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Managing delirium in the acute care setting: a pilot focus group study

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Abstract

Background—Delirium frequently occurs in hospitalised older adults leading to poor outcomes and frequent adverse events. Proper recognition and management of delirium by acute care nurses can minimise the effects of negative sequelae associated with delirium.

Aim—This pilot study used focus group methodology to: (i) describe acute care nurse's experience and knowledge regarding assessment and management of delirium in hospitalised older adults; (ii) illustrate potential facilitators and barriers to non-drug management of delirium; and (iii) to explicate the use of non-drug interventions by acute care nurses to manage delirium in hospitalised older adults.

Design—Qualitative, pilot study.

Methods—A total of 16 nurse participants, working on medical, surgical and orthopaedic units from one acute care hospital participated in two focus groups.

Results—Main themes included the following: confusion is normal; our duty is to protect; and finding a balance. Nurses were able to identify non-pharmacological interventions for delirium and facilitators and barriers to using these in clinical practice.

Conclusions—Findings from this pilot study illustrate the need for regular assessment of cognitive status in hospitalised older adults and nursing staff education regarding the use of non-pharmacological management of delirium. Based on their experience, nurses have a wealth of ideas for managing delirium. Areas for future research and policy are also highlighted.

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Contributions

Study design: AY, MS, TD, AK, DMF; data collection and analysis: AY, MS, TD, NH, AK, DMF and manuscript preparation: AY, MS, TD, NH, AK, DMF.

Implications for practice—More research is needed on how to improve delirium management by acute care nurses to increase the efficacy and use of non-pharmacological interventions in the management of delirium in hospitalised older adults. To translate these findings into practice, nursing care needs to be guided by evidence-based guidelines to implement non-pharmacological strategies in the acute care setting.

Keywords

acute care system; cognitive impairment; dementia; older people nursing

Delirium is described as an acute change in cognition, attention and level of consciousness (American Psychiatric Association, 2000). Delirium, also often termed *confusion* or *acute confusion* (Mittal *et al.*, 2011), affects up to 50% of all hospitalised older adults (Fong *et al.*, 2009). Delirium is the preferred term for this syndrome to promote clarity, recognition and management. Early identification and management of delirium in hospitalised older adults is crucial to prevent negative sequelae, including poor functional outcomes, institutionalisation and increased risk of morbidity or mortality (Fick *et al.*, 2007a; Fong *et al.*, 2009; Caplan & Rabinowitz, 2010).

Older adults with pre-existing cognitive impairment are at highest risk of developing delirium. Delirium in persons with pre-existing cognitive impairment of a probable dementia type is labelled delirium superimposed on dementia, and it is frequently under-recognised in this population (Fick & Foreman, 2000). Symptoms of delirium are often attributed to the underlying dementia (Fick *et al.*, 2002), age-related variations or environmental changes associated with care transitions during an acute care admission (Fick *et al.*, 2007a; Morandi *et al.*, 2011). Frequently, acute mental status changes in hospitalised older adults are not routinely assessed using a standardised tool (Inouye, 2006), such as the confusion assessment method (CAM). Nurses are best suited to systematically screen for and recognise delirium in hospitalised older adults because of their significant presence at the bedside (Fick *et al.*, 2007a). In addition, nurses have been shown to effectively implement interventions aimed at preventing, recognising or managing delirium in older adults (Inouye *et al.*, 2000; Milisen *et al.*, 2001). Despite this evidence, non-pharmacological interventions and recommendations for preventing or managing delirium in the acute care setting are not routinely implemented or carried out by nursing staff (Marcantonio *et al.*, 2001). There is a significant gap in the literature regarding why acute care nurses do not routinely implement these interventions or recommendations for delirium or delirium superimposed on dementia. Understanding the barriers to implementing effective delirium care is crucial to preventing adverse outcomes in this frail population.

Background

Management of delirium includes pharmacological and non-pharmacological strategies. For the purpose of this study, pharmacological management of and treatment for delirium is reviewed to highlight the need for improved quality research in this area, as well as the need to routinely implement non-pharmacological therapies for delirium.

