentially inappropriate medication use in older adults. *Journal of the American Geriatrics Society*, 00(00), 1-21.
Doi:10.1111/jgs.15767
- American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC
- Ayalon, L., Gum, A. M., Feliciano, L., & Arean, P.A. (2006). Effectiveness of nonpharmacological interventions for the management of neuropsychiatric symptoms in

PRN DECISION-MAKING

- patients with dementia: A systematic review. *Archives of Internal Medicine*, 166(20), 2182-2188. Doi:10.1001/archinte.166.20.2182
- Bahn, D. (2007). Orientation of nurses towards formal and informal learning: Motives and perceptions. *Nurse Education Today*, 27, 723-730. doi:10.1016/j.nedt.2006.10.006
- Balakrishnan, K., & Arjmand, E. M. (2019). The impact of cognitive and implicit bias on patient safety and quality. *Otolaryngologic Clinics of North America*, 52(1), 35-46. <https://doi.org/10/1016/j.otc.2018.08.016>
- Bail, K., & Grealish, L. (2016). Failure to maintain: A theoretical proposition for a new quality indicator of nurse care rationing for complex older people in hospital. *International Journal of Nursing Studies*, 16, 146-161. doi:10.1016/j.ijnurstu.2016.08.001
- Baker, J. A., Keady, J., Hardman, P., Kay, J., Jones, L., & Jolley, D. (2010). Psychotropic PRN use among older people's inpatient mental health services. *Journal of Psychiatric and Mental Health Nursing*, 17, 463-468. Doi:10.1111/j.1365-2850.2009.01546.x
- Baker, J. A., Lovell, K., & Harris, N. (2007). Mental health professionals' psychotropic pro re nata (p.r.n) medication practices in acute inpatient mental health care: A qualitative study. *General Hospital Psychiatry*, 29, 163-168. doi:10.1016/j.genhosppsych.2006.12.005.
- Baumann, S. L., & Greif, N. (2017). The use of PRNs medications with hospitalized older adults. *Geriatric Nursing*, 38(6), 596-598. doi:10.1016/j.gerinurs.2017.10.010
- Baumann, S. L., Jacobowitz, W., Tanzi, D., Lewis, T. A., Krepp, M. J., & Levy, E. (2018). A study of the use of psychopharmacologic agents by acutely medically ill older adults. *Issues in Mental Health Nursing*, 39(5), 439-444. doi:10.1080/01612840.2017.1395498

PRN DECISION-MAKING

- Borbasi, S., Jones, J., Lockwood, C., & Emden, C. (2006). Health professionals' perspectives of providing care to people with dementia in the acute setting: Toward better practice. *Geriatric Nursing, 27*(5), 300-308. Doi:10.1016/j.gernurse.2006.08.013
- Brodaty, H., & Arasaratnam, C. (2012). Meta-analysis of nonpharmacological interventions for neuropsychiatric symptoms of dementia. *American Journal of Psychiatry, 169*(9), 946-953. Doi: 10.1176/appi.ajp.2012.11101529
- Bueckert, V., Cole, M., & Robertson, D. (2017). When psychosis isn't the diagnosis. A toolkit for reducing inappropriate use of antipsychotics in long-term care. Choosing Wisely Canada Toolkit. Retrieved from <https://choosingwiselycanada.org/perspective/antipsychotics-toolkit/>
- Butcher, L. (2018). Caring for patients with dementia in the acute care setting. *British Journal of Nursing, 27*(7), 358-362.
- Canadian Nurses Association. (2016, March). Dementia in Canada: Recommendations to support care for Canada's aging population: Brief prepared for the Senate Standing Committee on Social Affairs, Science, and Technology. Retrieved from https://www.cna-aiic.ca/~/_media/cna/page-content/pdf-en/dementia-in-canada_recommendations-to-support-care-for-canadas-aging-population.pdf?la=en
- Carder, P. C. (2011). Learning about your residents: How assisted living residents medication aides decide to administer pro re nata medications to persons with dementia. *The Gerontologist, 52*(1), 46-55. Doi:10.1093/geront/gnr099
- Casterle, B., Goethals, S., & Gastmas, C. (2015). Contextual influences on nurses' decision-making in cases of physical restraint. *Nursing Ethics, 22*(6), 642-651. Doi:10.1177/096973304543215

