Caring for the older person with cognitive impairment in hospital: Qualitative analysis of nursing personnel reflections on fall events

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Title

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Running head

Falls in older people with cognitive impairment

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Abstract

Aims and objectives. To explore nurse and nursing assistant reflections on the care of older patients

with cognitive impairment who have experienced a fall.

Background. While there are evidence-based clinical guidelines for the prevention and management

of falls and for the care of older people with cognitive impairment, the falls rates for older people

with cognitive impairment is three times as high as those without.

Design. Critical incident technique.

Methods. Eleven registered and two enrolled nurses and four assistants in nursing working in one subacute and two acute wards within two hospitals of a tertiary level health service in south-east Queensland. Individual semi-structured interviews focused on two past events when a patient with cognitive impairment had fallen in hospital: one when there was minimal harm and the second when there was significant harm. Thematic analysis was undertaken. The COREQ checklist was followed. Results. Three themes emerged from 23 reflective accounts of fall events: 'direct observation is confounded by multiple observers' and 'knowing the person has cognitive impairment is not enough', and 'want to rely on the guideline but unsure how to enact it'. While participants were aware of the falls prevention policy and techniques available to prevent falls, the implementation of these was challenging due to the complexity of care required by the older person with cognitive impairment.

Conclusions. Falls prevention for older people with cognitive impairment is complex and belies the simple application of policy.

Relevance to clinical practice: To reduce falls, nurses can involve the family to support 'knowing the patient' to enable prediction of impulsive actions; shift the focus of in-service from lectures to specific case presentations, with collaborative analysis on person-focused strategies to prevent falls in older people with cognitive impairment; and reconsider the sitter role from simple observer to assistant, focused on ambulation and supporting independence in activities of daily living.

Keywords

Falls, Hospitalised patients, Older patients, Dementia, Patient safety

Introduction

In hospital falls are recognised as a significant source of hospital-acquired injury, contributing to increased length of stay and hospital costs (Morello *et al.*, 2015). Further, older people who fall report feeling ashamed and embarrassed (Host, Hendriksen, & Borup, 2011), with up to 25% reporting fear of falling again post-fall (Liddle & Gilleard, 1995). Family members of older people who fall report higher levels of fear of the older person falling again and their fear increases over time (Liddle & Gilleard, 1995). While fear of falling has not been found to be a predictor of falls (McKee *et al.*, 2002), the clinical and emotional impact for older people makes the study of falling important in health care.

Background

Cognitive impairment, and in particular incident delirium, is clearly a risk factor for falls in older adults in hospital (Inouye Westendorp, & Sacynski, 2014). The most common risk factors for delirium are dementia, older age, co-morbid illness, severity of medical illness, infection, 'high-risk' medication use, diminished activities of daily living, immobility, sensory impairment, urinary catheterisation, urea and electrolyte imbalance and malnutrition (Ahmed, Leurent, & Sampson, 2014). With an ageing population, and increases in older people with multi-morbid chronic illness coming to hospital for surgical procedures, as well as exacerbations in chronic conditions, the incidence of cognitive impairment in hospital is approaching 40% (Siddiqi, House & Holmes, 2006).

Falls have been found to occur three times as often for people with cognitive impairment compared to those without (Harlein, Halfens, Dassen & Lahmann, 2011). Other studies identify dementia (Chen *et al.*, 2011) and delirium (Lakatos *et al.*, 2009) as strongly associated with higher rates of falls and injuries from falls. And yet, the recently released *Clinical Practice Guidelines and Principles of Care for People with Dementia* (Guideline Adaptation Committee, 2016) provides no clear recommendations for the prevention of falls in hospitalised people with dementia. Other guidelines, such as the *NICE Guideline for Falls in Older People*, note that cognitive impairment is a

risk factor for falls and recommend promptly addressing this and other risk factors (NICE 2013).

However, there are no evidence-based recommendations for specific strategies to prevent falls in

this high-risk group.