Pharmacological management of delirium

Current recommendations for pharmacological management of delirium include treating the underlying physiological mechanism and delirium subtype (Tahir *et al.*, 2011), but because of the multifactorial nature and fluctuating course of delirium, this is difficult (Inouye, 1999). Recommendations to cautiously use certain medications, including benzodiazepines and opioids, in persons at high risk of delirium have been put forth (Clegg & Young, 2011). Pharmacological management of delirium in hospitalised elders may result in negative

consequences including syncope, fatigue, constipation, falls and fractures (Fick *et al.*, 2007b; Church *et al.*, 2011; Lapane *et al.*, 2011; Uusvaara *et al.*, 2011; Wilson *et al.*, 2011). The majority of the evidence regarding pharmacological treatment for delirium is based on clinical practice and case reports, not well-designed clinical trials (Trzepacz *et al.*, 2008), and there is relatively little evidence regarding the treatment for delirium in persons with an underlying dementia (Campbell *et al.*, 2009). Although research, practice and policy are continuing to advance science in this area, there is no standardised drug therapy for the treatment of delirium (Inouye, 2006). The current state of the science prevents widespread adoption of drug therapies to manage or treat delirium, highlighting the need for non-pharmacological management.

Non-pharmacological management of delirium

Several studies have investigated the effectiveness of non-pharmacological interventions in the prevention and management of delirium. Frequently, these interventions have multiple components, utilising interdisciplinary healthcare providers and family members to target known risk factors of delirium including vision and hearing impairments, dehydration, infection, pain, metabolic disturbances and sleep (Inouye, 1999; Milisen *et al.*, 2005; Rosenbloom-Brunton *et al.*, 2010). Components of these interventions often include healthcare provider education, routine assessment of mental status and cognition, and geriatric resource nurse and consultation services (Inouye *et al.*, 2000; Marcantonio *et al.*, 2001; Milisen *et al.*, 2001; Cole *et al.*, 2002; Rossom *et al.*, 2011). At the bedside, strategies to maintain vision and hearing through the use of glasses and hearing aids have been implemented, as well as protocols to enhance sleep hygiene (McDowell *et al.*, 1998). Encouraging the presence of family members and having familiar objects placed within the acute care environment have also been tested (Benedict *et al.*, 2009; Vidán *et al.*, 2009). In addition, cognitive stimulation is being tested as a tool to manage and resolve delirium (Kolanowski *et al.*, 2010). Although several approaches to non-pharmacological management of delirium have been studied, it remains unclear how these interventions are utilised by practicing acute care nurses.

Methods

The aims of this pilot study were to: (i) describe acute care nurse's experience and knowledge regarding nurse assessment and management of delirium in hospitalised older adults; (ii) identify facilitators and barriers to nurse assessment and management of delirium; and (iii) illustrate the use of non-drug strategies to manage delirium in older adults with dementia who are hospitalised. For the purpose of clarity, the term *delirium* will be consistently used to describe both *delirium* and *acute confusion*. *Dementia* will be used to indicate *chronic confusion*. *Non-pharmacological* and *non-drug* will be used interchangeably.

Design

Focus groups were used to stimulate dialogue regarding nurses' opinions about care of older adults with delirium and their current use of non-pharmacological interventions. Focus groups give a voice to participants and allow for a unique exchange of dialogue situated in a guided discussion. As we were seeking information regarding nurse knowledge, attitude and barriers toward the use of non-drug interventions in the acute care setting, focus groups were best suited to efficiently and effectively address the research questions (Morgan & Krueger, 1998). An overall goal of this study was to provide relevant information to inform nursing practice, so factors such as location, setting, length of session, group size and composition, number of groups, use of a moderator and incentives were designed and preplanned (Loeb *et al.*, 2006). A series of open-ended questions with a semi-structured format and suggested

probes was used per Krueger and Casey (2000). The discussion guide used to direct each focus group is included, so that this study can inform both nursing practice and study design (see Appendix A). Ethical approval for this study was obtained from the Institutional Review Board at The Pennsylvania State University and the host hospital.

Sample and setting

A 200-bed community hospital in central Pennsylvania served as the setting for this small, pilot study. Purposive sampling was used to recruit nurses who had previous experience caring for patients with dementia, delirium or delirium superimposed on dementia. Inclusion criteria included Registered Nurses (RN) or licensed practical nurses (LPN) over the age of 18 years. Participants were excluded if they were nurse practitioners, managers, clinical coordinators, supervisors or support staff to promote commonality and group interaction and to provide participant comfort (Loeb *et al.*, 2006). Participants were recruited using flyers placed in nursing stations, staff lounges and on bulletin boards near nursing offices. Interested participants contacted one member of the research group. Members of the team recruited additional participants using site visits and one-on-one contact.