PRN DECISION-MAKING

- Cerejeira, J., Lagarto, L., & Mukaetova-Ladinska, E. B. (2012). Behavioral and psychological symptoms of dementia. *Frontiers in Neurology, 3*, 73. doi:10.3389/fneur.2012.00073
- Clifford, C. C., & Doody, O. (2018). Exploring nursing staff views of responsive behaviours of people with dementia in long-stay facilities. *Journal of Psychiatric Mental Health Nursing, 25*, 26-36. doi:10.1111/jpm.12436
- Clissett, P., Porock, D., Hardwood, R. H., & Gladman, J. R. (2013). The responses of healthcare professionals to the admission of people with cognitive impairment to acute hospital settings: An observational and interview study. *Journal of Clinical Nursing, 23*, 1820-1829. Doi:10.1111/jocn.12342
- Cohen-Mansfield. (2009). Agitated behavior in persons with dementia: The relationship between type of behavior, its frequency, and its disruptiveness. *Journal of Psychiatric Research, 43*, 64-69. doi:10.1016/j.jpsychires.2008.02.003
- Cohen-Mansfield, J., Dakheel-Ali, M., Marx, M. S., Thein, K., & Regier, N. G. (2015). Which unmet needs contribute to behaviour problems in persons with advanced dementia? *Psychiatry Research, 228*(1), 59-64. Doi:10.1016/j.psychres.2015.03.043
- Colorafi, K. J., & Evans, B. (2016). Qualitative descriptive methods in health science research. *Health Environments Research and Design Journal, 9*(4), 16-25. doi:10.1177/1937586715614171
- College and Association of Registered Nurses of Alberta [CARNA]. (2019). <https://nurses.ab.ca/practice-and-learning/nursing-practice-information/restraints>
- Cranley, L., Doran, D. D., Tourangeau, A., Kushniruk, A., & Nagle, L. (2009). Nurses uncertainty in decision-making: A literature review. *Worldviews on Evidence Based Nursing, 6*(1), 3-15. Doi: <https://doi.org/10.1111/j.1741-6787.2008.00138.x>

PRN DECISION-MAKING

Creswell, J. W. (2014). Qualitative methods. In V. Knight, K. Koscielak, B. Bauhaus, M.

Markanich, & A. Hutchinson (Eds.), In Research design: qualitative, quantitative, and mixed methods approaches (pp.183-213). Thousand Oaks, CA: SAGE.

Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry and research design: Choosing among five approaches(5th ed.). Thousand Oaks, California: SAGE Publications.

Curtis, S., Gesler, W., Wood, V., Spencer, I., Mason, J., Close, H., & Reilly, J. (2013).

Compassionate containment? Balancing technical safety and therapy in the design of psychiatric wards. *Journal of Social Science & Medicine*, *97*, 201-209.

doi:10.1016/j.soscimed.2013.06.015

Dahlke, S., Hall, W. A., & Baumbusch, J. (2017). Constructing definitions of safety risks while nurses care for hospitalized older people: Secondary analysis of qualitative data.

International Journal of Older People Nursing, *12*, 1-10. Doi: 10.1111/opn.12148

Dahlke, S., Hunter, K. F., & Negrin, K. (2019). Nursing practice with hospitalized older people:

Safety and harm. *International Journal of Older People Nursing*, *14*, 1-16. Doi:

10.1111/opn.12220

Dahlke, S., Hunter, K. F., Negrin, K., Kalogirou, M. R., Fox, M., & Wagg, A. (2019). The

educational needs of nursing staff when working with hospitalized older people. *Journal*

of Clinical Nursing, *28*, 221-234. Doi:10.1111/jocn.14631

Dahlke, S. A., Phinney, A., Hall, W., Rodney, P., & Baumbusch, J. (2015). Orchestrating care:

nursing practice with hospitalized older adults. *International Journal of Older People*