For the purpose of this study, cognitive impairment includes delirium as well as dementia,

and affects mood, behaviours, and thought processes. The behavioural and psychological symptoms

often associated with cognitive impairment include, but are not limited to, agitation, irritability,

illusion and delusion, apathy, disinhibition (Dillon *et al.*, 2013) and attentional impairment, which is

associated with impulsivity (Ferrari, Harrison & Lewis, 2012). These characteristics place older

people with cognitive impairment at risk of falling.

Systematic reviews of falls prevention approaches suggest that multifactorial interventions

can reduce falls rates in older patients but the gains are small (Cameron *et al.*, 2012). However,

when older people with cognitive impairment are removed from the samples (Hill *et al.*, 2015) or the

intervention specifically targets cognitive impairment (Vieira *et al.*, 2013), there are statistically

significant moderate improvements in fall rates. Published quality improvement studies

demonstrate that providing additional, and specific, care for people with cognitive impairment can

reduce falls (Ang, Mordiffi, & Wong., 2011; Healey *et al.*, 2014). These findings suggest that there are

unique strategies to prevent falls in people with cognitive impairment.

While falls prevention is widely considered a multidisciplinary responsibility (Barker *et al.*,

2009; Cameron *et al.*, 2012), it has emerged as an important indicator of nursing care within health

quality systems (Heslop & Lu, 2014; Burston, Chaboyer, & Gillespie, 2014). Falls incidents are used as

a nursing specific indicator, demonstrating the central role of the nurse and the importance of

nurses' views on falls prevention approaches (Groves 2014). Qualitative studies of nurses' views on

fall prevention practice have found that: (1) simple implementation processes can become

complicated in the everyday clinical reality of practice (Ireland *et al.*, 2013); (2) nurses continually

create a bricolage in practice, using professional knowledge and clinical expertise while considering

research evidence, local data and information, as well as patient's experience and preferences to

provide care (Kirkpatrick *et al.*, 2014), and (3) nurses used assessment, monitoring and

communication skills to enhance patient safety (Rush *et al.*, 2009). Australian guidelines for falls

prevention in hospital (Australian Commission for Safety and Quality in Health Care, 2009) have

been widely disseminated. This study aims to explore nurse and nursing assistant reflections on the

care of older patients with cognitive impairment who have experienced a fall, in order to develop a

richer understanding of the complexities and influences in implementing falls prevention strategies

in this population.

Methods

The qualitative method known as critical incident technique (CIT) was used. CIT uncovers tacit

knowledge through assisting participants to describe their thought processes and actions during an

event, enhancing researcher understanding of the complexities of the nursing role (Norman,

Redfern, Tomalin & Oliver, 1992; Schluter, Seaton & Chaboyer, 2008). Rather than expect

participants to provide a detailed account of an incident, validity may be established by participants

reflecting on what happened, as they saw it, and including those elements that were clearly

important to them (Norman et al., 1992).

Setting

The study was set in a tertiary level health service in south-east Queensland, which has a

good research collaboration with the university. The service has two hospitals, with 672 beds at one

and 386 beds at the other. The existing falls prevention program included monthly audit and

feedback cycles at the ward level, expert assistance in interpretation of results, and root cause

analysis of falls with significant consequences. Falls risk assessment, using a Falls Assessment and

Management Plan (Queensland Health), was routinely undertaken by nurses. Physiotherapist

consultation occurred for people considered to be at risk of a fall due to limited mobility and

appropriate mobility aids were provided on the same day. Flagging the falls risk to the person and

family, and at handover was routinely used. AINs were used if continuous observation was deemed appropriate to prevent a fall.

Sample

Three wards were selected due to the higher frequency of falls in the wards. Falls rates are monitored for each ward as part of the quality improvement cycle. Three wards that had the highest rates over the last 12 months were selected in consultation with the Clinical Governance Lead for Falls Prevention. These were one rehabilitation ward (subacute) and two medical wards (acute). The Nursing Unit Manager invited registered and enrolled nurses in their wards to participate through information circulated at staff meetings and in the private staff areas of the ward. Interested staff then made contact with the researchers to get further information. Assistants in nursing (AIN), who were casually employed to provide one-to-one observation and nursing care for people at risk of falls, were invited to participate through an email distributed by the casual staff coordinator.