A total of 16 nurses participated in this study. The majority of participants were female ($n = 13$), Caucasian ($n = 16$) and RNs ($n = 15$) with the remainder being LPNs. Numbers of years as a nurse ranged from 1 to 37 years with an average of 13.38 (SD = 12.26). This trend was also seen in the number of years working on the unit, which ranged from 1 to 29 years, with an average of 7.03 years (SD = 8.54). Although some nurses had worked for a number of years, some had recently changed settings, which accounted for the change in means between these two statistics. On average, participants worked 36.59 (SD = 8.65) hours per week in their setting.

Nurses were also asked to state how often they cared for patients with dementia and delirium, based on a Likert-type scale using the following ratings: rarely, once per month, once per week, several times per week or every day. Most of the participants felt that they encountered dementia several times per week ($n = 10$), while only half of the participants indicated that they encountered delirium several times per week ($n = 8$).

Data collection

Two focus groups were conducted, each lasting approximately 60 minutes. Focus groups took place within the hospital and were held at various times to accommodate multiple shifts. The sessions included open-ended questions based on Morgan's guidelines (1998), which included broad introductory questions to assess knowledge and understanding, and to elicit their experience in a non-directive manner. Probes, more advancing and specific questions, were used as needed to promote focused discussion (see Appendix A). The moderator led the discussion, and two additional researchers who were present took field notes and provided additional support as needed. Focus groups were audio recorded. Prior to the beginning of each session, participants were asked to complete a demographic questionnaire that included the following: gender, age, race, position title (RN or LPN), number of years of work experience, average number of hours worked per week and the nurse perceived incident rate of delirium in their work setting.

Data analysis

A transcriptionist transcribed the tapes of the focus groups. A member of the research team for content read the accuracy of the transcripts. The next step was to perform line-by-line coding using a 'long table' approach, which allows the researcher to organise the data based on content, with the original narrative as a reference (Krueger & Casey, 2000). Each team member conducted line-by-line coding. The codes were then condensed and broadened in a

series of research team meetings to incorporate the breadth and depth of the focus groups. From the individual codes, higher-level themes were then developed according to the Krueger and Casey method of data analysis (Krueger & Casey, 2000). Following this step, thematic analysis was conducted by the research team to identify assessment and management strategies used by acute care nurses when caring for older adults with delirium. Descriptive statistics for the demographic information provided by the nurses were analysed using Microsoft Excel.

Results

The first aim of this study was to describe acute care nurses' experience and knowledge regarding assessment and management of delirium in hospitalised older adults. Three major themes were identified from the focus groups regarding nurse assessment and management of delirium in the acute care setting: confusion is normal; our duty is to protect; and finding a balance. There was also a temporal theme throughout the focus groups of managing patient's transitions between physical settings of care, which impacted the timing and content of care. Nurses managed the transition of older patients from home to the acute care setting, from the preoperative to the postoperative period and again from hospital to their discharge destination in terms of discharge planning and care coordination.

Confusion is normal

Nurses expressed their thoughts that 'confusion is normal' in hospitalised older adults. Many of the participants worked on a medical/surgical/orthopaedic unit where they viewed delirium as an age-related change or a normal consequence of undergoing surgery, especially common in older adults experiencing surgical repair secondary to a hip fracture. These were considered common causes of delirium in this particular setting and not viewed as a need for medical attention, but as a routine occurrence after surgery:

I'm an RN in (the) med/surg area and that's where I see a lot of confusion too is post-operatively related to anesthesia. It might be an age thing

The nurses viewed the transition from home to hospital as a potential cause for delirium. The temporal theme of transitions was clearly emphasised by the participants. They felt that because the older adult was not in his or her normal environment and familiar surroundings that this may lead to delirium:

I think it's increased just because of the change in their setting, that they're not at home around their usual surroundings... I also see more confusion as the night falls on a lot of patients that may not be diagnosed already previously with dementia. And it's hard for their families because they really don't like to see that. And hard to educate the families that this is normal

Delirium, although labelled *confusion* by nurses throughout the transcripts of this study, was viewed as an abrupt change in mental status brought on by surgery or an acute medical illness. Nurses in these focus groups viewed delirium as a common, appropriate reaction to older adults entering the hospital:

No, I had no idea at the time... See a lot of the time this is their first time in this type of environment so you don't really know until they get here and see what happens and how they react

Also, patients were viewed to be transitioning in and out of delirium as evidenced by nurses stating that: 'One day I had him and he was confused, the next day when I had him, he was fine'. When delirium occurred during the hospitalisation, nurses in this study would assess cognition based on a few questions that focused only on orientation, such as 'Where are

you?’ or ‘Who is your doctor?’ In this particular setting, the nurses had no systematic or standardised method to assess cognition, nor did they have a way to establish baseline cognitive status for hospitalised older adults.