Nursing, *10*(4), 252-262. Doi:10.1111/opn.12075

PRN DECISION-MAKING

- Digby, R. Lee, S., & Williams, A. (2016). The experience of people with dementia and nurses in hospital: An integrative review. *Journal of Clinical Nursing, 26*, 1152-1171. Oid: 10.1111/jocn.13429
- Dolder, C. R., & McKinsey, J. (2011). Antipsychotic polypharmacy among patients admitted to a geriatric psychiatry unit. *Journal of Psychiatric Practice, 17*(5), 368-374.
Doi:10.1097/01.pra.000040536820538.cd
- Dowding, D., Lichtner, V., Allcock, N., Briggs, M., James, K., Keady, J., . . . & Closs, S. J. (2016). Using sense-making theory to aid understanding of the recognition, assessment and management of pain in patients with dementia in acute hospital settings. *International Journal of Nursing Studies, 53*, 152-162.
Doi:10.1016/j.ijnurstu.2015.08.009
- Eriksson, C., & Saveman, B. (2002). Nurses' experience of abusive/non-abusive caring for demented patients in acute care settings. *Scandinavian Journal of Caring Sciences, 16*, 79-85. Retrieved from [http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1471-6712](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1471-6712)
- Ervin, K., Finlayson, S., & Cross, M. (2012). The management of behavioural problems associated with dementia in rural aged care. *Collegian, 19*, 85-95.
Doi:10.1016/j.colegn.2012.02.003
- Estabrooks, C. A., Squires, J. E., Cummings, G. G., Birdsell, J. M., & Norton, P. G. (2009). Development and assessment of the Alberta Context Tool. *BMC Health Services Research, 9*, 234. Doi:10.1186/i472-6963-9-234
- Feast, A. R., White, N., Lord, N., Kupeli, N., Vickerstaff, V., & Sampson, E. (2018). Pain and delirium in people with dementia in the acute general hospital setting. *Age and Ageing, 47*, 841-846. Doi:10.1093/ageing/afy112

PRN DECISION-MAKING

Gallagher, P., Curtin, D., de Siun, A., O'Shea, E., Kennelly S., O'Neill, D., & Timmons, S.

(2016). Antipsychotic prescription amongst hospitalized patients with dementia. *QJM: An International Journal of Medicine*, 109(9), 589-593. Doi:10.1093/qjmed/hcw023

Gauthier, S., Patterson, C., Chertkow, H., Gordon, M., Herrmann, N., Rockwood, K. . . & Soucy,

J. (2012). Recommendations of the 4th Canadian consensus conference on the diagnosis and treatment of dementia. *Canadian Geriatrics Journal*, 15(4), 120-126.

Doi:10.5570/cgi.15.49

George, J., Long, S., & Vincent, C. (2013). How can we keep patients with dementia safe in our

acute care hospitals? A review of challenges and solutions. *The Royal Society of Medicine*, 106(9), 355-361. Doi:10.1177/0141076813476497

Govranos, M., & Newton, J.M. (2014). Exploring ward nurses' perceptions of continuing

education in clinical settings. *Nurse Education Today*, 34(4), 655-660. Doi: 10.1016/j.nedt.2013.07.003

Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research:

Concepts, procedures and measure to achieve trustworthiness. *Nurse Education Today*, 24, 105-112. doi:10.1016/j.nedt.2003.10.001

Hagan, B. F., Armstrong-Esther, C., Quail, P., Williams, R. J., Norton, P., Le Navenec, C., . . .

Congdon, V. (2005). Neuroleptic and benzodiazepine use in long-term care in urban and rural Alberta: characteristics and results of an education intervention to ensure appropriate use. *International Psychogeriatrics*, 17(4), 631-652.

doi:10.1017/S1041610205002188

PRN DECISION-MAKING

- Harper, L., Reddon, J. R., Hunt, C. J., & Royan, H. (2017). PRN medication administration in a geriatric psychiatric hospital: Chart review and nursing perspective. *Clinical Gerontologist, 40* (5), 392-400. doi:10.1080/07317115.2017.1311287
- Haw, C., & Wolstencroft, L. (2014). A study of the prescription and administration of sedative PRN medication to older adults at a secure hospital. *International Psychogeriatrics, 26*(6), 943-961. Doi:10.1017/S1041610214000179
- Herzig, S. J., Rothberg, M. B., Guess, J. R., Gurwitz, J. H., & Marcantonio, E. R. (2016). Antipsychotic medication utilization in nonpsychiatric hospitalizations. *Journal of Hospital Medicine, 11*(8), 543-549. doi:10.1002/jhm.2596
- Hsieh, H., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288. doi:10.1177/104973205276687
- Hynninen, N., Saarnio, R., & Isola, A. (2014). The care of older people with dementia in surgical wards from the point of view of the nursing staff and physicians. *Journal of Clinical Nursing, 24*, 192-201. doi:10.1111/jocn.12669
- Janus, S. I., van Manen, J. G., Ijzerman, M. J., Bisseling, M., Drossaert, C. H., & Zuidema, S. U. (2017). Determinants of the nurses' and nursing assistants' request for antipsychotics for people with dementia. *International Psychogeriatrics, 29*(3), 475-484. doi:10.1017/S1041610216001897.
- Janzen, S., Zecevic, A. A., Kloseck, M., & Orange, J. B. (2013). Managing agitation using nonpharmacologic interventions for seniors with dementia. *American Journal of Alzheimer's Disease and Other Dementias, 28*(5), 524-532. doi:10.1177/1533317513494444

PRN DECISION-MAKING

Jimu, M., & Doyle, L. (2019). The administration of pro re nata medication by mental health nurses: A thematic analysis. *Issues in Mental Health Nurses, 40*(6), 511-517.