Data collection

In-depth semi-structured interviews were conducted with registered and enrolled nurses and AINs in their workplace. The interviews lasted 20 to 30 minutes. An experienced clinical trials RN (JD), who was male and unknown to the participants, conducted the interviews. The final number of participants was determined by data saturation (Polit & Beck, 2012). The participants were invited to describe two fall events for a hospitalised older person with cognitive impairment, one that had minimal impact and one that had a negative impact on patient outcome. The questions that guided the semi-structured interviews enabled the participants to share information on the topic, such as the events in each scenario, contributing factors, and outcomes for the patient.

To avoid recall bias, stories were excluded if they were: about people who were not in hospital at the time of the fall; second hand rather than personal experience; not about a person with cognitive impairment due to dementia or delirium; and a general description rather than a specific event.

Data analysis

The critical incidents were thematically analysed using inductive methods, consistent with critical incident technique (Schluter *et al.*, 2008). Analysis occurred in two steps. Firstly, the interview transcriptions were read and re-read several times to identify codes and categories. Through iterative reading, consistencies, inconsistencies and absences emerge. In addition to the focus on the meaning of the events, attention to the context of the situation, important in critical incident technique (Schluter *et al.*, 2008), was undertaken. The second level of analysis involves grouping the data from level one analysis to identify themes and sub-themes, with specific attention to absences, what is not said, in the data (Schluter *et al.*, 2008).

Two members of the research team (LG, MC) independently undertook the two-phase data analysis, to produce codes and categories. The categories were discussed and themes were subsequently agreed.

Rigour

Purposive sampling was used to ensure credibility of the findings. That is, purposive recruitment of staff from wards with high falls was undertaken to ensure adequate data about the phenomenon (Mays & Pope, 1995). To enhance dependability of the findings, two members of the research team analysed the data independently, and then met to review their findings. Discrepancies were resolved through initial discussions amongst the two analysts and then with the larger research team to arrive at final categories. Decisions made during these discussions was documented and memos about emerging categories were kept in order to have an audit trail of the analysis.

The interviews were audio-recorded and transcribed by a professional service into a word document. A PhD qualified expert checked the early interviews to ensure adequate information was collected and all transcribed interviews were checked against the recording. The interviewer and project lead met regularly to review transcripts and interview techniques, and discuss emerging impressions of findings. To enhance dependability of the findings (Graneheim & Lundman, 2004) for the hospital context, events that were recalled from another setting, i.e. nursing home, were excluded. Independent generation of codes and categories by two analysts improves reliability for the analysis of the findings (Mays & Pope, 1995). The second level findings, or themes, were shared with nurses who participated in a subsequent focus group, where nurses agreed that the findings resonated with their experiences. .Reporting of the study findings adheres to the COREQ checklist (Tong, Sainsbury & Craig, 2007) for qualitative studies. See supplementary file 1.

Ethical considerations

Participants provided informed consent to participate in the interviews. [Name hospital service] (15/QGC/108) and [name university] (NRS/31/15/HREC) Human Research Ethics Committees approved the study.

Results

There were nine registered and three enrolled nurses and four AINs interviewed. There was one male participant. Two participants did not provide their age. The age range was 21 to 60 years, with an average of 34.6 years. In total, 30 events were shared. Of these, seven events were excluded on the grounds that the stories were: about people who were not in hospital at the time of the fall (n=1); second hand rather than personal experience (n=1); and not about a person with cognitive impairment due to dementia or delirium (n=3); and general rather than a specific event (n=2). With one exception, all stories of falls occurred in the bedroom or bathroom. Geographic characteristics of falls were moving people to or from the bathroom, clutter in the bedspace, and poor positioning of the chair in relation to the bed.

There were three themes identified from the 23 events and these are outlined in the following sections. Theme labels emerged from the interpretation of the data and verbatim quotes are provided to support the findings. Of note, the events described by registered and enrolled nurses and AINs were similar, and data saturation was reached following fourteen interviews; another three interviews confirmed saturation.

Direct observation is confounded by multiple observers

Direct observation was the most consistently reported strategy. However, there were multiple observers, and some of these 'observers' were inanimate electronic sensor monitors that alarmed when the patient moved.

Casual AINs were employed to provide continuous observation. Most participants identified the importance of regular observations of patients with cognitive impairment. Several participants used monitoring strategies including frequent rounding, close monitoring by moving the bed into a room closer to the nurses' desk, using motion alarms, and keeping bedroom doors open. In some cases, people with high falls risks are grouped together with one nurse present in the room as a way of providing continuous observation. One participant extended observation from supervision to nursing assessment:

"…really observe well…are they in pain, may be why they are agitated" (RN12).

However, direct observation was confounded when there were multiple observers. When RNs shared direct supervision with AIN sitters, there were times when observation was interrupted but the RN was not informed. In one event, where two older people with cognitive impairment were in one room and under continuous observation by an AIN, one person fell while the AIN was providing intimate personal care to the other person (AIN 15). When reflecting on a different event, an RN participant suggested that in future she would tell the AIN to advise her when not able to be

with the patient (RN 6). Sometimes, when family is present, nurses devolved direct observation to the family. However, there was little evidence of nurse-family communication in the stories of falls. For example, one EN participant reported that the fall occurred shortly after the family had left the patient and she was unaware that they had left (EN 1). Another devolution of direct observation is the use of bed and chair alarms. However, in the fall events, problems with the technology included switching the alarm off during family visits and not resetting (EN 1), not functioning (RN 5), and not alarming early enough to intervene identified (RN 6). While direct observation was a commonly used strategy, when the responsibility for observation was shared across multiple observers or technologies, falls occurred.

Knowing the person has cognitive impairment is not enough

Even when they were physically present with patients, whom they knew had cognitive impairment, participants described unexpected patient movements that led to the fall event as 'impulsive'. In the participants' stories, they expressed awareness of cognitive impairment before the event, but were unable to anticipate patient movements.

"… impulsively tried to walk out to meet [family member]" (RN 3).

"He may have been trying to rush to the chair" (RN 4).

While the nurses were aware that the patient was cognitively impaired, they did not appreciate the variations in behaviour that are associated with that impairment.

Several participants noted in their reflective accounts that they communicated to the person about the need to call using the call bell (RN 2; RN 5; RN 6; RN 12), and expressed surprise when the person did not call for assistance. Further, the participants' stories did not reveal any engagement with family as a source of information about the patient. Rather, nurses appeared to collect information about the person from their personal observations and experiences alone.

Want to rely on guideline but unsure how to enact it

Participants' descriptions of events indicated knowledge of hospital policies and best practice standards. For example, several participants valorised their commitment to giving information to the patient, despite recognising that they may not understand.

> "…try to tell people to take their time… communicate about the position of the pole and nasal prongs…" (RN 4).
> "… speak clearly so they understand what is expected of them … (RN 8).

When caring for older patients with cognitive impairment, participants expressed uncertainty about the use of available resources. Specifically, there was different advice and uncertainty about the use of specific fall prevention technologies, and in fact, some (incorrectly) identified the use of bedrails as a prevention strategy:

> "I would like the bedrail issue sorted out - up or down (RN 5); "Make sure bed rails are up" (RN 6); and "Keep the bed rails down" (RN 7).

Participants consistently stated that knowing the '5B's' was important but none of them could list all five (see Figure 1). While familiar with the discourse of guidelines, how to enact practice consistent with the fall prevention guideline was elusive. The desire to adhere to guidelines was strong, yet assessment of the personal needs of individual patients and development of individualised interventions was not raised.

Discussion

The events described by participants in this study reveal the complexities of the nursing role in the care of older people with cognitive impairment. The findings suggest that participants valued direct observation, recognised the person has cognitive impairment, and were familiar with the guidelines. However, each of these strengths was limited by multiple human and technical observers, lack of understanding of the individualised behaviours associated with cognitive impairment, and difficulty

enacting guidelines in practice. While the discourse of person-centred care exists, efforts to gather information about older patients from families was not evident in the described events.

Direct, and if possible continuous, observation was consistently identified as a preferred nursing activity to prevent falls. In this hospital, casual AINs provided direct observation, a strategy that has emerged to manage delirium (Carr, 2013; Dewing, 2013). Frequent rounding, moving the bed closer to the nursing desk, and leaving the door open were reported as useful strategies. These findings are consistent with other studies, where nurses have identified close visual monitoring as important to enhance patient safety (Rush *et al.*, 1999). However, multiple observers required higher levels of collaboration and communication, which was not always achieved leading to gaps in observation.

A number of participants had experience in using bed or chair sensor mat technology to extend their observations, recognising the older patient with cognitive impairment was unlikely to use the call bell when standing up. There is emerging evidence that sensor monitoring is feasible (Wong Shee *et al.*, 2014) but findings from a large randomised control trial suggest that sensors alone do not reduce falls (Sahota *et al.*, 2014). However, the findings in this study suggest that sensor monitoring is subject to everyday problems of implementation, such as turning it on after the family visits, checking that it is operational or suitability for a very mobile person who moves quickly. While technology may have a place in extending direct observation, its effectiveness is reliant on how well it is implemented.

Although participants recognised patient limitations such as low spatial awareness, limited self-awareness, and inability to follow instructions, participants expressed surprise at unexpected movements, and called these impulsive movements. Impulsivity related falls are emerging as an area for research, with this type of fall highly associated with older people who have cognitive impairment (Ferrari *et al.*, 2012). Unexpected movements and behaviours is a feature of both

delirium and dementia (Dillon *et al*., 2013) and understanding what may trigger these movements requires knowing the person and anticipating what might be important to the person.

In this study, participants knew the person had cognitive impairment but appeared to continue their routine practices, such as reminding the person use the call bell and providing privacy in the bathroom, rather than consider other ways of communicating, even non-verbally, with the older patient with cognitive impairment. Reconsidering routine practices, in order to find opportunities for meaningful interactions is considered important in person-centred care (McCormack *et al*., 2010). For older people with cognitive impairment, person-centred competence requires a broader palette of communication skills and inclusion of, and respect for, the family (Traynor *et al*., 2011). In the care of the person with dementia, families are considered a key source of information about the person. Structured family interventions for older patients with dementia demonstrate early benefits including improved activities of daily living and less severity and duration of delirium (Boltz *et al*., 2015). In participants' reflections, the family was not part of the care process. Further investigation into how the family can be more actively engaged in the care process for older people with cognitive impairment is recommended.

The implementation of specific strategies for older people with cognitive impairment bears further discussion and local development, considering the context. While falls prevention policies have an important role in establishing standards of care, how these are enacted in highly specialised ward contexts are different (Tzeng & Yin, 2015). In this study, conducted in a health service that has a comprehensive falls prevention program, long-standing and outdated practices to prevent falls, such as the use of bedrails, appear to continue and nurses struggled to identify alternatives to established communication tools, such as the call bell. In addition to education about falls prevention, opportunities for health professionals to collaboratively ***analyse*** care practices may help to identify practices that are outdated and provide clarification on what strategies are suitable for particular, and highly localised, situations. This type of work-based learning values the work of

nursing as bricolage, bringing together information from multiple sources to craft new interventions. One type of work-based pedagogy, the learning circle (Walker *et al.*, 2013), could be used by teams to develop local practices that enhance safety for older people with cognitive impairment. There is emerging evidence for the effectiveness of work-based pedagogies that require staff interaction and dialogue to change clinical processes and improve patient outcomes (Reeves *et al.*, 2013).

The localisation of falls to the bedroom and bathroom in the participants' reflections implies possible barriers to falls prevention, however provides opportunity for further exploration with this patient group. There is evidence that falls in older people with cognitive impairment are associated with urinary and faecal urgency (Eriksson *et al.*, 2009), suggesting that attention to dietary input and continence patterns is recommended in falls prevention for older people with cognitive impairment. The location of the fall, in patients' bedrooms and bathrooms, may be reflective of a limited area for ambulation. It is known that deconditioning is a result of immobility and associated frailty which further places these patients at risk (Koller & Rockwood, 2013). While ambulation was not directly investigated in this study, it is recognised as a nursing activity that is often missed (Kalisch, Tschannen & Lee, 2012). In an editorial, geriatrics nurse expert Kagan (2011) suggests that the discourse of falls prevention assumes no falls is good and that this paradoxically reduces activity. Lack of activity is recognised as a trigger for a range of complications in older hospitalised patients (Thornlow, Anderson & Oddone 2009; Pedone *et al.*, 2005). Like Sinha and Detsky (2012), shifting the discourse from falls prevention to safe mobilisation may assist with promoting ambulation in older people with cognitive impairment.

While the reports of falls localised in the bedrooms and bathrooms is unsurprising, it raises specific concerns about patients with cognitive impairment being alone in their rooms. Given the international trend for single rooms in new build hospitals (Maben et al., 2015), it is clear that falls prevention strategies have to be primarily enacted to acknowledge the patients may be alone in their rooms.

Conclusions

While multifactorial falls prevention is recommended to prevent falls, the findings of this study suggest that additional and different strategies are required to prevent falls in older people with cognitive impairment. To build on nurses' interest in knowing the patient, exploration of how to involve the families more actively so that actions may become easier to predict. For example, formal tools to gather data from family, such as TOP 5 (Luxford *et al.*, 2015) or the dementia sunflower chart (Graham, 2015), can support nurses to understand the person, and possibly increase the likelihood of anticipating movements.

Rather than assume a blanket application of evidence-based falls prevention guidelines and policy, health service teams working in unique clinical contexts can collaboratively develop practices that aim to reduce falls in older people with cognitive impairment. Structured learning circles or other collaborative activity can support the development of clinical expertise through shared crucial reflection on practice (Walker *et al*., 2013). Through these discussions, nurses and other team members can clarify which prevention techniques are suitable for specific patients and so developing a broader repertoire that is person-centred.

Finally, a strategy that builds on the value of direct observation as a falls prevention strategy for older people with cognitive impairment could be to shift the focus to safe ambulation and promotion of activities of daily living. Rather than simply observing and reacting to patients, AINs could focus on movement, activity and routines that are consistent with home.

Relevance to Clinical Practice

Older people with cognitive impairment are at high risk of falls and fall injury while in hospital, with poor health outcomes associated with injury from falls. While evidence-based clinical practice guidelines for falls are considered useful in reducing falls and harm from falls, further

research into the strategies that are more effective for people with cognitive impairment is required. Quality improvement programmes are expanding to include the different, and often additional, initiatives to prevent falls in older people with cognitive impairment. In order to continue to develop practice to meet the unique needs of this population, we recommend: introducing formal processes for involving the family and assist nurses to learn more about the patient; shifting the focus of in-service sessions from lectures to work-based discussions about specific cases; and reconsidering the AIN role from direct observation to safe ambulation and independent activities of living.

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Impact statement/ Summary box

What does this paper contribute to the wider global community?

- The most commonly used strategy to prevent falls in older people with cognitive impairment - direct observation - was confounded by multiple observers and operation of observation technologies.

- Nurses know a person has cognitive impairment however further information about individual preferences is required to help predict movements.

- Nurses want to rely on guidelines but they are not sure how to enact falls guidelines for people with cognitive impairment.

Buzzer within reach
Bed brakes in locked position
Belongings are within reach
Bed rails are at the appropriate position
Bed is low

Figure 1. The five B's