Our duty is to protect

Patient safety was described as the number one priority, which leads to the second broad theme: our duty is to protect. Nurses in this study assessed safety in terms of falls and often instituted nursing interventions or used judgment based on past experience as how to best protect patients. They moved patients into rooms closer to the nurses’ station or used sitters. Recent research has identified the use of sitters as a common strategy used within the acute care setting to prevent falls (Shever *et al.*, 2011). Sitters are either volunteers or paid staff, licensed or unlicensed, used to stay with patients at high risk of injury or falls (Tzeng, 2007). The use of sitters varies internationally. In the United States, sitters are frequently paid hospital employees, while volunteers or family members are more likely to be used in other countries (Tzeng, 2007):

...As soon as we see that there is some dementia going on or acute confusion then we assess them for falls because our main goal is to protect them

In addition to protecting patients within the acute care setting, nurses in this study noted that delirium or changes in cognition were not a major focus during the transition from hospital to home; this was in contrast to their emphasis on delirium when entering the hospital from home. Nurses readily observed that delirium frequently occurred in patients because of an acute medical illness, such as a fracture. Patients were treated for the fracture, but frequently returned to the hospital because they remained delirious at home. Nurses in this study stated that physicians were unlikely to treat the underlying cause of delirium, instead focusing on the acute illness at hand:

...I think we have certain patients that come back continuously because of that (delirium), like with different fractures... the physicians need to take some responsibility and start diagnosing these and treating the confusion and the unsafeness at home versus ‘Ok we’re going to repair this hip and get them to rehab and get them back home’...I think we as nurses need the physicians to focus too on the mental state versus (not) just their physical state...

Nurses also stated that, at times, they felt the need to protect themselves. Sometimes, the nurses felt that their own safety was in jeopardy with patients experiencing delirium:

... I think it’s important to say too we’re trying to protect the staff as well... You know, we don’t want them to hit us and then us get hurt and (at) the same time them hurting themselves while they hit us or kick...

Nurses in this study described patients who were experiencing delirium as pulling out invasive lines or devices, such as intravenous lines or catheters, climbing out of bed and kicking or being combative; frequently, these are symptoms of hyperactive delirium (Meagher & Trzepacz, 2000; Meagher *et al.*, 2008). Hyperactive delirium is most often recognised by nurses in the acute care setting compared to hypoactive delirium, which is frequently evidenced by a decreased interaction with the environment (Inouye *et al.*, 2001; Fick *et al.*, 2007a). When the patients or nurses were in danger and non-pharmacological strategies used to manage delirium failed, nurses stated that they would resort to using physical or chemical restraints as prescribed by the physician in cases where the patients were in danger of harming themselves. One of the most common medications used for delirium in this setting was lorazepam (Ativan). This method for management of delirium was used temporarily and as infrequently as possible according to the nurses.

Finding a balance

Nurses expressed needing to balance their time and energy to manage each of their patients, while providing the best care possible. In this study, nurses felt that having one patient with delirium often took time away from caring for their other patients because patients experiencing delirium often required more assistance to perform activities of daily living because of their increased impairments on both physical and cognitive functioning:

... I think when we take care of one confused patient we also have our other patients so in the back of our mind, we have to do X, Y, and Z. We have to give meds, we have to get patients to therapy, we have to get them to their tests, we have to call the doctor about labs, you know so...

To help them manage their responsibilities and maintain a sense of balance, the nursing staff relied on families to assist them in managing the care of the persons with delirium. Although nurses expressed a great deal of gratitude for family who did help with care of the older adult, they also acknowledged that many informal caregivers used the hospitalisation period as a time of respite from their own caregiving duties:

... It helps to have familiar belongings, familiar people, a favorite blanket there. So I've asked family you know if at all possible... can come and spend the night or half the night... But getting families involved, I don't know if families realize necessarily how much of a difference it really can be when their loved one is admitted to the hospital

The nurses felt that teamwork between physicians, the nursing staff, ancillary staff and families was the best solution to maintaining balance in patients with delirium. Collaborative efforts and effective communication are important ways that the nurses at this hospital are able to balance their responsibilities to manage their team of patients, especially when one patient has delirium. Nurses felt that the hospital could have provided additional staffing and educational support to help them best find a balance to managing older adult patients experiencing delirium.