Doi:10.1080/01612840.2018.1543739

Johansen, H., & Finès, P. (2012). Acute care hospital days and mental diagnoses. *Statistics Canada. Health Reports, 23*(4), 61. Retrieved from

<http://www.ncbi.nlm.nih.gov/pubmed/23356047>

Kim, H., Sefcik, J., Bradway, C. (2017). Characteristics of qualitative descriptive studies: A systematic review. *Research in Nursing & Health, 40*, 23-42. doi:10.1002/nur.21768

Kales, H. C., Gitlin, L. N., & Lyketsos, C. G. (2015). Assessment and management of behavioral and psychological symptoms of dementia. *British Medical Journal, 350*, 1-16.

doi:10.1136/bmj.h369

Kwasny, P., Hagan, B., & Armstrong-Esther, C. (2006). Use of major and minor tranquilizers with older patients in an acute care hospital: An exploratory study. *Journal of Advanced Nursing, 55*(2), 135-141. doi:10.1111/j.1365-2648.2006.03893.x

Levenson, R. W., Sturm, V. E., & Haase, C. M. (2014). Emotional and behavioural symptoms in neurodegenerative disease: A model for studying the neural bases of psychopathology.

Annual Review of Clinical Psychology, 10, 581-606. doi: 10.1146/annurev-clinpsy-032813-153653

Lithner, V., Dowding, D., Allcock, N., Keady, J., Sampson, E. L., Briggs, M., . . . Closs, S. J.

(2016). The assessment and management of pain in patients with dementia in hospital settings: A multi-case exploratory study from a decision making perspective. *BMC*

Health Services Research, 16, 427. Doi:10.1186/s12913-016-1690-1

PRN DECISION-MAKING

- Lindsey, P. L., & Buckwalter, K. C. (2012). Administration of PRN medications and use of nonpharmacologic interventions in acute geropsychiatric settings: Implications for practice. *Journal of the American Psychiatric Nurses Association, 18*(2), 82-90. doi:10.1177/1078390312438768
- Lopez, O. L., Becker, J. T., Chang, Y., Sweet, R. A., Aizenstein, H., Snitz, B., . . . Klunk, W. E. (2013). The long-term effects of conventional and atypical antipsychotics in patients with probably Alzheimer's disease. *American Journal of Psychiatry, 170*(9), 1051-1058. Doi:10.1176/appi.ajp.2013.12081046
- Ludwick, R., Meehan, A., Zeller, R., & O'Toole, R. (2008). Safety work: Initiating, maintaining, and terminating restraints. *Clinical Nurse Specialist, 22*(2), 81-87.
- Martin, K., Arora, V., Fischler, I., & Tremblay, R. (2017). Descriptive statistics of pro re nata medication use at a Canadian psychiatric hospital. *International Journal of Mental Health Nursing, 26*, 402-408.
- Martin, K., Arora, V., Fischler, I., & Tremblay, R. (2018). Analysis of non-pharmacological interventions attempted prior to pro re nata medication use. *International Journal of Mental Health Nursing, 27*, 296-302. Doi:10.1111/jnm.12320
- Matlock, D. D., Jones, J., Nowels, C. T., Jenkins, A., Allen, L. A., & Kutner, J. S. (2017). Evidence of cognitive bias in decision making around implantable-cardioverter defibrillators: A qualitative framework analysis. *Journal of Cardiac Failure, 23*(11), 794-799. Doi:10.1016/j.cardfail.2017.03.008
- Melnyk, B.M., Gallagher-Ford, L., Fineout-Overholt, E., & Kaplan, L. (2012). The state of evidence-based practice in US nurses. *The Journal of Nursing Administration, 42*(9), 410-417. doi:10.1097/NNA.0b013e3182664e0a