Facilitators and barriers to non-pharmacological interventions for delirium

The second aim of this study was to identify facilitators and barriers to assessment and management of delirium in hospitalised older adults. Assessing and managing delirium in elders is complex, requiring additional resources such as hospital staff and time compared to pharmacological interventions. In this study, using non-pharmacological interventions, such as sitters, to manage hospitalised elders with delirium, often meant decreasing staffing in other areas within the unit. Encouraging the presence of family members was also cited as a strategy to enhance patient safety, but often families were reluctant or had competing obligations.

Nurses in this study cited time as a barrier to implementing non-pharmacological strategies for the management of delirium in the acute care setting. Interventions, such as walking or diversional activities, were used by nurses, but not often because they were time-intensive measures. Nurses felt that consistent implementation of non-pharmacological therapies was necessary to manage delirium. This meant that they had to be present in the patients' room for an extended period of time. Participants in this study felt torn between managing a patient experiencing delirium and completing additional daily tasks, including caring for patients without delirium. An additional barrier presented by nurses in this study were the difficulties of delivering high-quality nursing care to a complex mix of patients, particularly when patients had a diagnosis of dementia or was experiencing delirium.

Another major barrier to implementing non-pharmacological interventions was a lack of education regarding best practices. Although this was a small, pilot study, nurses suggested that it would be beneficial to have yearly training regarding best practices for delirium recognition, prevention and management. There are no current standards regarding nurse education on delirium, but there are guidelines for caring for this population (Inouye, 2006; O'Mahony *et al.*, 2011). Several studies have included healthcare education in the prevention and management of delirium in the acute care setting with positive results as a component of multidimensional interventions (Marcantonio *et al.*, 2001; Benedict *et al.*, 2009; Vidán *et al.*, 2009; Rossom *et al.*, 2011; Siddiqi *et al.*, 2011).

Use of non-drug strategies to manage delirium

The third aim of this study was to illustrate non-pharmacological strategies used by acute care nurses to manage delirium. Even though nurses in this study failed to correctly label delirium and were unaware of the urgency with which the problems needed to be addressed, they did identify a number of non-drug strategies that, by trial and error, were viewed as therapeutic. Most of the interventions suggested by the nurses (Table 1) involved environmental modifications that controlled the amount and quality of stimulation the patient received. The provision of cognitive and/or physical stimulation that facilitates attention is a key theoretical concept in the development of delirium interventions currently being tested (Kolanowski *et al.*, 2010, 2011; Harwood, 2011). Instinctively, nurses are aware of the importance of the environment as a precipitating factor as well as one that can aid in recovery from delirium despite being unaware of the medical urgency and consequences of this geriatric syndrome.

Other management strategies the nurses used to prevent harm included non-pharmacological strategies such as diversion and cognitive and physical activity:

... when we had one gentleman who was unsafe, we ended up finding out (that) walking him, it took two people to walk him, but walking him really calmed him down and it would tire him out...

Patients were given towels to fold or magazines to read to maintain activity and engagement. These simple activities were chosen to prevent patients with delirium from wandering, pulling at invasive devices, and from becoming increasingly restless. Nurses also involved family members, asking them about their usual routines at home to better manage the transition from hospital to home. Nurses reported that most of their interventions were based on trial and error, and they felt they could use more formal training.

Discussion

In this pilot, focus group study, we found that nurses did not accurately identify or assess hospitalised older adults with delirium, nor did they understand the need for immediate action when delirium was identified. The primary goal of care was to protect, but nurses found this difficult given the barriers of time and mix of patient needs in a general medical/surgical unit. Despite the lack of knowledge of delirium and existing barriers, nurses in this study did propose a number of non-drug interventions, involving environmental modification. The nurses did not use evidence-based delirium management protocols to guide patient care, but a system of trial and error based on nurses implicit knowledge.