PRN DECISION-MAKING

- Miles, R. W. (2010). Cognitive bias and planning error: Nullification of evidence-based medicine in the nursing home. *Journal of the American Medical Directors Association, 11*(3), 194-203. Doi:10.1016/j.jamda.2009.08.007
- Mortimer, A., Likeman, M., & Lewis, T. (2013). Neuroimaging in dementia: A practical guide. *Practical Neurology, 13*, 92-103. Doi:10.1136/practneurol-2012-000337
- Moyle, W., Borbasi, S., Wallis, M., Olorenshaw, R., & Gracia, N. (2010). Acute care management of older people with dementia: A qualitative perspective. *Journal of Clinical Nursing, 20*(3-4), 420-428. doi:10.1111/j.1365-2702.2010.03521.x
- Moyle, W., El Saifi, N., Draper, B., Jones, C., Beattie, E., Shum, D., . . . O'Dwyer, S. (2017). Pharmacotherapy of persons with dementia in long-term care in Australia: A descriptive audit of central nervous system medications. *Current Drug Safety, 12*(2), 95-102. Doi:10.2174/1574886312666170209113203
- Narayan, M. C. (2019). Addressing implicit bias in nursing: A review. *American Journal of Nursing, 119*(7), 37-43.
- Neumann, R. D., Faris, P., & Klassen, R. (2015). Examining trends in the administration of "As needed" medications to inpatients with behavioral and psychological symptoms of dementia. *American Journal of Alzheimer's Disease & Other Dementias, 30*(3), 247-256. doi:10.1177/1533317515585924
- Nouri, P., Imanipour, N., Talebi, K., & Zali, M. (2018). Most common heuristics and biases in nascent entrepreneurs marketing behaviour. *Journal of Small Business and Entrepreneurship, 30*(6), 451-472. <http://doi.org/10.1080/08276331.2018.1427406>
- Pek, E. A., Remfry, A., Pendrith, C., Fan-Lun, C., Bhatia, R. S., & Soong, C. (2017). High prevalence of inappropriate benzodiazepine and sedative hypnotic prescriptions among

PRN DECISION-MAKING

hospitalized older adults. *Journal of Hospital Medicine*, 12(5), 310–316.

doi:10.12788/jhm.2739

Pinkert, C., Faul, E., Saxer, S., Burgstaller, M., Kamleitner, D., & Mayer, H. (2017). Experiences of nurses with the care of patients with dementia in acute hospitals: A secondary analysis. *Journal of Clinical Nursing*, 27, 162-172. doi: 10.1111/jocn.13864

Priest, H., Roberts, P., & Woods, L. (2002). An overview of three different approaches to the interpretation of qualitative data. Part 1: Theoretical issues. *Nurse Researcher*, 10(1), 30-42.

Rios, S., Perlman, C.M., Costa, A., Heckman, G., Hirdes, J., & Mitchell, L. (2017). Antipsychotics and dementia in Canada: A retrospective cross-sectional study of four health sectors. *BMC Geriatrics*, 17(1), 1-8. doi:10.1186/s12877-017-0636-8

Rochon, P.A., Normand, S., Gomes, T., Gill, S. S., Anderson, G. M., Melo, M., . . . Gurwitz, J. H. (2008). Antipsychotic therapy and short-term serious events in older adults with dementia. *Archives of Internal Medicine*, 168(10), 1090-1096.
Doi:10.1001/archinte.168.10.1090

Sampson, E. L., White, N., Leurent, B., Scott, S., Lord, K., Round, J., & Jones, L. (2014). Behavioural and psychiatric symptoms in people with dementia admitted to the acute hospital: A prospective cohort study. *The British Journal of Psychiatry*, 205, 189-196.
Doi:10.1192/bjp.bp.113.130948

Sampson, E. L., White, N., Lord, K., Leurent, B., Vickerstaff, V., Scott, S., & Jones, L. (2015). Pain, agitation, and behavioural problems in people with dementia admitted to general hospital wards: A longitudinal cohort study. *Pain*, 156(4), 675-683.
Doi:10.1097/j.pain.0000000000000095

PRN DECISION-MAKING

Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, 23(4), 334-340. Retrieved from

[http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1098-240X](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1098-240X)

Sidani, S., & Braden, C. J. (2011). Designing interventions. In Design, evaluation, and translation of nursing interventions (pp. 17-23). Chichester, West Sussex: Wiley-Blackwell. Doi:10.1002/97811185553

Sourial, R., McCusker, J., Cole, M., & Abrahamowicz, M. (2001). Agitation in demented patients in an acute care hospital: Prevalence, disruptiveness, and staff burden.

International Psychogeriatrics, 13(2), 183-197. doi:10.1017/S1041610201007578

Stokes, J. A., Purdie, D. M., & Roberts, M. S. (2004). Factors influencing PRN medication use in nursing homes. *Pharmacy World and Science*, 26(3), 148-154.

doi:10.1023/B:PHAR.0000056803.89436.a8

Usher, K., Baker, J. A., & Holmes, C. A. (2010). Understanding clinical decision-making for

PRN medication in mental health inpatient facilities. *Journal of Psychiatric and Mental Health Nursing*, 17, 558-564. doi:10.1111/j.1365-2850.2010.01565.x

Usher, K., Baker, J. A., Holmes, C., & Stocks, B. (2009). Clinical decision-making for 'as

needed' medications in mental health care. *Journal of Advanced Nursing*, 65(5), 981-991.

doi:10.1111/j.1365-2648.2008.04957.x

Usher, K., Lindsay, D., & Sellen, J. (2001). Mental health nurses PRN psychotropic medication

administration practices. *Journal of Psychiatric and Mental Health Nursing*, 8(5), 383-

390. Doi:10.1046/j.1365-2850.2001.0042.x

Vazquez-Costa, M., & Costa-Alcaraz, A. M. (2013). Premature closure: An avoidable type of

error. *Revista Clinica Espanola*, 213(3), 158-162. Doi:10.1016/j.rceng.2012.05.001

PRN DECISION-MAKING

Voyer, P., McCusker, J., Cole, M. G., Monette, J., Champoux, N., Ciampi, A., . . . Richard, H.

(2015). Behavioral and psychological symptoms of dementia: How long does every behavior last, and are particular behaviors associated with PRN antipsychotic use?

Journal of Gerontological Nursing, 41(1), 22-37. doi:10.3928/00989134-20141030-01

Yous, M., Pleog, J., Kaasalainen, S., & Shindel Martin, L. (2019). Nurses experiences in caring

for older adults with responsive behaviors of dementia in acute care. *SAGE Open*

Nursing, 5, 1-15. Doi: 10.1177/2377960819834127

Zisberg, A., Shadmi, E., Gur-Yaish, N., Tonkikh, O. & Sinoff, G. (2015). Hospital-associated

functional decline: The role of hospitalization processes beyond individual risk factors.

Journal American Geriatrics Society, 63, 55-62. Doi: 10.1111/jgs.13193

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Appendix A
Literature Search Strategy

The following databases were searched: CINAHL, Medline, Embase, Scopus, and ProQuest

CINAHL- 259 results

1. (MH "Dementia+") or (MH "Aged+")
2. Dementia* OR Alzheimer* OR "major neurocognitive disorder" OR "cognitive impairment" or aged
3. (MH "Thinking+") or (MH "Decision-making+") or (MH "Nursing Practice+") or (MH "Nursing Process+") or (MH "Critical Thinking") or (MH "Diagnostic Reasoning") or (MH "Decision-making, Clinical") or (MH "Practice Patterns")
4. "nurs* deci*" OR "clinical reasoning" OR "practice pattern" OR "decision-making" OR "nursing process" OR "nursing practice" OR "diagnostic reasoning" OR "decision-making process"
5. (MH "Psychotropic Drugs+") or (MH "Hypnotics and Sedatives+") or (MH "Restraint, Chemical") or (MH "Drug Administration") or (MH "Drug Therapy+") or (MH "Tranquilizing Agents+")
6. PRN OR "pro re nata" OR "as needed med*" OR "as required med*" OR "chemical restrain*" OR "pharmacologic restrain" OR "behavior control" OR "psychotropic*" OR benzo* OR anxiolytic* OR antipsychotic*
7. (MH "Inpatients") or (MH "Aged, Hospitalized")
8. Admitted* OR hospital* OR inpatient* OR "acute care"
9. 1 or 2
10. 3 or 4
11. 5 or 6
12. 7 or 8
13. 9 and 10 and 11 and 12

Medline- 36 results

1. exp Dementia/ or Neurocognitive Disorders/
2. (dementia* or "neurocognitive disorder" or Alzheimer*).mp.
3. thinking/ or decision-making/ or judgment/ or problem solving/ or clinical decision-making/ or nursing process/ or nursing assessment/
4. ("decision-making" or "clinical reasoning" or "critical thinking" or "decision-making process" or "nursing process" or "clinical decision-making").mp.
5. exp "Hypnotics and Sedatives"/ or psychotropic drugs/ or antidepressive agents/ or tranquilizing agents/ or anti-anxiety agents/ or antipsychotic agents/
6. (PRN or prn or pro re nata or as needed or as required or benzo* or anxiolytic* or pharm* restrain* or chemical restrain* or behavior control or neuroleptic* or psychotropic* or antipsychotic*).mp.
7. patients/ or inpatients/ or Hospitalization/
8. (hospitalized or inpatient* or "acute care" or admitted).mp.