We noted several factors that impact the quality of care patients with delirium receive in acute care settings and which give direction for improving care. With regard to aim one, to describe acute care nurses' experience and knowledge regarding assessment and management of delirium in hospitalised older adults, we found that despite the large body of evidence surrounding delirium in the acute care setting, nurses lack the educational and

clinical resources to be able to distinguish delirium, dementia, delirium superimposed on dementia and normal ageing. This was emphasised by the use of the label *confusion* by nurses in this study rather than the preferred term of *delirium*. Reliance on terms such as *confusion* or *acute confusion* contributes to the linguistic uncertainty and meaning of delirium, hindering research and practice in this vulnerable population (Siddiqi, 2007). Several researchers focusing on delirium in older adults posit that alternate terminology should be avoided and *delirium* should be the label used to describe this syndrome (Foreman, 1993; McGuire *et al.*, 2000; Milisen *et al.*, 2005; Cheung *et al.*, 2008; Steis, 2008). Early detection and recognition of delirium in this group is imperative to decreasing the overall burden of delirium.

Nurses were able to easily describe patients experiencing hyperactive delirium by symptomology (e.g. symptoms such as agitation, wandering and verbal outbursts); however, they did not describe symptoms associated with hypoactive states of delirium (e.g. lethargy, decreased interaction with environment). Hyperactive symptoms of delirium put the patient at an immediate risk and disrupted the nurses' normal routine. This finding is consistent with earlier studies, highlighting the difficulty of recognising hypoactive delirium in hospitalised elders (Fick *et al.*, 2002, 2007a; Flagg *et al.*, 2010).

The second aim of this study was to identify facilitators and barriers to assessment and management of delirium in hospitalised older adults. Facilitators included in this study were teamwork among the nursing and additional staff in caring for older adults with delirium. Barriers cited included a demanding patient load, a lack of staffing to manage patients with delirium, time and a shortage of education and training. Nurses described how difficult their work is when one of their patients is experiencing delirium. The nurses emphasised their lack of education and training regarding non-drug management of delirium and proposed the use of interventions, including massage and music therapies, but stated they did not have adequate time to implement these. Participants suggested yearly education regarding non-pharmacological interventions to use with older adults experiencing delirium.

Nurses were caring for both the physical and mental health needs of their patients. Understanding the connection between physical and mental health is becoming increasingly important in the acute care setting, and the use of specialised care settings, such as a delirium room or an acute care for elders (ACE) unit (Landefeld *et al.*, 1995; Flaherty & Little, 2011), may be appropriate to allow nursing staff to focus on physical and mental well-being while preventing adverse outcomes. Nurses in this study reported using interventions often found within specialised units, but based the interventions on their experiential knowledge. It is time to value nursing interventions that involve the interactional skills that nurses are adept at using in the clinical setting.

Nurses' first-hand knowledge regarding non-drug interventions for delirium can be used to improve practice and inform research as illustrated in aim three of this study. Currently, most non-pharmacological interventions have been tested as part of multicomponent interventions aimed at preventing and managing delirium (Inouye *et al.*, 1999; Marcantonio *et al.*, 2001; Lundström *et al.*, 2005; Vidán *et al.*, 2009). Randomised controlled trials are needed to implement individual strategies into the clinical setting across cultures and unique healthcare systems (Table 2). In addition, current strategies used to manage delirium include orientation and reorientation practices, the benefit of which is considered controversial (Day *et al.*, 2011). Research regarding the value or consequences of currently used non-drug strategies to manage delirium should be of utmost importance. Nurses need to be given evidence-based and practical guidelines to implement non-pharmacological strategies in the acute care setting (Table 2). Evidence may come in the form of a toolkit with prescribed interventions based on symptoms and underlying pathophysiology, or patient characteristics,

such as personality. Another form of guidelines may be the recently instituted Delirium Care Pathways in Australia (Department of Health, 2008; Traynor & Britten, 2010). These pathways, similar to algorithms, allow clinicians to make evidence-based decisions on managing symptoms or behaviours associated with delirium. Organisational and system barriers, such as lack of personnel and educational resources, limiting the effectiveness of non-drug interventions need to be addressed.

Limitations

The use of focus groups in this small study allowed for open dialogue and discussion related to nurse assessment and management of delirium in hospitalised elders, but there were several limitations. First of all, this was a small, pilot study conducted in one community hospital. In addition, there were only two focus groups conducted. Nurses were not asked to review or verify the final transcripts or the themes identified. The final limitation was that the majority of participants were female and Caucasian. All of these factors impact the generalizability of the results beyond this setting.