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9. 1 or 2
10. 3 or 4
11. 5 or 6
12. 7 or 8
13. 9 and 10 and 11 and 12

Embase- 287 results

1. alzheimer disease/ or degenerative disease/ or dementia/ or "disorders of higher cerebral function"/
2. (dementia* or "neurocognitive disorder*" or alzheimer*).mp.
3. decision-making/ or clinical decision-making/ or critical thinking/ or nursing practice/ or nursing process/ or diagnostic reasoning/ or nursing assessment/
4. ("decision-making" or "clinical reasoning" or "critical thinking" or "nursing process" or "nursing assessment").mp.
5. exp psychotropic agent/ or neuroleptic agent/ or anxiolytic agent/ or hypnotic sedative agent/ or antipsychotic agent/
6. (PRN or prn or "pro re nata" or "as needed" or "as required" or benzo* or anxiolytic* or "pharm* restrain*" or "chemical restrain*" or "behavior control" or neuroleptic* or psychotropic* or antipsychotic*).mp.
7. hospitalization/ or hospital patient/ or patient/ or aged hospital patient/
8. (hospitalized or inpatient* or acute care or admitted).mp.
9. 1 or 2
10. 3 or 4
11. 5 or 6
12. 7 or 8
13. 9 and 10 and 11 and 12

Scopus-85 results

dementia* OR Alzheimer* OR "neurocognitive disorder" AND "decision-making*" OR "clinical decision-making" OR "nurs* deci*" OR "clinical judgement" OR "decision-making process" OR "nursing process" OR "nurs* assessment" OR "clinical reasoning" OR "critical thinking" AND "pro re nata" OR prn OR PRN or "as needed medication" OR "as required medication" OR "medication admin*" AND psychotropic* OR benzo* OR neuroleptic* OR antipsychotic* OR "tranquiliz* agent*" OR "chemical restrain*" OR "pharmacologic* restrain*" OR hypnotic*

Appendix B

Recruitment Poster

Exploring PRN Psychotropic Use in People with Dementia Admitted to Hospital

Are you a nurse involved in medication administration and working on a medical/surgical unit?

You are invited to participate in this study

The purpose of this study is to learn more about how nurses decide to administer PRN psychotropic medications to hospitalized people with dementia.

Participation involves an interview (approximately ½-1 hour) where you tell the researcher how you decide to administer prn psychotropic medications for people with dementia. Participation is confidential and you can withdraw at any time.

If you are interested in participating in this study, please contact the researcher (a graduate student in the Master of Nursing Nurse Practitioner program at the University of Alberta) directly using the information below or attend an information session on the unit where you work.

Contact Information

Brittany Walsh

bmwalsh@ualberta.ca

This study has been reviewed and received ethics clearance through the University of Alberta Research Ethics Board [REB file #].

Appendix C
INFORMATION LETTER and CONSENT FORM

Study Title: Exploring Acute Care Nurses Decision-making in Psychotropic PRN Use in Hospitalized People with Dementia

Research Investigator:

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Background

You are being invited to participate in this research study because you are a nurse involved in administering medication to hospitalized people with dementia and are working in an acute medical/surgical unit. This study is being conducted by a graduate student in the Master of Nursing, Nurse practitioner program at the University of Alberta as her thesis requirement.

Purpose

The purpose of this study is to learn about how nurses decide to administer PRN psychotropic medication to hospitalized people with dementia. Exploring the influences and factors that are involved in this decision assists in understanding the current practices of PRN use. What we learn may identify ways to support staff or modify environments. With the goal of enhancing person centered care for people with dementia.

Study Procedures

This study involves an interview, lasting approximately 30 minutes to 1 hour. You will be asked some questions about how you decide to administer prn psychotropic medications for people with dementia. You and the researcher will mutually decide upon when and where the

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interview will be conducted. The interview will be audio recorded. Information about you (e.g., position and education, years of nursing experience, gender, age, cultural background) will also be collected. Identifying data will be removed and confidentiality will be maintained. All information you provide will be kept in a password protected secure data base or a locked filling cabinet at the University of Alberta.