Conclusion

This pilot study aimed to provide researchers and clinicians with information to help nurses assess and manage delirium in the acute care setting by identifying barriers to implementing non-pharmacological strategies. Education can address the lack of understanding regarding delirium and dementia in hospitalised elders and should focus on the use of appropriate terms, such as *delirium*, while avoiding vague labels (i.e. confusion). Policy changes within acute care facilities can promote standardised assessment of cognitive status in a vulnerable population and provide nurses with the tools and resources to implement non-pharmacological interventions. Providing nurses with objective cognitive and delirium assessment tools can enhance communication among interdisciplinary healthcare team members and provide the best evidence-based care for hospitalised older adults experiencing delirium.

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Appendix A

flow chart of focus group discussion (60-minute session)

Purpose	Sample queries	Approximate time allotment
Introductory comments: moderator welcomes	Welcome Overview of purpose and process Guidelines/ground rules (all scripted, memorized)	<1 minute
Opening question: introduce commonalities among group members	Let's start with introductions. Would you please begin by telling us your name and a little bit about your interactions with older adults with acute delirium?	10 minutes
Introductory question: begins focus; reflect and connect with topic	You all have indicated your experience in working with persons with delirium. What we'd like to focus on now is how you assess and manage confusion of older adults in the hospital. Think for a moment on a specific patient that you cared for... (1) What was your experience with this patient? What did they look like or what were they doing? How did you know they had an ACUTE confusion? How did you assess their mental status (MS) or confusion? Did you use a specific mental status tool or instrument to assess their MS?	15 minutes
Transition questions: move toward key issues; tighten focus	(2) How did you manage their nursing care related to their confusion?	

Purpose	Sample queries	Approximate time allotment
*Question leads will be altered based on previous discussion. For example may use: 'Other care providers have said that have you experienced that?'	<p>Think about the terms 'alternative therapy' or 'non-pharmacological (non-drug) interventions or treatment' What if anything do they mean to you?</p> <p>Can you think about and describe a specific time when you used a non-pharmacological or alternative method of treatment?</p> <p>(3) Do you think the non-pharmacological strategy was effective? If not, what factors do you feel contributed to the failure?</p> <p>(4) What do you think would have helped you in this situation in the future?</p> <p>(5) Anything else you would like to tell us about assessment or management of confusion in older adults?</p>	
Ending: provide closure; opportunity for last comments or reflection	<p>Moderator gives brief summary of purpose and discussion.</p> <p>'Is that it? Did we miss anything?'</p> <p>'Do you have anything to add?'</p>	3 minutes

Table 1

Non-pharmacologic interventions used to manage delirium

Nurses in this study used several non-pharmacologic interventions to manage delirium based on their experiential knowledge and trial and error:	
<ul style="list-style-type: none">• Sitters• Folding towels or other laundry• Walking or other physical exercise• Relaxing music or the relaxation channel on the hospital television• Assessing for fall risk• Close observation or frequent visual monitoring• Clustering patients with delirium in the same room• Decreasing environmental stimulation• Giving patients colouring books, puzzles, books, magazines or newspapers• Reorientation• Changing hospital routine to match the routine of the older adult at home• Encouraging family presence at the bedside• Using warm blankets, food or a quick back rub to provide comfort• Simple touch by handing hands• Talking with the patient, communication	

Table 2

Research and practice agenda for recognition and management of delirium in hospitalised older adults with dementia

The following are proposed to enhance nurse recognition and management of delirium in hospitalised older adults:	
1	Implementation of standardised nursing assessment <ul style="list-style-type: none">• Tailoring current assessment instruments (i.e. CAM, NEECHAM, etc.) to fit routine electronic assessment and documentation of unique acute care facilities• Increase physician and nurse knowledge of assessment tools through education and technological innovations
2	Increasing research on non-pharmacological interventions <ul style="list-style-type: none">• Increase in controlled, clinical trials using non-pharmacological interventions to manage delirium in hospitalised older adults• Development of guidelines to use non-pharmacological interventions vs. drug therapies in delirium• Translating the use of non-pharmacological interventions• Develop prescriptive non-pharmacological interventions for the management of specific symptoms of delirium tailored to underlying patient characteristics
3	Target implicit nurse interventions through the development of toolkits and innovative technological interventions embedded in the daily routine of the acute care setting
4	Address the organisational and systemic barriers and facilitators to implementing assessment and non-drug interventions into clinical care