Benefits

There is no direct benefit to you as a participant. However, you feel satisfied in knowing that the information you provide will help us understand how to better help people with dementia receive care that best meets their needs.

Risk

You could feel distressed when discussing your experience with administering these medications. If this happens, we can refer you to appropriate resources such as the Employee and Family Assistance Program.

Voluntary Participation

You are under no obligation to participate in this study and participation is completely voluntary (up to you). This study has no bearing on your employment. Even if you agree to be in the study you can change your mind and withdraw from the study. If you wish to withdraw you can contact the researcher up to two weeks after your interview and your data can be removed from the study.

Confidentiality & Anonymity

The main intended use of this research is for a master's thesis. Findings will be shared in research publications and at scholarly conferences. Any information that is used in these publications or presentations will NOT include any identifying information. Data will be kept confidential with only the researchers involved in the study having access to the data. Data will be kept in a locked cabinet at the University of Alberta for a minimum of 5 years following completion of research project. All electronic data will be password protected or encrypted and when appropriate destroyed in a way that ensures privacy and confidentiality. It is possible that the information you share (that has been de-identified) may be used in future research projects. If you would like to receive a final copy of the findings, you can provide your contact information (mail or email address) on the consent form. Let me know and I will be sure to send you a copy.

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Further Information

- If you have any further questions regarding this study, please do not hesitate to ask. Primary contact is Brittany Walsh. If needed, Dr. Hannah O'Rourke or Dr. Sherry Dahlke.
- The plan for this study has been reviewed by a Research Ethics Board at the University of Alberta. If you have questions about your rights or how research should be conducted, you can call (780) 492-2615. This office is independent of the researchers.

Consent Statement

I have read this form and the research study has been explained to me. I have been given the opportunity to ask questions and my questions have been answered. If I have additional questions, I have been told whom to contact. I agree to participate in the research study described above and will receive a copy of this consent form. I will receive a copy of this consent form after I sign it.

Participant's Name (printed) and Signature	Date

Name (printed) and Signature of Person Obtaining Consent	Date

I would like to receive a copy of the results of this research:

Yes

No

If yes, please provide a mail or email address where we can reach you:

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Appendix D

Guiding Interview Questions

Interview will start with researcher introduction followed by a brief description of what the next approximate hour entails, then the researcher will use the following questions in the interview.

1. How often do you care for older adults and people with dementia?
2. How would you describe what dementia is?
3. How do you know when a person has dementia? How is dementia recognized, assessed and managed in your unit? By you?
4. When I am talking about psychotropics, I mean both antipsychotics and anxiolytics. How are psychotropics used on your unit for people with dementia? (*prompt: How are psychotropics usually ordered, regularly scheduled or PRN? How does the use of PRN psychotropics differ from regularly scheduled use?*)
5. What role do you think psychotropics have in the care of people with dementia (*are there certain behaviors that you use or see PRNs being used for?*) Where did you learn about the role of psychotropics in the care of people with dementia?
6. How do you decide to administer a psychotropic PRN to someone with dementia? (*Prompt: When you're given an order for more than one PRN, for instance Haldol and Ativan, how do you choose what you're going to give? How do you decide about the dose, route, time? What kinds of behaviors lead to this decision? What circumstances on the unit lead to this decision? How do you balance the pros and cons of administer the medication in the context of what is going on the unit or in your patient assignment?*)
7. From your perspective what are some advantages to PRNs? Disadvantages?
8. What circumstances would you or have you used psychotropic PRN's in? (*Prompt: think about a time when you administered a prn to someone with dementia, what was going on at that time on the unit, with the patient, etc. What influences your decision to administer?*)
9. Anything you want to tell me about that I have not asked.

Appendix E

Field Notes

Date: _____ Time: _____

Location: _____

Interviewer: _____

Participant Data

ID: _____ Position (circle): RN/LPN Unit type: _____

Age: _____ Sex: _____ Cultural/ethnic background: _____

Nursing experience (years): _____ Highest education level: _____

Additional courses in dementia (circle): Yes/No if yes (circle)- formal or informal

Descriptive Notes: *(note things like: tone of voice, congruence between what they're saying and how they're saying it, non-verbal's and mannerisms, type of language used to describe older people)*

Reflective Notes: