

**THE IMPACT OF SUSTAINING AN IN-PATIENT FALL: A MIXED
METHODS STUDY**

Submitted by

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**A thesis submitted in total fulfilment of the requirements of the degree of Masters of
Philosophy**

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STATEMENT OF AUTHORSHIP

This thesis contains no material that has been extracted in whole or in part from a thesis that I have submitted towards the award of any other degree or diploma in any other tertiary institution.

No other person's works has been used without due acknowledgement in the main text of this thesis.

All research procedures reported in the thesis received the approval of the relevant Ethics/Safety Committees of the Australian Catholic University.

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Statement of Appreciation

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Conference Presentations

Type	Year	Conference	Authors	Title
Poster	2014	6 th Australian and New Zealand Falls Prevention Conference. Sydney 16-18 November 2014.	Gettens, S. Fulbrook, P.	<i>Fear of falling: association with falls and hospital length of stay (LOS)</i>
Oral	2014	The Prince Charles Hospital Research Forum. The Prince Charles Hospital, Brisbane. 18-19 October 2012.	Gettens, S. Fulbrook, P.	<i>Fear of falling: association with falls and hospital length of stay (LOS).</i>
Oral	2015	Key to the Future: Unlocking Nursing and Midwifery Leadership and Workforce conference. Brisbane, 11-12 May 2015.	Gettens, S. Fulbrook, P	<i>Psychosocial impacts of sustaining an inpatient fall.</i>
Oral	2016	7 th Biennial Australian and New Zealand Falls Prevention Conference. Melbourne, 27-29 November 2016.	Gettens, S. Fulbrook, P. Jessup, M. Low Choy, N.	<i>Falling in hospital – what the patient has to say.</i>

Publications

Gettens, S., & Fulbrook, P. (2015) Fear of falling: Association between the Modified Falls Efficacy Scale, in-hospital falls and hospital length of stay. *Journal of Evaluation in Clinical Practice*, 21, 43-50. doi: 10.1111/jep.12226.

Gettens S, Fulbrook P, Jessup M, Low Choy N. (2017) The patients' perspective of sustaining a fall in hospital: A qualitative study. *Journal of Clinical Nursing*. 2017,00 ,1–10.
<https://doi.org/10.1111/jocn.14075>

Abbreviations

ACU Australian Catholic University

FES Falls Efficacy Scale

FRAT Falls Risk Assessment Tool

LOS Length of Hospital Stay

MFES Modified Falls Efficacy Scale

TPCH The Prince Charles Hospital

Appendices

Appendix A. Modified Falls Efficacy Scale

Appendix B. Fall Risk Assessment Tool

Appendix C. Phase 1 Ethics Approval: The Prince Charles Hospital

Appendix D. Phase 1 Ethics Approval: Australian Catholic University

Appendix E. Phase 1 Consent

Appendix F. Phase 1 Information Letter for Participants

Appendix G. Concepts and Themes

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Appendix L. Permission from John Wiley and Sons

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Abstract

The purpose of this research was to investigate and describe the impact on a patient of falling in an acute hospital setting. Falling in hospital can result in a variety of adverse outcomes for the patient, including injury. The literature reveals a fall in hospital can increase the financial burden to the individual and the health care system and can result in increased hospital length of stay (LOS), disability or death. Sustaining a fall can also have a significant psychological effect on people. Potentially, psychological injury may occur as well as physical injury and for some, this is more disabling than the fall itself. Such an impact is likely to affect their recovery rate, resulting in a longer hospital stay and greater healthcare costs.

This research program of study utilised a convergent mixed methods design and was conducted in two phases. Phase 1 employed a quantitative study using the Modified Falls Efficacy Scale (MFES) to measure a patient's confidence upon admission to hospital, following a fall and prior to discharge. In Phase 2, a qualitative study used patient interviews interpreted by applying Van Manen's (1990) approach to understand the patient's experience of falling in hospital.

The Phase 1 results revealed a third of the patient sample was admitted to hospital as the result of a fall. Of these, 65% were categorised as medium falls risk. The mean admission MFES score was 5.5 out of 10 (ranging from 1 being not confident to 10 being completely confident), which increased to 6.1 on hospital discharge. Participants that sustained a fall post admission scored significantly lower admission MFES scores and their hospital length of stay was longer than those that did not fall. Furthermore, regardless of whether the participant was a faller or not, a significantly longer hospital stay was associated with an admission MFES score of less than 5.

The findings from the qualitative study forming Phase 2 revealed three themes from the participant's interviews: *(i) Feeling safe; (ii) Realising the risk and (iii) Recovering independence and identity*. These themes described a process wherein the participants moved through several stages before finally acknowledging their falls risk. Initially, their potential to fall again was not much of a concern: they trusted the staff to keep them safe

and therefore tended not to seek assistance. Later, participants began to appreciate the reality of their falls risk but felt disempowered and disappointed with their loss of independence but were more receptive to help. Finally, as participants recovered, their desire to regain their prior independence became stronger; they wanted others to perceive them to be physically competent, not as a frail older person. However, this also meant that they were more willing to take risks concerning their mobility safety.

While Phase 1 confirmed that lack of confidence in participants' ability to perform activities without falling was associated with hospital falls and increased length of stay, Phase 2 demonstrated how they transitioned from dependence to a desire to regain independence. Although 'confidence' was a term rarely used by participants in Phase 2, the three themes illustrate how participants' behaviours progress from lack of confidence (*feeling safe*) to potential over-confidence (*recovering independence and identity*).

Phase 2 findings revealed how important it is to understand the patient's perspective, specifically concerning their fall risk. For example, initially, when patients were *feeling safe*, they were dependent on them for care and support, and did not appear to fully appreciate their fall risk. At such times it is important for health professionals to counsel them about this risk, and to help them accept it. On the other hand, when this risk is realised (*realising the risk*) it is important to work closely with the patient to develop strategies to help mitigate risk, and to set realistic goals. Finally, as patients recover, and their desire to regain their prior independence becomes stronger, it is important for health professionals to work with patients to help modify risk-taking behaviours, and reinforce realistic goals.

Patients may experience a fear of falling prior to admission if they have previously experienced a fall therefore as part of a patient's routine assessment on admission to hospital. All patients, whether the admission is as the result of a fall or not, should have their confidence level assessed as part of the routine assessment process. They can then be provided with ongoing support as required, with interventions including building confidence.

The perception of health care staff caring for patients who have experienced a fall was not researched in this study and is a recommendation for subsequent research.

Chapter 1: Introduction

Research Purpose

The purpose of this research was to investigate and describe the impact falling has on patients in an acute hospital setting. Measuring how patients' confidence is affected by falling, together with understanding the experience of falling from a patient's perspective may lead to improved assessment of the patient and may determine a more meaningful way of communicating to them the risk of falling.

Falls in older adults have been widely researched; however there is little research that investigates the impact of falling in an acute hospital setting including the patient's experience of falling. Understanding the experience of falling is essential as falls can result in serious physical and psychological consequences for the patient. Potentially, confidence with mobilisation can be affected, leading to a fear of falling (Rixt Zijlstra et al., 2007) which consequently can result in patients avoiding mobilisation. This reluctance to mobilise related to a patient's fear of falling is likely to affect recovery rates, resulting in a longer hospital stay and greater healthcare costs (Hill et al., 2010).

This chapter provides an insight into the world of in-hospital falls and the consequences for the patients experiencing this phenomenon.

Falling in Hospital

A fall is defined as "an event which results in a person coming to rest inadvertently on the ground or floor or other lower level" (World Health Organisation, 2007). Falls continue to be a leading cause of unintentional patient harm worldwide and often result in extended hospital length of stays (Ireland, Kirkpatrick, Boblin, & Robertson, 2013). Patient falls are the most frequently occurring adverse clinical incident in Australian hospitals with a total of 13,636 in-hospital fall related incidents reported in Queensland public hospitals over a 12 month period, as identified using the electronic incident reporting system (Queensland Health, 2012). Falls are such a concern that the Australian Commission on Safety and Quality in Health Care (ACSQHC) dedicated an entire standard to falls prevention - National

Standard 10 - *Preventing Falls and Harm from Falls* (ACSQHC, 2012). The intention of this particular standard is to reduce the incidence of falls and minimise harm from falls within Australian hospitals, residential care facilities and communities (ACSQHC, 2012).

Falling in hospital increases the financial burden to the health care system and to the individual experiencing a fall (Haines et al., 2013) as it may result in increased hospital length of stay (LOS), disability or death (Titler et al., 2005). Increased hospital LOS results in an additional financial burden to the hospital's costs not only because of the impact of the extended time as an inpatient but also because of the use of additional resources. Falling in hospital can increase a patient's LOS by 8 days longer than a non-faller incurring an average extra hospital cost of \$6669 (Morello et al., 2016). Additional falls experienced by patients add to the LOS by an estimated 23 days when compared to those patients that did not fall, incurring additional hospital costs of more than \$21 000 (Morello et al., 2016). The resource burden and LOS associated with patient falls can be more significant dependent on the diagnostic related group of the patient. A patient with cognitive impairment is 24 % more likely to experience a falls and can have an extended LOS following a fall of 16 days (Hill, Vu & Walsh, 2007). Injury sustained through falling is a reason for increased LOS and resource demand. A study conducted in Danish hospitals nationally revealed that falls resulting in injuries increased by 11% between the years 2007 – 2012 (Jørgensen, et al., 2015). Hip fracture is example of this increased cost burden with up to 8.7% of these occurring in hospital resulting in a higher mortality rate (Shanbani et al., 2015).

While the severity of injury that can result from falling is variable, a fall often represents a significant cost not only to the healthcare system but also to the individual patient in terms of their morbidity, mortality and quality of life (Haines et al., 2013; Gettens & Fulbrook, 2015).

Falls are a major cause of injury and death for older people (Cameron et al., 2012). Approximately 30% of falls in hospital are injurious, resulting in a range of trauma from skin tears and soft tissue damage through to fractures and head injuries. Aside from the physical injury, patients who fall can also experience psychological injury including anxiety, depression, loss of confidence in mobility and fear of falling (Oliver, 2004).

Hospitalisation and the transition period following discharge are periods when the older more vulnerable person is at most risk of falling (Lee et al., 2013).

Fear of Falling

Fear of falling is recognised as being a significant consequence of falling and can have an important psychological impact on the faller (Jørstad, Hauer, Becker, & Lamb, 2005) with the fallers confidence being affected, contributing to a fear of further falls. Confidence in carrying out activities without falling or losing balance was first described by Tinetti and colleagues, who developed the Falls Efficacy Scale as a means of measuring confidence levels (Tinetti et al., 1990). This tool was later expanded upon by Hill and colleagues (1996) and renamed the Modified Falls Efficacy Scale (MFES). Limited physical ability and psychological disorders such as depression can result in a fear of falling (Boltz, Capezuti, & Shuluk, 2014). Although mobility restriction is often self-imposed by the patient, it may be encouraged by the nursing staff as a way in which further falls may be prevented (Boltz, Capezuti, Shabbat, & Hall, 2010). Although this approach was intended to reduce falls, often the opposite effect occurs as it contributes to deconditioning and functional decline (Boyd & Stevens, 2009), leading to longer hospitalisation. This in turn not only results in an increased fear of falling but can place the patient at greater risk of other unintended consequences such as delirium resulting from increase hospital LOS (Fox et al., 2012). Recovery rates may be affected by the fear of sustaining a fall as the faller is reluctant to mobilise (Jørstad et al., 2005; Hellstrom, Vahlberg, Urell, & Emtner, 2009). Extended hospital LOS and increased healthcare costs are the end result (Myers, 2003; Titler et al., 2005). It is important to consider that not all falls result in a fear of falling and not all people who have a fear of falling experience a fall, with approximately 6% of adults reporting being slightly afraid or not afraid following a fall (Boyd & Stevens, 2009). In the acute hospital setting, one area that has not been investigated extensively is the association between patients' confidence in their ability to perform daily physical activities, falling, and hospital LOS.

Thus, the overall purpose of this research was to investigate and describe the impact falling has on patients in an acute hospital setting. This may lead to improved assessment of the patient and determine a more meaningful way of communicating to them the risk of falling.

Chapter 2: Literature Review

Background

Falling in hospital can result in a number of adverse outcomes for the patient including injury and extended length of hospital stay (Titler et al., 2005). Much research investigating patient falls has been conducted worldwide, yet they continue to be a leading cause of unintentional patient harm (Ireland et al., 2013).

Although evidence is well established, reporting that being in hospital increases the risk of falling for older adults in particular (Lee, McDermott, Hoffman, & Haines, 2013), there is a paucity of research in an acute hospital setting that focuses on the experience of the patient that has fallen while in hospital. As revealed by this literature review, the majority of the research focuses on the experience of fallers in a community setting. This chapter summarises the existing research literature on the patient's experience of falling and the effect of falling on patient confidence. It is intended to describe the current literature relating to the patient experience of falling in an acute setting and its effect on confidence levels, identifying the opportunities for further research in the hospital setting.

Search Method

EMBASE, MEDLINE, CINAHL, Psych Info and Cochrane library were searched initially in August 2014. The search strategy initially incorporated the following key words: "falls", "accidental falls", "inpatients", "patients", "hospitalisation". From this initial search two sub searches were conducted. The first incorporating the search terms "confidence", "fear of falling", and the second incorporating the search terms "older peoples experience of falls", "psychology". The date ranges were limited from 1990 with other limiters including articles in English, peer reviewed and full text. The flow chart below depicts the initial literature search however it should be noted that further literature searches were undertaken during the course of this study to maintain an awareness of current and emerging literature. A total of 183 records were initially identified through the data base search with 5 of these relevant systematic reviews.

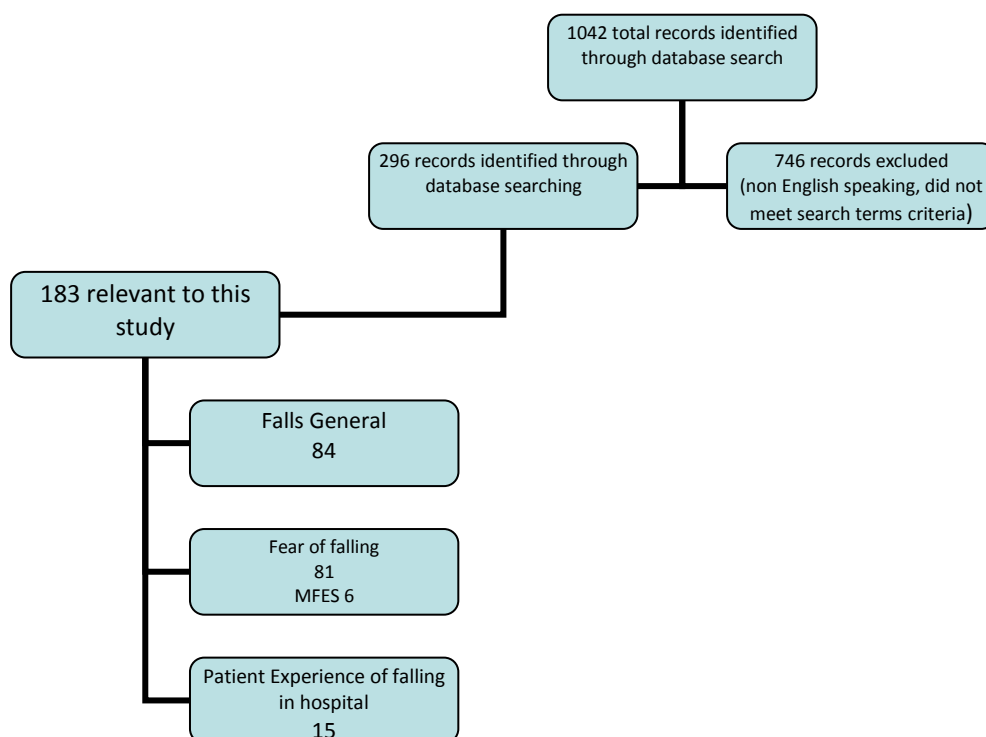


Figure 2.1

LITERATURE REVIEW

Although a systematic search of the literature was undertaken, it was not the intention to undertake a systematic review, particularly since all types of article were included. Thus, the results of the literature search are presented as an integrative review. Three main themes from the literature are described: hospital falls; confidence and fear of falling; and the patient's experience of falling. These discussed in detail below.

Hospital Falls

A review by Cozart and Cesario (2009) on accidental hospital falls, specifically concluded that further study was needed that examines the lived experiences of the older person who falls in an acute care setting. This review also implied that further research on interventions targeting staff and organisational change would be warranted. Modifiable physiological risk factors strongly associated with falls are well documented. These include impaired balance, gait, reduced muscle strength, slowed reaction time, use of multiple medications, various medical conditions for example syncope, and visual impairment (Williams, Young, Williams,

& Schindel, 2011). Within the acute hospital setting, appropriate footwear, elimination of clutter and trip hazards, toileting protocols and access, correct use of equipment such as beds on low settings, patient sensor equipment, and staffing experience and levels are among the significant factors that affect falls rates and injury severity (Choi, Lawler, Boenecke, Ponatoski, & Zimring, 2011).

A systematic review on interventions for preventing falls in older people in hospital and care facilities conducted by Cameron et al. (2012) revealed vitamin D supplementation was an effective intervention for patient falls in a care facility, reducing the fall rate but not the risk of falling. Although implementing multifactorial interventions suggested possible benefits in reducing fall rates, this systematic review found the evidence remained inconclusive. Additional physiotherapy was a successful strategy in reducing fall risk in hospitals but did not reduce fall rates (Cameron et al., 2012). A recommendation of this review was further research would benefit addressing a more individualised approach to falls intervention implementation.

The 6-PACK programme trial published after the Cochrane review reinforces the findings that novel methods are required to reduced falls and harm from falls in an acute hospital setting (Barker et al., 2016). Innovative approaches to falls reduction including building and ward design, intelligent sensor systems, targeted behavioural programs and post fall huddles are among the suggested approaches to falls prevention in an acute setting (Barker et al., 2016). And, a systematic review and meta- analysis by Fox et al (2012) of 13 randomised controlled and quasi-experimental trials reviewing the effectiveness of acute geriatric unit care discovered that acute early interventions in a dedicated geriatric unit was associated with fewer falls and subsequently a shorter length of stay.

In a subacute hospital setting, education about individualised fall risk factors, reduced fall rates but not fall risk (Haines et al., 2011). It would seem that the most successful strategies to reduce falling involve personalised individual plans incorporating more than one strategy for cognitively intact patients (Haines et al., 2011), with new evidence suggesting that low cost materials only type education, such as leaflets, is unlikely to result in a reduction in falls in hospital patients (Hill et al., 2015).

Confidence and Fear of Falling

Fear of falling was defined as a “lasting concern about falling that leads an individual to avoid activities that he/she remains capable of performing” by Tinetti and Powell (1993, p. 36). The cost of a fall should be considered in terms of its impact on the patient with several studies investigating the cost of a fall psychologically. Physical injury is reported in 30% of patient falls (Haines et al., 2004) but it is important to remember that patients can also experience psychological injury such as anxiety, fear, loss of confidence, as well as a prolonged hospital stay (Ireland et al., 2013). A systematic review of 25 papers by Jørstad and colleagues (2005) identified that psychological consequences of a fall are conceptualised as a fear of falling and that confidence can be affected. There is no denying the psychological consequences related to falling or the idea of falling may be just as disabling as the fall itself in community dwelling older people (Jørstad et al., 2005).

Fear of falling in relation to confidence in carrying out activities without falling or losing balance was first described by Tinetti and colleagues, who developed the Falls Efficacy Scale (Tinetti et al., 1990). The Falls Efficacy Scale was developed to measure the impact on confidence after an older adult has a fall in a community setting. This tool was later expanded upon by (Hill, Schwarz, Kalogeropoulos, & Gibson, 1996) and termed the Modified Falls Efficacy Scale (MFES). The fear of sustaining a fall can become a limiting factor that leads the faller to avoid mobilisation (Hellstrom et al., 2009), and is likely to be greater following a fall. This may affect recovery rates (Titler et al., 2005) resulting in a longer hospital length of stay and increased health care costs (Myers & Nikoletti, 2003). A mixed methods study that aimed to describe fear of falling in hospitalised older adults revealed that activity restriction was the main response to fear of falling (Boltz et al., 2014). Activity restriction means that older adults are less mobile thus less likely to have a fall, but more dependent on care and likely to have a longer LOS putting the patient at further risk of hospital acquired complications such as delirium (Boltz et al., 2014). Boltz and colleagues (2014) suggested that organisations develop interventions to prevent falls from occurring in hospital with both perspectives of the physical abilities of patients as well as the psychosocial environment considered. Three studies (Berlin Hallrup, Albertsson, Bengtsson, Dahlberg, & Grahn, 2009; Stewart & McVittie, 2011; Mahler & Sarvimäki, 2012) were found to specifically focus on exploration and description of the lived experience of having had a

fall and gain an understanding of the fear of falling from a daily life perspective. Two of these studies (Berlin Hallrup et al., 2009; Mahler & Sarvimäki, 2012) employed narrative interviews as the data collection method whereas Stewart and McVittie (2011) used semi-structured interviews. All three studies were carried out in a community setting, recruiting from a voluntary fracture clinic, from registration sheets from a senior course on falls prevention, and from participants identified by a community physiotherapist, respectively. All of the participants in the three studies were female and over the age of 65 years. Analysis in the study by Mahler and Sarvinäki (2012) revealed five themes: disciplining daily life, living in the vulnerable body, dependence and independence in the home, the outside jungle, and the strength and will of the ego. These were very similar to the findings of Berlin Hallrup et al. (2009) who described four main themes: a changing body, living with precaution, ambiguous dependency, and the influences and need for understanding. Stewart and McVittie (2011) concurred with these themes and identified an additional one: the loss of social identity. All the women in the three studies struggled with the changes in their bodies. Berlin Hallrup et al. (2009) reported that a changing body involves a fear of the future, as participants no longer took for granted their mobility. Mahler and Sarvinäki's (2012) study complemented this finding by revealing that the participants found it undignified and humiliating to have to accept help whereas Stewart and McVittie (2011) described how participants refused to use walking aids because they perceived that it made them feel old and socially identifiable as unwell. All three of the above studies described the strategies participants had developed for coping in the home environment, for example placing furniture strategically to make mobility easier.

Although these three studies were very similar in design, sample, data collection and findings, different perspectives were presented in the authors' conclusions. Mahler and Sarvinäki (2012) focused on the participants' control of situations and the strength that the female participants showed on a daily basis as they reorganised themselves to cope with different situations. Berlin Hallrup et al. (2009) concluded by highlighting the physical and psychosocial changes that the women may perceive of their bodies. Disempowerment and a loss of social identity that is reinforced by the health professional providing information to the families rather than to the individual, was a key finding in the Stewart and McVittie (2011) study. This is an important finding as it reiterates the need to include the patient and

their experience in research on falls prevention. If the patient is left feeling disempowered by the very people who are providing care to supposedly re-empower them, there needs to be consideration of the perception of the health professional and the barriers to providing the patient with the support they need to recover physically and psychologically from a fall. Yardley, Conovan-Hall, Francis and Todd (2006) suggested that rather than the health care professional providing advice on falls prevention it may be more beneficial to promote balance and fitness. In providing a positive reinforcement to health improvement, health professionals are more likely to help patients increase balance and mobility thus reducing falls rather than by focusing on prevention strategies, which are more likely to promote anxiety about falling.

Patient Experience of Falls

Although risk factors and falls have been well researched in the community, it appears that little research has been conducted into the patient's perception of the risk of falling as an in-patient. A large cross-sectional study, conducted over a period of three years and involving 3.5 million older community based adults in the United States, collected data on falls using a list-assisted random digit dialling telephone survey (Boyd & Stevens, 2009). A key finding was that adults who were identified as being at greater risk of falling did not have a consistent standard definition of a fall and therefore were reluctant to identify as having had a fall. Consequently, they were hesitant to adopt behaviours that would reduce their risk of further falls. This is despite almost half of the participants reporting that they had sustained a fall that resulted in an injury requiring medical attention. Although data for this large study was collected from community-based older adults with and without a fall history, it highlights the importance of better understanding falls from the perspective of the patient so that management and fall prevention initiatives can be more effectively directed.

A systematic review analysed studies that assessed the effectiveness and characteristics of falls prevention interventions implemented within a hospital setting (Choi et al., 2011). This review uncovered three distinct characteristics, namely the environment, the care process and the use of technology. The patient's perspective was not considered in this study. There is some support for the view that for falls prevention strategies to be effective they need to

engage the patient (Lee et al., 2013). However, this extensive literature search, performed in advance of this research, has revealed few studies that report on the experiences of patients who have sustained a fall in the acute hospital setting. However, there are some important findings from the few studies, which support the need for this research study. Patient experiences of falling were explored by Carroll et al. (2010) who noted that the few studies based in an acute setting did not take into consideration the perspective of the patient. Most research into the patient's perspective of falling has been conducted in community-based settings using samples of older people (Ballinger & Clemson 2006; Johnson, Jeffrey, Bacsu, Abonyi, & Novik, 2016). Although such research cannot be generalised to an acute hospital setting, it does provide some guidance about the issues around falls and their prevention.

Within a community context, McMahon, Talley and Wyman (2011) conducted a review of older people's perspectives of falls risk and prevention programs using qualitative interview and survey designs. They identified four main themes: the influence of the participant and program characteristics, personal relevance, maintaining autonomy and independence, and access to programs. Although the findings are relevant, it should be noted that this review was based on community dwelling participants. Several studies including Ballinger and Clemson (2006) explored the views of community based people who had experienced a fall. The results of the Ballinger and Clemson (2006) study uncovered four main themes: the identity as active elders, the salience of interventions, the social experience and the consequences of participation. The authors suggested that the likelihood of decreasing falls did not feature prominently in these interviews, concluding with the finding that embedding falls prevention within a wider context of wellbeing may be more meaningful to the participant.

A preliminary study within an acute ward setting by Ballinger and Payne (2000) explored the perspectives of eight older participants, who had suffered from a hip fracture as the result of a fall. Twenty occupational therapists and physiotherapists were also interviewed using a semi-structured interview technique. The questions that Ballinger and Payne (2000) asked the patients about the fall they sustained appeared to focus more on the account, cause and effect of the fall itself – rather than how the patient felt about the experience. In fact, all of

the studies reviewed relating to the patient experience tended to focus on the account of the fall rather than how the patient felt after the fall had occurred.

Recent studies on older person's views on falls prevention strategies have indicated that increased patient education on falls prevention strategies and programs, designed to prompt behavioural changes in older patients, have reduced falls rates (Lee et al., 2013; Haines et al., 2015). However, the reality is that to implement such programs is time consuming and labour intensive requiring a change in established behaviours and practice for both staff and patients (Child et al., 2012), and the ability to sustain these programs is limited because of the resources required (Hill et al., 2011). This, coupled with the resistance of some patients to accept that they are at risk of falling (Lee et al., 2013) and the perception that the falls prevention information provided to them by health professionals is not relevant to them (Haines et al., 2014) makes it very difficult to reduce falls rates in this population.

One of the few studies within a hospital setting was undertaken by Dykes, Carrol, Hurley, Beniot and Middleton (2009). This large qualitative study investigated the experience of falling from a nursing perspective with the participants comprising of nurses and nurse assistants. Focus groups were used to gather the information from the participants. The authors used a basic content analysis method to analyse the reasons why a patient fell while in hospital care. While this study identified interventions that may reduce falls, including the skill and knowledge of the nurses, hospital resources and indeed engaging with the patient, finding that inadequate and incomplete information lead the decreased ability to prevent patient falls. The patient was not included as a source of data; therefore, their perceptions were not investigated.

Two studies were found that did identify the patient's perception of falling while in an acute care setting. Carroll et al. (2010) used a qualitative approach, to investigate the patients' perceptions of the cause of the fall. This study, however, focused on categorisation of the fall into the need to toilet, coupled with weakness and balance challengers, and failed to identify how the patient felt about the experience of falling. Roe et al. (2008) conducted a qualitative study exploring the older person's experience of falling to help identify factors that could contribute to service development. Community and acute inpatients were included in the data collection. The findings from this study identified that if the person

experiencing the fall reflected on that experience they were more likely to learn from it, thus reducing the risk of having a further fall. Further research into the social aspects of falls to improve the understanding of the older person's experiences was a recommendation of this study.

A qualitative study using a descriptive approach was conducted by Lee et al. (2009). It employed focus group discussions with patients who were at risk of falling or had been admitted to hospital as the result of a fall. These discussions took place between one to two weeks after they had been discharged from hospital and then again three months from their date of discharge. The aim of this study was to engage patients in falls prevention by raising their awareness of fall prevention interventions. Phone interviews and face to face semi-structured interviews with the patients, plus nursing, medical staff and allied health staff were conducted. This study successfully identified barriers to fall prevention interventions implemented in an acute hospital setting, specifically that the provision and delivery of information to the patient needed to be improved. It also identified that older people did not consider the risk of falling in hospital as relating to them. This finding is consistent with the findings of Boyd and Stevens (2009). However, because the interviews were conducted after discharge from hospital rather than as an in-patient, the importance of falls prevention in a hospital setting may have been lost on them as they coped with the challenges of everyday life post discharge. An investigation as to why older adults take risks that may lead to falls by Haines, Lee, O'Connell, McDermot and Hoffman (2015) was also conducted in an acute hospital setting utilising semi structure interviews and focus groups as data. While this study has provided a good understanding of the reason for risk taking behaviours of older adults, it does not investigate the patient's experience of the fall.

Physical injury which affects 30% of patients who fall in hospital (Haines, Bennell, Osbourne, & Hill, 2004) is a visible reminder that a patient has experienced a fall. However, it is important to acknowledge the impact of the unseen psychological injury resulting in the patient experiencing anxiety, fear, loss of confidence, and a prolonged hospital stay after falling (Ireland et al., 2013). At the time of this study, emerging research examined the participant's experience of falling but few of these studies focused on this experience in an acute hospital setting. Miller and colleagues (2016) study examined narratives from the older person in relation to asking for help following a fall. Community dwelling citizens that

had attended an emergency department as the result of a fall provided the data for this study. These participants' experiences of falling were in a community setting, therefore the participants could not describe the experience of falling in an acute setting.

Conclusion

This review of the literature has provided a general overview of the problem of in-hospital falls and the impact that experiencing a fall can have. The literature examined includes studies on falls interventions, fall risk, confidence levels of the patient, and the experience and views of patients who have had a fall.

Although there is an abundance of literature on fall prevention strategies, interventions, risk, cost, assessment, fear of falling and the experience of the faller, there has been little research undertaken in an acute hospital setting that focuses on the experience of the patient that has fallen while in hospital. By researching the patient's experience of falling while an inpatient there is an opportunity to report on the psychosocial aspect of falls prevention that has not been well investigated previously.

In summary, given that the patient is most affected by a fall, patient engagement with fall prevention strategies and research into the patient experience of a fall has not been thoroughly investigated in the hospital setting. Furthermore, there is a paucity of research in an acute hospital setting that focuses on the psychosocial impact on a patient after experiencing a fall while in hospital.

The importance and relevance of this research was to better understand the impact of a fall from the perspective of the patient experiencing the fall. This knowledge may help to inform health professionals to undertake fall preventions in a manner that is more meaningful to the patient and to consider including confidence levels as part of the fall risk assessment. Consequently, this may reduce the number of patients' sustaining a fall whilst in hospital care. For this reason, this research not only examined self-reported confidence before and after a fall in hospital, but further examined the lived experience of the faller.

Chapter 3: Methodology

Introduction

The research methods used for this research are described in this chapter. This research utilised a convergent mixed methods explanatory design conducted in two phases, a quantitative phase followed by a qualitative phase. As discussed in a methodological review by Östlund, Kidd, Wengström and Rowa-Dewar (2011), it is most important to clearly articulate in this chapter the purpose for mixing quantitative and qualitative data and the expected outcome in doing so. Therefore, the aim of employing a mixed methods approach in this study was to best understand or develop more complete understanding of the research problem by obtaining different but complementary data (Creswell & Plano Clark 2011). Phase 1 employed a quantitative approach to ascertain the relationship between patients' confidence in their ability to perform normal daily activities without fear of falling, fall risk and hospital LOS. In Phase 2, patient interviews were conducted to pursue a true understanding of the patient's experience of falling whilst an inpatient. This qualitative data was used to enrich the results from Phase 1 by providing an insight into the patients' perspective of experiencing a fall. This chapter therefore discusses the research purpose and is followed by a discussion and rationale for the use of a mixed methods approach. The specific research processes used for each phase are also described.

Research Purpose

As discussed previously, the overall purpose of this research was to investigate and describe the impact falling has on patients in an acute hospital setting.

This research included two studies (Phases 1 and 2), which were designed to address this overall purpose. The aim of Phase 1 was to investigate the relationship between fear of falling and hospital falls and LOS. The aim of Phase 2 was to understand the patient's experience of falling in hospital and the direct effect the fall has on the patient.

Phase 1 employed a quantitative study using the Modified Falls Efficacy Scale (MFES). The consequence of a fall resulting in psychological difficulties related to physical activity, often labelled fear of falling, is well documented (Jorstad et al., 2005). Aside from the physical

trauma that can result from a fall, a range of psychological issues including fear of falling, loss of balance-related confidence, fear of social embarrassment, or fear of loss of independence can be triggered (Jorstad et al., 2005; Yardley & Smith, 2002).

To understand the relationship between fear of falling, in-hospital falls, falls risk and hospital length of stay, Phase 1 employed a quantitative study utilising the MFES to measure a patient's confidence in daily activities. Other data collected during this phase included the patient's risk of falling, which is discussed in this chapter, and the patient hospital LOS.

In Phase 2, unstructured interviews were used to gain an understanding of the patient's experience of falling. It was envisaged that the results of theming the interviews in this phase would complement, contextualise and enrich the analysis and findings from Phase 1.

Research Design

The convergent mixed-methods design consists of two distinct phases: quantitative followed by qualitative (Creswell & Plano Clark, 2011). In this design, the quantitative data is collected and analysed initially followed by the qualitative data to help explain, or elaborate on, the quantitative results. The rationale for using a mixed methods design for this study was to take advantage of the strengths of each phase with the quantitative data providing an understanding of the research problem and the qualitative data giving the research study a voice, allowing for a more robust analysis (Ivankova et al., 2006). The flow chart below highlights the process involved in this convergent mixed methods study.

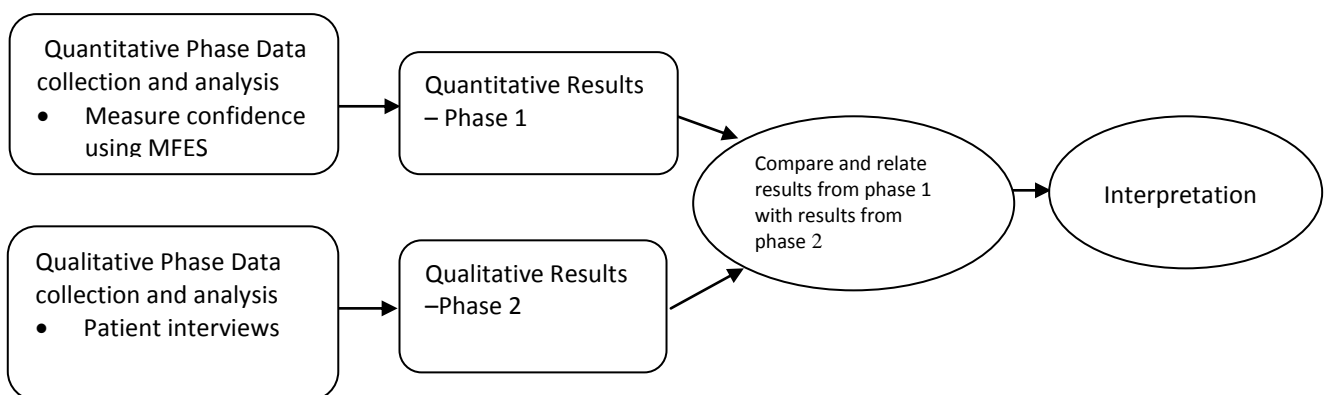


Figure 3.1

Phase 1 – the quantitative study, utilised an observational non-experimental design with data collected to measure confidence, length of hospital stay and fall risk. Phase 2 utilised patient interviews as the data collection method. Van Manen's (1990) hermeneutic phenomenological enquiry was chosen to guide the enquiry into the experience of inpatients that had fallen.

Mixed Methods Research

The term "mixed methods" refers to a form of research that involves the integration of quantitative and qualitative data within a single inquiry. This integration allows a more complete and synergistic utilization of data than do separate quantitative and qualitative data collection and analysis (Creswell & Plano Clark, 2011). Mixed methods research is described as a form of enquiry seen as both a methodology and a method. As a methodology it guides the direction of the data collection, analysis and mix of this research in all phases of the enquiry and as a method it involves the collection, analysing and mixing of both the quantitative and qualitative data in a single study (Andrew & Halcomb, 2009).

The rationale behind choosing a mixed methods approach for this study was to descriptively explain the data collected in the quantitative phase, with the complexities and richness of the data collected in the qualitative phase strengthening the overall findings to provide an understanding of the relationship between patient falls and confidence in hospital.

Ethics

Ethical approval for both Phase 1 and 2 was obtained prior to commencement of this research from The Prince Charles Hospital Human Research Ethics Committee (Appendix C and H) and by the Australian Catholic University Human Research Ethics Committee (Appendix D and I). Individual consent (Appendix E and J) was obtained from the participants prior to collecting any patient data and an information letter (Appendix F and K) provided to them included the researchers contact details. There was no anticipated or expected risk to the participants in this research and the researcher collecting the data clearly identified themselves to the participant to reduce any speculation from the patients' that participating and providing information was related to a discharge assessment.

While there was no anticipated or expected risk to the participants, it is possible that some participants may have become distressed during the interview as they relived the experience of falling. Fortunately, this did not occur, although in the event of the participant displaying signs of distress several options would have been offered including the choice to resume after a short period, discontinue the interview and conclude on a different day, or withdraw from the study without prejudice. A referral to the TPCCH counselling services was also available.

All data will be kept for a minimum period of five years as defined by the NHMRC guidelines after which it will be destroyed. During the research project period, all paper based data was appropriately stored in a locked cabinet and computer-based data was password protected.

Phase 1 - Quantitative Study

As this phase did not involve the manipulation of any interventions or the use of a control group, an observational non-experimental design was utilised. Non-experimental research involves variables that are studied as they exist (Creswell & Plano Clarke, 2011).

Aim

To investigate the relationship between fear of falling and hospital falls and LOS.

Objectives

The objectives of this study were to:

- describe the incidence and measure the fear of falling (using MFES)
- analyse the relationship between fear of falling and observed falls
- compare the fear of falling upon admission between patients who have already experienced a fall at home and others
- analyse the relationship between MFES score and fall risk using Falls Risk Assessment Tool (FRAT) score
- identify the level of fear of falling before and after a fall (in a subset of the sample who experience a fall whilst in hospital)

- identify the relationship between fear of falling and hospital length of stay.

Data collection and setting

Data collection occurred over a seven month period. The setting was a large tertiary general hospital in Queensland. A convenience sample was recruited from patients in the four wards reporting the highest number of falls annually as identified through the hospital electronic incident monitoring system: Ward A, acute medical/surgical; Ward B, geriatric evaluation/management; Ward C, acute rehabilitation; Ward D, extended care.

All patients admitted to the four designated study wards were invited to participate. This included patients transferred from other wards throughout the hospital. The data were primarily collected by the researcher however an Enrolled Nurse was recruited and trained to assist with the data collection and data entry. Recruitment occurred at the time of admission or transfer to the study wards. Data were collected from all participants on admission to a study ward and immediately prior to discharge. Those with a cognitive impairment, as determined by the researcher in collaboration with the patient's medical team, were excluded. Basic demographic information was collected (such as age, gender, reason for admission), and confidence levels were measured on admission and discharge using the MFES (Hill et al., 1996) as described earlier in this chapter. In the event of a fall, an additional MFES was recorded within twelve hours of the fall to measure the impact of the fall on the participant's confidence to perform activities.

Measures

The following measures were used:

- demographic characteristics (obtained from the medical record)
- Falls Risk Assessment Tool score on admission
- MFES score (on admission and discharge and post fall)
- hospital length of stay.

Modified Falls Efficacy Scale (MFES)

The MFES is a 14-item scale modified from the FES by Hill et al., (1996) and comprising of 4 questions relating to confidence in outdoor activities with the existing 10 questions relating to indoor activities to measure balance performance, activity level and confidence in

completing these activities without falling. Participants rate their confidence in performing a range of activities without falling. Confidence is rated on a scale of 0 to 10, where 0 is 'not confident at all', 5 is 'fairly confident/fairly sure' and 10 is 'completely confident/completely sure' (Appendix A). The overall MFES score is calculated by averaging the scores for all items, to give a score between 0 and 10. The MFES was presented to the participants in a paper based format. In an attempt to minimise the participant misinterpreting the questions, the researcher collected the data by reading the questions out to the participants and completing the scale with them. The MFES activities were independently scored and compared between patients' that sustained a fall and those who did not fall to identify how the activities ranked between the two groups. This has the potential to provide information to the health care team on which activities are related to a lower confidence level which in turn can lead to targeted interventions to improve confidence in these areas.

Falls Risk Assessment Tool (FRAT)

A patients' risk of falling was assessed on admission to the study wards using the hospital's Falls Risk Assessment Tool (FRAT) (Appendix B). It was usual practice for this assessment to be carried out by the admitting nurse as part of the initial admission assessment of a patient. The patients' risk of falling was then reassessed using the FRAT on a weekly basis, following a fall and on a change in the patient's condition. The FRAT scored risks in 12 categories (age, balance, chronic illness, days since admission, delivery devices, falls history, general health, incontinence, medications, mental state, speech, vision), each scoring from 0 to 3. The scores from all categories were totalled to provide an overall risk score ranging from 0 to 36. The degree of risk was subsequently categorised according to the risk score, as low (1-10), medium (11-20) or high (> 20). The FRAT also prescribed the relevant preventative interventions to be implemented according to risk category. The patients' fall risk data was noted by the researchers at the time the MFES was completed.

Hospital length of stay (LOS)

Participants' length of hospital stay was measured by taking note of the date of admission on the electronically produced admission sheet and the date of discharge recorded in the Hospital Based Corporate Information System (HBCIS). This information was then recorded in the researcher's database.

Data analysis

All patients were de-identified and only aggregate data were analysed. Data were entered into a statistics database for analysis (SPSS version 21). Descriptive statistics were used to describe the sample and inferential statistics were used to analyse differences and relationships in the data. Non-parametric tests were used if parametric assumptions were violated (e.g. level of data, normal distribution). Sensitivity and specificity analyses were undertaken in relation to prediction of falls using the FRAT and the MFES. Receiver-operating-curve (ROC) analysis and calculation of the area under the curve (AUC) were also performed to calculate the predictive performance of the two tools. Significance was set at $p < 0.05$.

Phase 2 – Qualitative Study

Aim

Whilst the findings from phase 1 of this research study answered the research question: What is the relationship between confidence, in hospital falls and hospital length of stay, it did not address the human aspect of the experience of falling. This raised a new research question: ‘What is the lived experience of patients’ who fall while in hospital’? Therefore the aim of Phase 2 was to understand the patient’s experience of falling in hospital and the direct effect the fall has on the patient.

Research Design: Van Manen’s phenomenological approach to research

This section outlines the rationale for choosing Van Manen’s (1990) phenomenological approach for this research study. His methods of analysis informed this research study and will be discussed. Hermeneutic phenomenology, as interpreted by Van Manen, is a descriptive interpretive methodology that is reflective without involving “polemical, assumptive, and emotional intoxication”, (Van Manen, 2014, p. 26). It is human science which studies individuals and is essentially interpretive and primarily orientated to the explication of text. To conduct research is to question the way we, as individuals, experience the world and to explore that which is most essential to our being in the world (Van Manen, 1990). It was therefore essential to gain an understanding of what it was that the participant was saying or feeling about their experience of falling in an attempt to humanise the

quantitative results from Phase 1 of the study (Schnider, Elliot, Beanland, LoBiondo-Wood, & Haber, 2003).

Van Manen's approach suggests the researcher acknowledge their previous experience, knowledge and beliefs, and how these may influence all phases of data collection, analysis and interpretation. Because of the experiences of the researcher with patient falls, this philosophy was most appropriate. Van Manen suggests a six step 'methodical structure' (1990, p. 30) as a practical approach for hermeneutic phenomenological research. These six steps are outlined below and provide a framework for the overall research method:

- turning to a phenomenon that seriously interests us as we conceptualise the world
- investigating experience as we live it rather than as we conceptualise it
- reflecting on the essential themes that characterise the phenomenon
- describing the phenomenon through the art of writing and re-writing
- maintaining a strong and orientated pedagogical relation to the phenomenon
- balancing the research context by considering the parts and the whole.

Sample and recruitment

A purposive sample of twelve participants was recruited from the patients that had experienced a fall while an inpatient at The Prince Charles Hospital (TPCH). The sample included five male and seven female participants with an age range between 27 to 84 years old. Sample size was based on the quality of the information as described by the participants in the interviews and when the researcher determined that there was little new information being divulged by the participants. This was consistent with the sample sizes from previous similar studies (Berlin Hallrup et al., 2009; Stewart & McVittie, 2011; Mahler & Sarvinäki, 2012). All patients who sustained a fall during their hospital admission in any of the clinical ward areas, including the emergency department, were considered for participation. A fall was defined as an event which resulted in a person coming to rest inadvertently on the ground or floor or other lower level (WHO). Although age was not a limiting factor, those patients who were cognitively impaired, deaf or did not speak English were excluded as they were unable to consent and interpreter services were not available. Cognitive impairment was determined in consultation with the patient's medical team.

Participation was voluntary and patients were provided with an information letter explaining the study. All inpatients that experienced a fall during their admission were identified via the electronic incident reporting system at (TPCH). The research student then approached the patient in person and invited them to participate in the interview process recalling their experience of the fall. Patients who agreed to participate were given an information summary of the research study at the time they signed their consent.

Data collection

Data collection for the study was through single in-depth interviews with twelve participants' who had experienced a fall whilst an inpatient. Interviews are by nature conversational and interactive, and are the mode of choice when the researcher does not have a clear picture of the experience under examination (Polit & Beck, 2013). Although unstructured interviews are described as the gold standard of phenomenology (Balls, 2009), and are particularly suitable for this research question, it was sometimes difficult for some participants to maintain a flow of dialogue without guidance and some structure. In the context of such interviews, the researcher's role was that of a facilitator, enabling participants to talk freely about their experience. By a simple invitation to: 'Tell me about...', they explored the full range of their experience via a narrative that was not corralled into a questionnaire schedule that presumed or excluded issues of which the researcher was unaware. The unstructured format often uncovered a novel topic, adding a sense of discovery to the research findings and potentially new keys to unlocking lived experiences of the participants (Lowes & Prowse, 2001). The interviewer took a limited role in guiding the participant's response. However, on occasion, a participant was not at ease with fluent narrative telling, in which case the researcher employed prompts to encourage conversation (Balls, 2009). The following questions are examples of the primary interview prompts used in the interviews:

- Tell me about your experience of falling?
- Further questions that were used as prompts were:
- Can you tell me more about that?
- How did that make you feel?
- What happened next?
- Why do you say that?

- You say that very strongly.

Some interviews produced an abundance of dialogue with the participants at times straying from the topic the researcher was hoping to cover. Occasionally, it was difficult to guide the participant back on topic resulting in a lengthy interview that contained dross which the researcher identified during the analysis phase. Reflexivity and transparency are integral to the whole process (Willis, Sullivan-Bolyai, Knafl, & Cohen, 2016). In an attempt to maintain transparency and credibility, verification by research colleagues with expertise in phenomenology ensured credibility of the data analysis. To maintain trustworthiness in a qualitative study requires credibility of the findings, knowing that your findings are true and accurate and that these findings are transferable to similar situations. Confirmability was established with the interpretation on the participant's responses forming the findings as captured in the table Appendix G. Field notes were written immediately after the interview on the participant's non-verbal communication - general demeanour, body language and tone along with notes on the environmental setting for the interview. These notes were referred to and considered during the theming of the data and together with the review of the research process by 3 experts in the field of qualitative research ensure that the findings were dependable and consistent and could be repeated.

The ideal location to conduct an interview is a quiet room with minimal disturbance to assist the participants to feel more relaxed and comfortable (Balls, 2009). However, the practicalities of accessing a quiet room or area away from the ward to enable the participants' to feel freer to tell their story was more difficult than expected due to a lack of availability of such areas. Prior to commencing patient interviews, several rooms that would be appropriate for conducting recordings of patient interviews were identified; however, these rooms were usually booked for clinical reasons and were not available. Patient factors also meant that it was not always appropriate to take the patient away from the ward area. Several patients were unable to leave the ward area because of the treatment they were receiving. Four of the participants were isolated because of a transmittable infection; therefore contact precautions were required including isolating the patient from locations that were shared by other patients. The positive aspect of this is that they were located in a single room so privacy was maintained and in this situation the participants appeared to be open and honest in their account of the fall. The difficulty of a quiet, private location in

which to record participant interviews was managed by drawing the curtain around the participants who were in a shared ward area. A curtain pulled around a patient's bed gave the impression of environmental privacy (Baillie, 2007) and did appear to make the participant feel that they were in a more intimate situation where they were shielded from others while they shared their experiences with the researcher.

Data analysis

As discussed earlier in this chapter, data analysis was guided by Van Manen's (1990) six methodological components to frame the phenomenon of the patient's experience of hospital falls. It was proposed that examining the real life experiences of patients who had fallen while in hospital would enable an understanding and appreciation of the significance of this phenomenon in a full and meaningful way by understanding the lived experience of the fall rather than the reaction to the fall (Connelly, 2010).

Turning to the nature of lived experience

As Van Manen suggests, it is important that the researcher's approach to interpretive research acknowledges his or her previous experience, knowledge and beliefs, and how these may influence the researcher in all phases of data collection, analysis and interpretation. Later in this chapter a full explanation of the researcher's previous knowledge and experience is detailed in the section: *The research student: who am I?* Phase 1 of this research study answered the research question: What is the relationship between confidence, in hospital falls and hospital length of stay, however it did not address the human aspect of the experience of falling. The research question for phase 2 therefore became, 'What is the lived experience of patients who fall while in hospital? Throughout the research process this question was continually referred back to in order to ensure that the researcher remained orientated to the "essence" (Van Manen, 1990, p. 40) of the phenomenon.

Investigating experience as we live it

The data collection method employed to investigate the lived experience of falling in hospital was unstructured interviews, recorded and transcribed. Interviews allowed the participants and the researcher to re-live the participants' original experiences as they

related them. The participants were asked to describe their experience of falling in their own words, and these narratives were expected to add depth and breadth to the current understanding of in patient falls.

Reflecting on the essential themes which characterise the phenomenon

It was necessary to identify essential themes within the data in order to reflect on them. During the interviews, significant themes in the participant's dialogue began to emerge. Every attempt was made by the researcher to ensure the participant had the opportunity to elaborate on these points in order to ensure sufficient data was collected. The reflective notes taken immediately after the interviews, assisted with the analysis and influenced the direction of the subsequent interviews. The recordings were transcribed verbatim by professional transcribers then listened to again by the researcher as the transcriptions were checked for accuracy, allowing immersion in the data with the reading and re-reading, listening and re-listening. Thus began the analysis by identifying common experiences which eventually revealed themes.

Describing the phenomena in the art of writing and rewriting

The writing and re-writing during this research process provided the opportunity for constant revising and refining of thought. Snippets of themes that were formed during data collection and checking of the transcriptions became clearer during reading and re-reading, writing and re-writing. Conversation and reading the transcription out loud to a researcher experienced in phenomenological research allowed questioning and reflection of the emerging themes leading to a deeper understanding of the lived experience.

Maintaining a strong and orientated relation to the phenomenon

During the analysis phase it was necessary to maintain a clinical position and to leave the research at times, to go to work. A genuine interest in the research topic was advantageous, as it made it less difficult to resume working on the study, picking up and continuing the analysis work. It was often easy to become immersed in the stories of the participants, and the temptation to indulge in speculation about the circumstances that resulted in the participant experiencing a fall was particularly strong. Frequent contact with colleagues and supervisors in order to re-orientate to the research question and reflect on the research

process was essential to remain on task and maintain a strong orientation to the phenomenon.

Balancing the research context by considering the parts and the whole

Although analysis began initially with the twelve interviews as a whole, the reading and re-reading allowed the researcher to consider the 'parts' of the interviews to shine through. These pearls of narration then came together again in the form of a theme. Deep consideration of the narrative and the parts or phrases that formed the themes continued throughout the writing process of this thesis. While these six methodological structures appear sequential, there is a back and forth movement between the steps throughout the research process as the data is read and re-read, listened to and re-heard, examined and re-examined. There is no formal beginning or ending to this process.

Van Manen's approach to thematic analysis

The above steps have described the methodical structure used for this thematic phenomenological study; the following will describe how the researcher isolated the final themes. In order to isolate a theme from the text that describes the participant's experience, it is important to understand what a theme is. Van Manen (1990, p. 87) describes a theme as:

- the experience of focus, of meaning, of point
- a simplification
- not an object one encounters
- the form of capturing the phenomenon one tries to understand.

In isolating themes, three approaches were taken. Firstly, the narratives were read as a whole revealing the essence of the theme about the phenomenon. The selective reading approach was then undertaken with transcripts and recordings read and listened to several times, highlighting essential statements or phrases that revealed the experience, answering the question - 'What does the experience of a fall in hospital mean to the patient?' This was followed by the detailed reading approach in which each sentence or sentence cluster was examined to capture thematic expressions, narratives or phrases (Appendix G). The

following is a more detailed discussion of the formation of themes and how they can be teased out from within the text.

The holistic reading approach

The holistic approach began with the participant interviews as the researcher listened to the dialogue as a whole at the time of the interview. This holistic reading approach continued as the recorded interviews were checked before being sent for transcription and verified for transcription accuracy on their return. It involved looking at the text as a whole and asking which notable phrases captured the fundamental meaning of the text. Concepts of themes were revealed through the reading and re-reading of the text for an overall picture of what the participants were feeling.

The selective reading approach

This phase of the analysis involved re-reading text and highlighting those statements or phrases that were particularly essential and revealed the phenomenon of the experience of falling for the participant. The concepts of themes revealed themselves during this selective reading phase.

The detailed reading approach

During this approach, Van Manen (2014) details how the researcher looks at each sentence or group of sentences while asking, "What may this sentence, or sentence cluster be seen to reveal about the phenomenon or experience being described?" (Van Manen, 2014, p. 320) Thematic expressions of the participants experience are identified through the text as a sentence or sentence cluster that reveal the experience of falling and the effect of falling on a patient's confidence.

Timeframe

The timeframe for the data collection was initially estimated to take approximately eight weeks; however, it was unexpectedly difficult at times to recruit patients due to the high number of fallers that were cognitively impaired (32%). As the researcher was collecting data in her own time which allowed for one day per week, there were periods of time that did not result in an interview. This time was used to immerse in the existing data and to

refine interviewing skills by analysing the existing interviews. Although it is recommended that the researcher transcribe her own recordings (Balls, 2009) in the interest of time the recordings of the interviews were sent to professional transcribers and transcribed verbatim. The researcher was able to immerse herself in the living data by listening to the interviews as she checked the transcriptions for accuracy and completeness.

Level of Evidence

When attempting to implement evidence based research, it is important for the clinician to understand the strength of the research evidence by critically appraising or assessing its methodological quality. A preliminary judgement on the level of evidence can be made based on the research design, the methodology quality and the rigor of evidence. The international adoption of the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) approach has eliminated the need for organisations to develop their own ranking and grading systems and have been endorsed by Cochrane, World Health Organisation and the British Medical Journal Clinical Evidence (Munn, Porritt, Aromataris, Lockwood & Peters, 2014) .

The GRADE approach ranks evidence into one of four levels (high, moderate, low, very low) and is dependent on the study findings, appraisal/risk of bias, effect size dose response and confounders to name a few factors (Munn, Porritt, Aromataris, Lockwood & Peters, 2014) . However the Joanna Briggs Institute (JBI) take a broader view of what constitutes research evidence for practice and has developed a unique levels of evidence and grades of recommendations that are designed to easily be incorporated into the GRADE approach. These levels of evidence are internationally utilised and incorporated into systematic reviews, evidence summaries, and best practice information sheets.

Importantly these Levels of Evidence should not be used as a definitive measure of the best evidence and should not substitute critical appraisal and clinical reasoning.

The Joanna Briggs Levels of evidence includes:

- Effectiveness; the levels of evidence are designed to align with GRADE and depending on the number of factors as described early can be upgraded or downgraded.
- Diagnoses of levels of evidence are divided into two groups; randomised control trials and studies that evaluate specificity and sensitivity.

- Prognosis; aligns with the GRADE approach with studies being pre ranked based on study design
- Costs incur a different level of evidence than the other levels as costs are always unique to a certain setting.

Meaningfulness of a qualitative study has been addressed by the JBI as they offer a way to rank qualitative studies based on the study design (Munn, Porritt, Aromataris, Lockwood & Peters, 2014). Therefore, based on the Joanna Briggs Levels of Evidence and Grades of Recommendation (2014) this study contributes to:

- Level of Evidence for Effectiveness
 - Level 3: observational - analytic design
 - Level 3e: observational study without a control group
- Level of Evidence for Meaningfulness
 - Level 2: qualitative or mixed- methods synthesis.

Generalisability

In terms of generalisability, the findings from this study are context dependent. The generalisability from Phase 1 is limited by its observational design, from a single centre. The term 'generalisability' is not relevant to Phase 2; rather the term 'transferability' is used in qualitative research. In this context, the findings may be relevant and applicable to other settings.

The Researcher as an Instrument of Research

In qualitative research it is important for the researcher to be aware and acknowledge that their previous life experiences may stifle reflexivity and creativity (McGhee, Marland, & Atkinson, 2007). Therefore, the researcher must ensure that the themes and stories emerging from the qualitative data are not forced into shape by their preconceived notions. The patient interviews for the qualitative study forming Phase 2 of this research study were interpreted by utilising an interpretative phenomenological approach. This method was chosen because of the existing experience the researcher had with patient falls in a clinical setting. Van Manen (1990, p. 27) describes a good phenomenological description as "collected by lived experience and re-collects lived experience - is validated by lived

experience and validates lived experience". This is termed the validating circle of inquiry. This approach enhanced the validation of the themes revealed from the participant's descriptions of their experience of falling. The researcher was able to openly recognise the experience of falling in hospital as an occurrence that she had prior knowledge of and therefore was able to embrace these experiences and include herself as an instrument of research. It is therefore important that the research student openly acknowledges and shares her experiences in the context of this interpretive research study in an attempt to prevent the researcher's perception distorting the data.

The research student: who am I?

I began my nursing career in the early 1990s as a hospital trained enrolled nurse. After 18 months of nursing profoundly disabled children I returned to a major tertiary hospital and was employed in an interim care unit. These patients were not always elderly; patients with brain injuries as well as younger patients with conditions such as Parkinson's disease and end stage human immunodeficiency virus (HIV) made up this ward's cohort. It was here that I first recognised the importance of falls prevention. I can distinctly recall a fall sustained by an elderly patient mobilising with her walking frame – she fell backwards landing flat on her back, hitting her head on the floor with the walking frame landing on top of her. I will never forget the sound that a human skull makes when it comes into contact with a floor. She suffered a subdural intracranial haemorrhage and subsequently died. At that time, because of incidents like this, mobilisation of high risk patients was not encouraged. The methods used to prevent falls in this cohort of patients was to restrain them in their chair or the bed with lap belts or sheets. This style of nursing care did appear to reduce fall rates but I do recall that pressure injury or pressure ulcers, as they were then called, were prevalent.

I then moved to a trauma orthopaedics unit where I became increasingly frustrated at the restrictions of practicing as an endorsed enrolled nurse, therefore I undertook a Bachelor of Nursing in 2005. The move from nursing medical patients to surgical patients was exciting and the pace in this unit was fast. The majority of patients were younger and recovering from surgery as the result of an accident of some sort. Falls in this unit were not a priority as the inpatient fall rates were low, possibly attributed to the fact that the majority of patients were not able to mobilise independently due to injury. Ironically, the majority of the

patients in this ward were admitted because of a fall, although usually from something such as a motor cycle, wall, or horse.

A move back to medical nursing cemented a realisation that falls prevention was a priority nursing intervention. I was given the opportunity of working on a small research study looking at simple fall prevention interventions that could be implemented on a ward by the nursing staff with no to low cost. Being involved in this project highlighted the inconsistency of falls prevention information and strategies within the hospital. It was frustrating to note that the basic falls interventions were not being practised and as a result patients fell. Nurses continued to be task orientated rather than patient orientated – instead of waiting with the confused elderly patient in the toilet they left her while they made the bed putting her at greater risk of falling. I was at a loss as to how I could help to make falls prevention more meaningful to nurses in the hope that they would engage in falls prevention strategies to hopefully reduce the risk of falling in their patients, thus reducing the risk of injury and fear of falling, therefore reducing a patient's hospital length of stay. At that time the opportunity to work with a team as the lead for fall prevention in the hospital was offered and I accepted, giving me the chance to make a change in regard to fall prevention. Staff education was revamped, resources available to nursing on fall prevention was standardised, education was developed for patients and their carers and as a result we saw a reduction in fall rates over the following 5 years. During this time, as the result of the falls research we had undertaken, we questioned the relationship between falls and patients confidence levels leading to a research project which has formed Phase 1 of this Master of Philosophy degree. Whilst undertaking data collection for this study we were acutely aware that something was missing – the patient's voice. Therefore, a qualitative study using patient interviews as the data formed Phase 2 of this research.

Whilst being involved in the above studies I maintained a clinical position within a busy early assessment medical unit. I found this most valuable as it kept me connected with the challenges faced by the staff providing direct clinical care, enabling me to maintain my knowledge and clinical skills while experiencing the challenges faced by both the clinical staff and the patients they cared for. I was able to witness firsthand the impact of the work done around falls prevention and felt the frustration of the clinicians when a patient fell and the jubilation when we successfully prevented a patient falling. In 2015, I had the

opportunity to take a secondment in a position managing a state wide falls prevention program. This position became permanent in 2016. My commitment to reducing patient falls in hospital has deepened and has now become the focus of my career. I consider the skills and experience I have gained from working clinically and researching patient falls combined with the findings from this research study have provided me with a knowledge base from which I can make a difference in contributing to reducing patient falls.

Methodology Summary

This chapter has outlined the research methods used in this research. The processes of gaining ethical approval, recruiting participants and collecting, analysing and interpreting data have been detailed. The research methodology for both Phase 1 and Phase 2 have been described as utilising a convergent mixed methods design consisting of two distinct phases: quantitative followed by qualitative (Creswell & Plano Clark, 2011), the quantitative data providing an understanding of the research question with the qualitative data providing an enhanced and complementary understanding of the quantitative results.

Chapter 4: Fear of falling: association between the Modified Falls Efficacy Scale, in-hospital falls and hospital length of stay

Introduction

This chapter presents phase 1 of the research study, a quantitative study that investigated the relationship between patient's confidence in their ability to perform normal daily activities and falls risk, in-hospital falls, and hospital LOS.

The population for this study was all patients that were admitted to the four participating wards during the research period. Age was not a limiting factor and those with cognitive impairment were excluded. Of the 491 patients that were potentially eligible for inclusion during the study period, 217 were unable to consent because of cognitive impairment and 133 declined to participate; leaving a sample of 141 participants.

The research setting and data collection method are presented with the results in the following publication: Gettens, S., & Fulbrook, P. (2015). Fear of falling: Association between the Modified Falls Efficacy Scale, in-hospital falls and hospital length of stay. *Journal of Evaluation in Clinical Practice*, 21, 43-50. Permission to include the publication into this thesis was sought and gained from John Wiley and Sons, publishers for the Journal of Evaluation in Clinical Practice (Appendix L).

The publication is replicated verbatim on the following pages 34-47.

Further detail about the study design, data collection and analysis were included in Chapter 3, pp17-20.

Fear of falling: association between the Modified Falls Efficacy Scale, in-hospital falls and hospital length of stay.

Abstract

Rationale

Falls in hospital are costly and may impact psychologically on fallers causing them to avoid mobilisation, thereby affecting recovery rate and hospital length of stay. The study aim was to investigate the relationships between fear of falling, falls risk, in-hospital falls, and hospital length of stay.

Method

A convenience sample ($n = 141$) of patients from a large tertiary hospital was recruited. Data were collected over six months using the Modified Falls Efficacy Scale (MFES) on ward admission, prior to discharge, and in the event of a fall.

Results

A third of the sample ($n = 44$) was admitted to hospital following a fall. The majority (65%) was categorised as medium falls risk. Twenty five participants sustained a total of 30 falls during their hospital admission of which 13 sustained a total of 15 falls on the study wards. The mean admission MFES score was 5.5, which increased to 6.1 on hospital discharge. Fallers scored significantly lower admission MFES scores than non-fallers ($p = 0.003$) and their hospital length of stay (49 days) was longer (27 days; $p = 0.037$). Receiver-operating-curve analysis indicated that admission MFES score was a 'fair' predictor of sustaining a fall (AUC 0.71, $p = 0.013$). With a cut-off score of 5, admission MFES sensitivity was 77% and specificity was 55%. Study ward fallers had significantly longer hospital length of stay (49 days) than non-fallers (27 days; $p = 0.002$). Furthermore, regardless of whether the participant was a faller or not, significantly longer hospital stay was associated with an admission MFES score of less than 5.

Conclusions

An admission MFES score of less than 5 is an effective predictor of patient falls and is associated with a significantly longer hospital length of stay.

Introduction

A fall in hospital can increase the financial burden to the individual and the health care system (Haines et al., 2003), and may result in increased hospital length of stay (LOS), disability or death (Titler et al., 2005). Patient falls are the most frequently occurring adverse clinical incident in Queensland hospitals (Queensland Health, 2012). While the severity of injury resulting from each fall is variable, a fall invariably represents a significant cost not only to the healthcare system but also to the individual patient in terms of their morbidity, mortality and quality of life.

Falls are mostly predictable and preventable (AIHW, 2013). The list of modifiable physiological risk factors strongly associated with falls is long and includes impaired balance, gait, reduced muscle strength, slowed reaction time, use of multiple medications, various medical conditions for example syncope, and visual impairment (Queensland Health, 2014). Within the acute hospital setting appropriate footwear, elimination of clutter and trip hazards, toileting protocols and access, correct use of equipment such as beds on low settings, patient sensor equipment, and staffing experience and levels are among the significant factors that affect falls rates and injury severity (Palmer, 2001).

The cost of a fall should not be assessed in financial terms only but should be considered in terms of its impact on the patient. Sustaining a fall can have a significant psychological impact on the faller (Williams et al., 2011) and confidence can be affected. Fear of falling in relation to confidence in carrying out activities without falling or losing balance was first described by Tinetti and colleagues (Choi et al., 2011), who developed the Falls Efficacy Scale. This tool was later expanded upon by Hill and colleagues Jorstad et al. (2005) and termed the Modified Falls Efficacy Scale (MFES). The fear of sustaining a fall can become a limiting factor that leads the faller to avoid mobilisation (Tinetti et al., 1990; Williams et al., 2011). This, in turn, may affect recovery rate (Titler et al., 2005), resulting in longer hospital LOS and increased health care costs (Hill et al., 1996).

In the acute hospital setting, one area that has not been investigated extensively is the association between patients' confidence in their ability to perform daily physical activities and falling, and hospital LOS.

Aim

The aim of this study was to investigate the relationship between patients' confidence in their ability to perform normal daily activities and falls risk, in-hospital falls, and hospital LOS.

Methods

Design and setting

The purpose of this study was to compare the MFES scores of fallers versus non-fallers. As there was no attempt to manipulate an intervention and there was no control group, this study utilised an observational non-experimental design. Data collection occurred between May to December 2011. The setting was a large tertiary general hospital in Queensland. A convenience sample was recruited from patients in the four wards reporting the highest number of falls annually: Ward A, medical/surgical; Ward B, geriatric evaluation/management; Ward C, acute rehabilitation; Ward D, extended care. Based on data from the study hospital's information system, the reported average hospital LOS was significantly shorter in Ward A than in the other three wards.

Ethical approval was obtained from the human research ethics committee prior to the research project commencing (HREC/11/QPCH/4). Participation was voluntary and all participants provided written consent.

Data collection and analysis

All patients admitted to the four designated wards were invited to participate. Recruitment occurred at the time of admission or transfer to the study wards. Those with cognitive impairment were excluded. Basic demographic information was collected (such as age, gender, reason for admission), and confidence levels were measured using the MFES (Hill et al., 1996). Data were collected from all participants on admission to a study ward and immediately prior to discharge. In the event of a fall, an additional MFES was recorded

within twelve hours of the fall to measure the impact of the fall on the participant's confidence to perform activities.

The MFES is a 14-item scale, which requires participants to rate their confidence in performing a range of activities without falling. Confidence is rated on a scale of 0 to 10, where 0 is 'not confident at all', 5 is 'fairly confident/fairly sure', and 10 is 'completely confident/completely sure'. The overall MFES score is calculated by averaging the scores for all items, to give a score between 0 to 10.

At the time of the study, the falls risk of all hospital inpatients was assessed routinely on admission to the ward, using the hospital's Falls Risk Assessment Tool (FRAT). The FRAT scores risk in 12 categories (age, balance, chronic illness, days since admission, delivery devices, falls history, general health, incontinence, medications, mental state, speech, vision), each scoring from 0 to 3. The scores from all categories are totalled to provide an overall risk score ranging from 0 to 36. The degree of risk is subsequently categorised as low (1-10), medium (11-20) or high (> 20). The FRAT also prescribes the relevant preventative interventions to be implemented according to risk category. However, it does not assess patients' confidence in their ability to perform daily activities.

Data were recorded manually and entered into a database for statistical analysis (SPSS version 21). Descriptive and inferential statistics were used to describe sample characteristics and examine differences and relationships in the sample. Receiver-operating-characteristic curve analysis was used to calculate the predictive performance of the MFES. Statistical significance was set at $p < 0.05$.

Results

Sample

During the period of data collection, 491 patients were admitted to the four study wards. Of these, 44% ($n = 217$) was unable to give consent primarily due to cognitive impairment as assessed by the researcher or the ward's occupational therapist, and a further 27% ($n = 133$) declined to participate. This produced a final sample size of 141 participants. Around a quarter of the sample (24.3%, $n = 34$) was admitted directly to the wards in the study, with the remainder being transferred from other wards. Most participants were admitted to

Ward A (56%, $n = 79$), with the rest distributed between Wards B, C and D. The mean age of the sample was 73.6 years (SD 15.5, range 17 to 95) but 84% was aged 60 years or more. A slight majority was female (52%, $n = 73$).

A third of the sample was admitted to hospital following a fall (31.2%, $n = 44$), and of these the majority ($n = 41$, 93.2%) was admitted initially to another ward prior to transfer to one of the study wards. Of the pre-hospital fallers, 6 participants subsequently sustained a total of 7 in-hospital falls on other wards prior to transfer to the study wards. In total, 13 participants sustained 15 in-hospital falls on other wards prior to transfer to the study wards. A further 13 participants fell during their admission to a study ward, sustaining a total of 15 falls. Most falls occurred in wards A ($n = 6$) and B ($n = 6$). One of the study ward fallers had also fallen on a ward prior to transfer. Thus, in total, 25 participants sustained a total of 30 in-hospital falls.

Falls risk assessment

The mean FRAT score of the sample was 12.57 (SD 4.65, 95% CI 11.79-13.35, range 2-24, $n = 138$) with the majority categorised as medium risk ($n = 90$, 65.2%) or low risk ($n = 45$, 31.9%), and the remainder at high risk ($n = 3$, 0.6%). The relationship between FRAT and admission MFES was investigated using Pearson product-moment correlation coefficient. There was a moderate, negative correlation between the two scales ($r = 0.47$, $p < 0.001$, $n = 138$), with higher FRAT scores associated with lower MFES scores.

MFES scores

Reliability of the MFES was assessed using the scores on admission to the study wards ($n = 141$) and on discharge ($n = 126$). Cronbach's alpha coefficient was 0.95 for both datasets, indicating very good internal consistency. The distributions of admission and discharge MFES score were examined. Although some kurtosis was evident, further examination of the normal and detrended normal Q-Q plots revealed normal distributions, thus parametric tests were used to investigate differences.

Overall MFES

On admission to a study ward, participants' mean MFES score was 5.53 (see Table 4.1), however half of the participants (48.2%, $n = 68$) scored less than 5. Although the mean MFES score rose to 6.09 prior to hospital discharge, over a third of participants' (37.3%, $n = 47$) still scored less than 5. The admission and discharge MFES scores were compared using a paired-samples t-test ($n = 126$), demonstrating a statistically significant increase in MFES score [mean increase 0.54 (SD 1.43), $t(125) = -4.26$, $p < 0.0005$]. However, the eta squared statistic (0.01) indicates a small effect.

Males scored significantly higher MFES scores than females both on admission [$t(139) = 2.80$, $p = 0.006$] and discharge [$t(124) = 3.68$, $p < 0.001$]. However, the mean differences in MFES score from admission to discharge between men (0.57, SD 1.45) and women (0.52, SD 1.42) were not statistically significant ($p = 0.87$).

MFES of fallers

The admission MFES of pre-hospital fallers (mean 4.95, SD 2.54, $n = 44$) was less than those admitted to hospital for other reasons (mean 5.79, SD 3.05, $n = 97$) but the difference was not significant ($p = 0.092$). The MFES scores of fallers compared to non-fallers are shown in Table 4.1. The admission MFES score of participants who fell on a study ward was significantly lower (mean 3.69, SD 1.94, $n = 13$) than non-fallers (mean 5.78, SD 2.99, $n = 116$) [$t(19.1) = 3.442$, $p = 0.003$], with eta squared (0.085) indicating a moderate effect size. However, the admission MFES score of participants who fell in-hospital prior to transfer to a study ward (mean 5.04, SD 2.31, $n = 13$) was not significantly different to non-fallers ($p = 0.389$), and although it was higher than study ward fallers, the difference was not statistically significant ($p = 0.121$).

Study ward fallers' discharge MFES scores were significantly lower (mean 4.06, SD 1.78, $n = 11$) than non-fallers (mean 6.34, SD 2.75, $n = 116$) [$t(112) = 3.803$, $p = 0.002$], with eta squared (0.114) indicating the effect was moderate to large. However, the discharge MFES score of pre-study ward fallers (mean 5.78, SD 2.71) was not significantly different to non-fallers ($p = 0.503$). Although discharge MFES scores were higher than admission scores for both study ward fallers (mean difference 0.37, $n = 11$) and pre-study ward fallers (mean

difference 0.71, $n = 12$) when compared to non-fallers (mean difference 0.54, $n = 103$) these differences were not statistically significant ($p = 0.697$ and 0.176 , respectively).

Table 4.1 Overall MFES scores. n/a = not applicable.

Sample sub-set (n)	Mean admission MFES (SD, n)	Significance p	Mean discharge MFES (SD, n)	Significance p
All	5.53 (2.92, 141)	n/a	6.09 (2.74, 126)	n/a
Males	6.22 (2.93, 68)	0.006	7.03 (2.58, 57)	< 0.0005
Females	4.88 (2.77, 73)		5.31 (2.64, 69)	
All in-hospital fallers	4.35 (2.24, 25)	0.010	4.96 (2.43, 23)	0.028
All in-hospital non-fallers	5.78 (2.99, 116)		6.34 (2.75, 103)	
In-hospital study ward fallers	3.69 (1.95, 13)	0.003	4.06 (1.78, 11)	0.002
All in-hospital non-fallers	5.78 (2.99, 116)		6.34 (2.75, 103)	
In-hospital pre-study ward fallers	5.04 (2.31, 13)	0.389	5.78, 2.71, 12	0.503
All in-hospital non-fallers	5.78 (2.99, 116)		6.34 (2.75, 103)	
In-hospital study ward fallers	3.61 (2.01, 12)	0.121	4.06 (1.78, 12)	0.089
In-hospital pre-study ward fallers	5.07 (2.41, 12*)		5.78 (2.71, 12*)	

Post-fall MFES score

Post-fall MFES scores were obtained from 9 patients following their first fall on a study ward (see Table 4.2). Their mean score from admission to post-fall fell by 0.74 ($n = 9$), increased by 0.6 from post-fall to discharge ($n = 8$), and increased overall from admission to discharge by 0.37 ($n = 11$). These differences were not statistically significant ($p = 0.451$, 0.282 , and 0.543 , respectively).

MFES item scores

Mean scores were calculated for each MFES item (see Table 4.2). Participants who were admitted to hospital following a fall scored lower on the majority of items compared to those who sustained an in-hospital pre-study ward fall. However the latter group scored lower on items 8 to 11 and 13 to 14. Study ward fallers scored less than both of these groups on the majority of items, with item scores falling further still immediately after a fall. On admission, for all participants, five MFES items (9 to 10) were scored below the midpoint of 'fairly confident'. The main area of perceived lack of confidence was using public transport (item 11) with 66.0% ($n = 93$) of all participants reporting that they were 'not confident at all'. On discharge, the scores improved on all items, with one exception. Participants who did not fall while in hospital scored lower on item 11. This item was still ranked lowest by all sub-groups, however the proportion of the whole sample rating themselves 'not at all confident' fell to 62.2% ($n = 79$).

Fallers

Using t-tests, differences in admission MFES item scores were compared between study ward fallers and non-fallers. Nine items were found to be statistically significantly different, with non-fallers scoring higher on all six items (see Table 4.3).

Admission MFES as a predictor of falls

Using the data from the study ward fallers only, receiver-operating-characteristic (ROC) curve analysis was performed, based on the premise that a lower MFES score is more likely to predict a fall. The area under the curve (AUC) was 0.71 ($p = 0.013$, $n = 141$), which is in the 'fair' range for a diagnostic test (see Figure 4.1). However, this was slightly better than the FRAT AUC which was 0.62 ($p = 0.169$, $n = 138$), which is in the 'poor' range.

Table 4.2 MFES item mean scores

MFES item	Mean admission MFES				Mean post fall 1 MFES	Mean discharge MFES			
	In-hospital non-fallers (n = 116)	Pre-hospital fallers (n = 44)	Pre-study ward fallers (n = 13)	Study ward fallers (n = 13)		In-hospital non-fallers (n = 104)	Pre-hospital fallers (n = 44)	Pre-study ward fallers (n = 12)	Study ward fallers (n = 11)
1	7.03	6.27	6.62	4.69	3.11	7.76	7.05	7.50	5.18
2	6.16	5.61	6.92	6.15	4.33	6.70	6.10	7.00	5.45
3	6.54	5.91	6.54	3.92	2.22	7.26	6.15	7.00	2.91
4	7.26	6.89	7.85	5.00	4.33	8.34	7.95	8.58	6.45
5	6.96	6.41	7.15	4.46	3.67	8.13	7.51	8.33	5.82
6	7.36	6.61	6.77	5.23	4.67	7.94	7.38	7.17	7.45
7	6.89	6.09	7.08	5.54	3.56	7.87	7.23	7.42	6.82
8	6.84	5.93	5.38	3.69	3.22	7.24	6.38	6.00	4.45
9	4.93	4.25	3.38	2.92	1.67	4.99	3.79	3.75	2.55
10	4.81	3.73	3.46	3.31	2.00	4.88	3.44	3.92	3.09
11	3.09	2.09	1.54	0.38	0.67	2.96	1.82	2.33	1.73
12	4.42	3.59	4.08	2.00	1.00	5.13	3.77	5.33	0.73
13	3.91	2.36	1.46	1.46	1.00	4.10	2.05	2.67	1.45
14	4.72	3.57	2.31	2.92	1.44	5.84	4.79	3.92	2.73
Overall	5.78	4.79	5.04	3.69	2.63	6.34	5.39	5.78	4.06

Table 4.3 Differences in admission MFES item scores between study ward fallers and non-fallers

MFES item	Difference in score	95% CI	t	df	Significance p
1 Get dressed and undressed	2.34	0.61-4.07	2.09	127	0.008
3 Take a bath or shower	2.62	0.65-4.59	2.63	127	0.01
4 Get in/out of chair	2.26	0.51-4.0	2.56	127	0.012
5 Get in/out of bed	2.50	0.72-4.27	2.78	127	0.006
6 Answer the door or telephone	2.13	0.16-4.10	2.14	127	0.034
8 Reach into cabinets or closets	3.14	1.10-5.18	3.05	127	0.003
11 Using public transport	2.71	1.75-5.06	5.66	82	< 0.001
12 Crossing roads	2.42	0.71-4.90	2.93	21	0.008
13 Light gardening or hanging out washing	2.45	0.40-4.51	2.51	17	0.022

Sensitivity and specificity

A cut-off score of 5, which indicates ‘fairly confident’, was used to assess MFES sensitivity and specificity. Most study ward fallers were correctly predicted by an MFES of < 5 (77% sensitivity). However, only 55% (specificity) of non-fallers scored \geq 5. Of the 73 participants whose score was \geq 5, 96% (negative predictability) did not fall on a study ward. However, only 15% (positive predictability) of those who scored < 5 actually fell. The overall predictive value of the MFES was 57%. Increasing the MFES cut-off score to 6 and 7 improved sensitivity (85% and 92%, respectively), at the expense of specificity (46% and 38%, respectively).

Hospital length of stay

Hospital LOS distribution was markedly skewed (towards shorter LOS) and kurtosed. Further examination of the data using the Kolgorov-Smirnov statistic confirmed abnormal distribution ($p < 0.001$). Therefore the Mann-Whitney U test was used to examine differences in LOS. The mean hospital LOS for all participants was 29.7 days (SD 30.1). The hospital LOS of all participants scoring less than 5 on the MFES ($n = 68$) on admission was longer [mean 36.3 days (SD 32.9), median 30] than those who scored higher [mean 23.5

days (SD 26.1), median 15, $n = 73$]. This difference was statistically significant ($U = 1734$, $z = -3.09$, $p = 0.002$) with a medium effect size ($r = 0.26$).

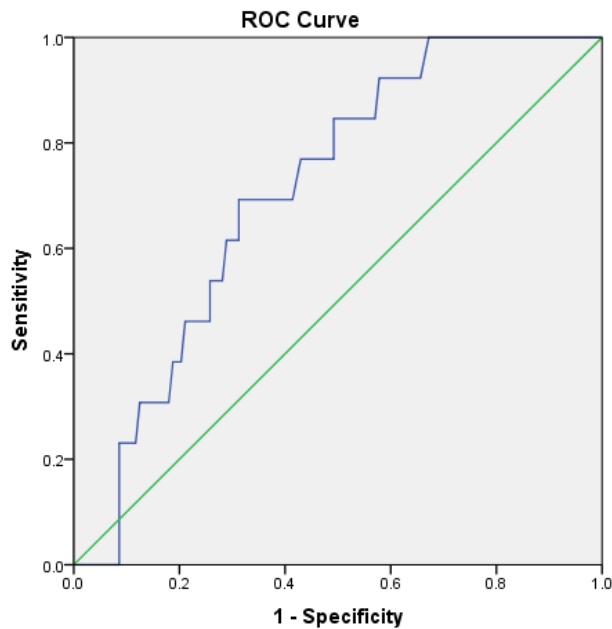


Figure 4.1 Receiver-operating-curve MFES score (AUC = 71%)

Non-fallers

The mean hospital LOS of all non-fallers was 26.8 days (SD 27.8, median 18, $n = 116$). However, the hospital LOS of non-fallers scoring less than 5 on the MFES ($n = 50$) on admission was significantly longer (mean 33.1 days, SD 30.0, median 30) than those who scored higher (mean 22.0 days, SD 25.2, median 11, $n = 66$). The difference was statistically significant ($U = 1171$, $z = -2.67$, $p = 0.008$) with a small to medium effect size ($r = 0.25$).

All in-hospital fallers

The mean hospital LOS of all in-hospital fallers ($n = 25$) was 43.2 days (SD 36.9, median 28) compared to non-fallers. This difference was statistically significant ($U = 987$, $z = -2.50$, $p = 0.012$), but the effect size was small ($r = 0.21$). The mean hospital LOS of all fallers scoring less than 5 on the MFES ($n = 18$) on admission was longer [mean 45.1 days (SD 39.5), median 28.5,] than those who scored higher [mean 38.3 days (SD 31.6), median 28, $n = 7$], but the difference was not statistically significant ($p = 0.856$).

Pre-study ward fallers

The hospital LOS of pre-study ward fallers ($n = 13$) was significantly longer (mean 44.2 days, SD 36.2, median 31) than non-fallers (mean 26.8 days, SD 27.8, median 18, $n = 116$) ($U = 500$, $z = -1.99$, $p = 0.047$) but with a small effect size ($r = 0.18$). The hospital LOS of pre-study ward fallers scoring less than 5 on the MFES on admission was longer [mean 45.7 days, SD 35.7, median 32, $n = 9$] than those who scored higher [mean 40.8 days, SD 42.7, median 27, $n = 4$]. (Due to the small sample further statistical analysis was not undertaken.)

Study ward fallers only

The hospital LOS of all study ward fallers ($n = 13$) was longer (mean 49.1 days, SD 45.1, median 26) compared to non-fallers ($n = 116$). This difference was statistically significant ($U = 488$, $z = -2.08$, $p = 0.037$), but with a small effect size ($r = 0.18$). The hospital LOS of study ward fallers scoring less than 5 on the MFES on admission was longer (mean 53.3 days, SD 50.1, median 24, $n = 10$) than those who scored higher (mean 35.0 days, SD 15.5, median 36, $n = 3$). (Due to the small sample further statistical analysis was not undertaken.)

Short stay versus long stay wards

The average hospital LOS in 'short stay' ward A (mean 15.3 days, SD 20.4, median 7, $n = 79$) was much shorter than that in 'long stay' wards B, C and D combined (mean 48.1 days, SD 30.7, median 36.5, $n = 62$). The difference was statistically significant ($U = 587$, $z = -7.74$, $p < 0.001$) with a large effect size ($r = 0.65$). When ward A was examined independently, using an admission MFES cut-off score of 5, it was found that those scoring less than 5 ($n = 31$) had a much longer LOS (mean 21.5 days, SD 26.2, median 10) than those scoring higher (mean 11.3 days, SD 14.5, median 6.5, $n = 48$). The difference was statistically significant ($U = 514$, $z = -2.32$, $p = 0.02$) with a small to medium effect size ($r = 0.26$). In contrast, when the 'longer stay' wards B to D (as a cluster; $n = 62$) were examined independently, with an admission MFES cut-off score of 5, the LOS was similar [MFES < 5 : mean 48.8 days, SD 33.1, median 40, $n = 37$; MFES ≥ 5 : mean 47.0 days, SD 27.5, median 34, $n = 25$) and the difference was not statistically significant ($p = 0.909$).

Discussion

Confidence in activities without falling

We found that MFES scores were significantly different on admission and on discharge with non-fallers scoring higher than fallers at both times. The association between lower admission MFES scores and falls supports the contention that the MFES is sensitive to the possibility of an in-hospital fall. This is further supported by the ROC curve analysis AUC of 0.71, which indicates that the MFES is a 'fair' predictor of falls i.e. the lower the score the greater the likelihood of a fall. Furthermore, most study ward fallers (77%) were correctly predicted by an MFES of less than 5, and 96% of participants that scored 5 or more did not fall. Our data suggest that an MFES cut-off score of 5 is most appropriate to assess falls risk. Of note, the MFES was shown to be better at predicting falls (AUC 71%) than the hospital's risk assessment tool (AUC 62%).

The admission MFES of study ward fallers was significantly less (mean 3.39) than non-fallers (mean 5.78), and although only nine study ward fallers provided post-fall MFES scores, their mean MFES (2.63) following a fall was lower still. Also, the admission MFES of participants who were admitted to hospital following a fall (mean 4.79) and pre-study ward fallers (mean 5.04) were both lower than in-hospital non-fallers. These results suggest that experiencing a fall reduces patients' confidence in their ability to perform daily activities. This is consistent with the findings of Hill et al. (1996) who compared the mean score of healthy older subjects with subjects from a falls balance clinic who had fallen previously. Subjects who had not experienced a fall had a higher MFES (mean 9.76) compared to fallers (mean 7.69). In a later study of older people presenting to an emergency department following a fall (Hill et al., 2010) a mean MFES score of 8.0 was reported, which is significantly higher than the scores found in our study for both in-hospital fallers and non-fallers, including those who were admitted to hospital following a fall.

In our study, MFES increased significantly from admission to discharge, which suggests that confidence in activities increases as the patient health improves (and vice-versa). This is supported by previous community-based research which investigated the relationship between fear of falling and physical activity in older adults (Deshpande et al., 2008a; Deshpande, et al., 2008b) both psychological and physical factors were independently associated with fear of falling (Deshpande et al., 2008b). In a randomised controlled trial of

older people following hip fracture surgery ($n = 291$), fear of falling assessed at six weeks following surgery using the MFES was shown to be an accurate predictor of functional recovery (Oude Voshaar, et al., 2006). However, in a smaller sample ($n = 78$) of community-based older adults it was concluded that fear of falling was not independently associated with physical activity when physical function was taken into account (Hornyak et al., 2013). The presence of depression may also have a moderating effect (Deshpande et al., 2008b).

Participants who had fallen in our study rated themselves less than fairly confident (MFES score less than 5) for the last five questions on the MFES relating to outdoor activities. The activity that participants most lacked confidence in was using public transport with over a third reporting that they were 'not confident at all'. Low ranking of confident use of public transport is consistent with previous studies (Hill et al., 1996; Hill et al., 2010). Although confidence improved between admission and discharge for both fallers and non-fallers it is clinically significant that over a third of the whole sample and all of the study ward fallers rated themselves less than fairly confident on discharge from hospital. Given the ROC results and MFES sensitivity of 77% with a cut-off score of 5, it is likely that many of these participants will sustain further falls.

Predicting falls

In our study, falls risk assessment scores using the hospital's FRAT (which is no longer in use, as it has been superseded by a new assessment tool – the *Falls Assessment and Management Plan* - which has been implemented throughout Queensland public hospitals were moderately well correlated with MFES scores, with higher risk associated with lower levels of confidence in activities. However, in terms of falls prediction, the MFES (AUC 71%) was shown to be a better predictor than the FRAT (AUC 62%). The MFES sensitivity of 77% found in our study is similar to that reported for other falls risk assessment tools (Spoelstra et al., 2012). These results suggest that the MFES could be used to predict risk of falls in hospital. However, further research is needed to compare its predictive ability since the state-wide introduction of the new falls assessment and management tool (Queensland Health, 2014) that is used currently. In this study, FRAT was performed to assess falls risk on admission or transfer to a ward, and preventative interventions were implemented according to risk level. Thus, it is important to note that the ability of either tool to predict

falls was mitigated by the effectiveness of the various interventions that were put in place. However, because both FRAT and MFES were scored on admission, any intervention effect would be equal.

Hospital length of stay

Regardless of whether or not they were a faller, our results indicate that the less confident a patient was in their ability to perform normal activities without falling, the longer was their hospital LOS. Non-fallers who scored an MFES of less than 5 spent an average of eleven days longer in hospital than others, and participants who fell on a study ward who scored less than 5 remained in hospital an average of 18 days longer than other study ward fallers. Although the latter sample was small it represents a significant cost in terms of health care. On short stay ward A, the ten day difference in hospital LOS between those scoring MFES less than 5 and those scoring higher is highly significant. And, although the two day difference in LOS was much smaller on the long stay wards, when in-hospital bed days are calculated the cost implications are still significant.

Conclusions

The aim of this study was to investigate whether those patients who were less confident in daily physical activities were more likely to fall while in hospital and would have an increased hospital LOS. Participants were assessed on admission to the study wards using the MFES and nearly all those that fell had low MFES scores, which were associated with increased hospital LOS. Furthermore, the lower the MFES score, the higher their falls risk score. The increased hospital LOS associated with an MFES cut-off score of 5 was significant, especially when considered in terms of the cost implications of occupied bed days. However, our data suggest that the MFES score is a more sensitive predictor of hospital LOS for short-stay patients.

The results from this study indicate that the MFES is a useful tool to predict in-hospital falls and increased hospital length of stay. The nature of the tool suggests that fear of falling may be associated with reduced mobility, as suggested by previous studies, which in turn influences recovery and hospital LOS. However, this observational study did not investigate causal relationships, and further research is required to establish the association between fear of falling, physical mobility, and outcomes such as hospital LOS.

Further observational research is merited with use of MFES on admission to hospital for all patients, to examine the relationship between MFES and falls. Also, our results suggest that confidence immediately following a fall is very low but increases within a relatively short space of time, as demonstrated by the MFES scores of participants whose fall was the reason for hospital admission as well as those who fell in hospital prior to transfer to the study wards. Although their scores were lower than non-fallers, they were significantly higher than those recorded within twelve hours of falling.

The results of this study suggest that the MFES may be a useful screening tool to predict in-hospital falls, however further research with population-based hospital samples is required before recommending a change in practice. Potentially, the MFES could be used to identify patients at risk of falling that, in turn, could be targeted with preventative interventions, including appropriate education and training for patients, their families, and staff.

In terms of practice, the results of this study draw attention to the importance of using assessment tools that are fit-for-purpose, as well as acting upon the results of assessment with appropriate preventative intervention. In theory, if the level of falls risk is identified correctly, then interventions to mitigate the risk can be implemented effectively, and the likelihood of a fall occurring will be reduced significantly.

Limitations

A limitation of this study was that a significant proportion of participants was unable to participate in the study due to impaired cognitive function. This is a limitation of all self-report tools, which has implications for their relevance for use in practice, especially in older demographic age groups where cognitive impairment is more prevalent. In the study hospital, in terms of falls prediction, all tools were limited in their predictive ability because falls risk assessment is a mandatory requirement for all patients. As a consequence, falls prevention interventions were implemented commensurate with the degree of risk. Thus, any patient predicted to fall is less likely to fall (than predicted) because preventative measures were implemented. Male participants rated themselves more confident than females on both admission and discharge. Although this finding is consistent with previous research (Deshpande et al., 2008b), some of the activities in the MFES are more traditionally

associated with the woman's role (especially in older age groups), for example shopping and housekeeping, and this may affect how these items are rated by men.

Further Limitations and Considerations

Although the findings from this study indicate the MFES is a sensitive measure in this population, a limitation is that other covariates are not included such as controlling for age, co - morbidities, level of mobility, cognition and other functional measures. This is an area for further research. Additional limitations that have been recognised include the small sample size of participants that fell into the sub-groups, with only 13 fallers. This resulted from the observational design and the limited data collection period. Further prospective research could be undertaken using the data from this study to inform power analysis. Because of the small sample size further analysis was not undertaken.

In this study, a large proportion of the population was unable to be recruited due to cognitive impairment. Since cognitively impaired people are particularly prone to falls, this represents an important limitation, which should be addressed in future studies.

Although some of the effect sizes reported in this study were small, this may be related to the sample size. Thus, in this study it is the absolute differences in the various measures that are more important to consider. However, as noted above, further research using data from this study to prospectively calculate power would likely improve effect size.

In this study, the AUC of the MFES indicated that it was a 'fair' predictor of a fall; which was better than the FRAT. However, further research using larger sample sizes is required to validate use of MFES as a predictive tool.

To the research student's knowledge, the MFES has not been previously tested knowledge on a hospital based population as a falls risk screening tool other than in this study involving a small convenience sample from 4 hospital wards. Therefore further testing on a larger patient sample would be required before a definitive recommendation could be made.

Links to Phase 2

Whilst the findings from this first study confirmed that a lack of confidence in activities was associated with falls resulting in increased hospital length of stay and answered the research question: what is the relationship between confidence, in hospital falls and hospital length of stay, it did not address the patients' experience of falling. The results of this study raised further questions on the phenomenon of falls and the experience of a fall on the patient. This prompted the second study using a qualitative approach to understand the patient's experience of falling in hospital. This study is described in chapter 5.

Chapter 5: Falling In Hospital – What The Patient Has To Say

Introduction

This chapter describes phase 2 of the research study - a qualitative study interpreting patient interviews that explore the patients' experience of falling in hospital, thus gaining an understanding of how the patient perceives the experience of falling in an acute hospital setting. The research setting and data collection method are presented with the findings in the following publication: Gettens S, Fulbrook P, Jessup M, Low Choy N. (2017) The patients perspective of sustaining a fall in hospital: a qualitative study, *Journal of Clinical Nursing* 1-10. The publication transcript is replicated verbatim on the following pages 53-71.

Falling in hospital from a patient's perspective: A QUALITATIVE STUDY

Abstract

Aim

To understand the experience of falling in hospital from the patient's perspective

Background

A fall in hospital can affect a patient physically and psychologically, increasing their hospital length of stay and potentially putting them at risk of further complications. Despite a wealth of literature on falls that focuses on risk assessment, preventive interventions and cost, very little research has focused on the experience of the patient that has fallen, particularly within the acute hospital setting.

Design

A qualitative phenomenological design was used to describe the experience of falling in hospital

Methods

Twelve hospital in-patients that had recently fallen were interviewed while in hospital using unstructured interviews. The study was guided by Van Manen's approach to data collection and analysis.

Findings

Three key themes emerged from the participants' stories: *Feeling safe, Realising the risk and Recovering independence and identity*. These themes describe a process whereby falling was not initially a concern to participants, that trusted staff to keep them safe, and tended to not seek assistance. As participants began to appreciate the reality of their falls risk they felt disempowered by their loss of independence but were more receptive to receiving assistance. Finally, as participants recovered, their desire to regain independence increased. They wanted others to perceive them as physically competent, rather than as a frail older person, meaning they were more willing to take risks with mobility.

Conclusion

The participants' experiences of falling represented a journey through which they progressed from initial denial of their risk of falling to realisation of the importance of their fall and acceptance of its repercussions.

Relevance to clinical practice

By understanding the patient's perspective of falling, nurses and other health professionals conducting risk assessment can tailor their discussions and interventions to the patient's perceptions and needs.

Key Words

Fall, hospitalisation, patient experience, phenomenology, qualitative research

Summary Box

What does this paper contribute to the wider global clinical community?

- Worldwide, patient falls in acute hospital settings are a health care priority; however the experience of falling from a patient perspective is relatively unexplained. This study provides an insight into the patients' experience of falling while in hospital.
- The findings from patient interviews revealed a psychosocial positioning. Understanding this may assist clinical staff caring for falls risk patients to better assess the patient and provide targeted information that is relevant to the patient and their carers, reducing the risk of patients sustaining a fall whilst in hospital.
- This study contributes better understanding the impact of a fall from the perspective of the faller. This knowledge will help to inform health professionals to undertake falls prevention in a manner that is more meaningful to the patient.

1. Introduction

Despite extensive research investigating patient falls, they continue to be a leading cause of unintentional patient harm worldwide and often result in extended hospital length of stay (Ireland *et al.*, 2013). Falls are of such great concern that the Australian Commission on Safety and Quality in Health Care (2012) has dedicated its 10th standard to their prevention:

Preventing Falls and Harm from Falls. In-patient falls are one of the most frequently occurring adverse clinical incidents in hospitals, with rates reported between 3 to 20 falls per 1000 occupied bed days (Haines *et al.*, 2013). Patients that fall may experience a loss of confidence and have a prolonged hospital stay (Gettens & Fulbrook, 2015). Whilst there are some qualitative studies that have explored patient falls, their focus has been primarily on prevention, intervention and risk (Haines *et al.*, 2015; McInnes, Seers, & Atkinson, 2011), with a tendency to examine the cause rather than the patient's experience. Therefore, the aim of this study was to investigate patients' experiences of falling in an acute hospital setting.

2. Background

A study that investigated falls assessed patients within the hospital setting utilising the Modified Falls Efficacy Scale (Hill *et al.* 1996) identified that lower levels of confidence in being able to perform routine daily activities was associated with a higher risk of sustaining an in-hospital fall (Gettens and Fulbrook 2015). Fear of falling in relation to confidence in carrying out activities without falling or losing balance was first described by Tinetti *et al.* (1990), who developed the original Falls Efficacy Scale. A mixed methods study within an acute hospital setting that uncovered a relationship between fear of falling and mental attitude, found that fear of falling negatively influenced mobility, physical activity and functional performance, leading to a prolonged hospital stay (Boltz, Capezuti & Shuluk 2014; Jorgensen *et al.*, 2015) further erosion of the inpatient confidence (Titler *et al.*, 2005) and increased healthcare costs (Myers & Nikoletti, 2003). While there is a wealth of information about falls prevention in general, there is a paucity of research in the acute hospital setting that focuses on the patient's experience of falling and its psychosocial impact. Understanding their perspective can provide valuable information to inform fall prevention strategies. A systematic review to assess the effectiveness and characteristics of falls prevention interventions within a hospital setting focussed on three distinct characteristics: the environment, the care process, and the use of technology (Choi *et al.*, 2011) but did not consider the patient's perspective. Failure to include their experience is evident throughout the falls literature. For example, Dykes *et al.* (2009) undertook a qualitative study within a hospital setting utilising focus groups to gather information from nurses and nurse

assistants. The study identified patient engagement as an intervention that may help to reduce falls, but did not consider the patient's view.

Although there is a dearth of research into patients' experience of falling while in hospital, several community-based studies have examined the lived experience of people that fall (Berlin Hallrup *et al.*, 2009; Mahler & Sarvimäki, 2012; Stewart & McVittie, 2011) with findings revealing themes about body change, living with precaution, ambiguous dependency, and the influences and need for understanding— Mahler and Sarvimäki (2012) focused on the participants' control of situations and the strength that the participants showed on a daily basis as they reorganised themselves to cope with different situations, while Berlin Hallrup *et al.* (2009) highlighted the physical and psychosocial changes that such women may perceive of their bodies. Disempowerment and a loss of social identity that is reinforced by health professionals providing information to the families rather than to the individual, was a key finding in the study by Stewart and McVittie (2011). Although such research may not be generalisable to an acute hospital setting the findings from these studies are important as they reiterate the need to include the patient and their experience in research on falls prevention.

3. Methods

Van Manen's (1990) approach to phenomenology was used to guide this qualitative study. Data were collected from participants using unstructured interviews, which were digitally recorded and transcribed verbatim. Capturing the essence of the real life experiences of patients that fell while in hospital enables a more meaningful understanding and appreciation of the significance of this phenomenon from the perspective of the person that has fallen.

3.1 Setting and participants

The setting for this study was a 630-bed tertiary referral hospital in Queensland, Australia that includes an emergency department, intensive care unit, acute medical, surgical, cardiology and rehabilitation units. Falls rates across this hospital are well monitored and average 55 per month. Usual care within this facility includes assessing a patient with a falls assessment tool that includes a management plan. This assessment is conducted on

admission then weekly during the admission period, unless the patient sustains a fall when they are reassessed as part of the post fall plan. Nurses are required to attend training on falls prevention annually. A purposive sample of patients that had sustained a fall during their hospital admission, in any clinical area, within the previous 24 hours, was invited to participate. Age was not a limiting factor. Non-English speaking, deaf and patients with a cognitive impairment were not included. The patient's level of cognitive impairment and ability to participate in the study was determined in consultation with their medical team.

3.2 Data collection

Unstructured interviews, lasting from 10 to 60 minutes were conducted by a member of the research team: a nurse researcher with extensive clinical experience, who was unknown to the participants. They are by nature conversational and interactive, and are the mode of choice when the researcher does not have a clear picture of the experience under investigation (Polit & Beck, 2013). In the context of such interviews, the researcher's role was that of facilitator, enabling participants to talk freely about their experiences. By a simple invitation to: 'Tell me about ...', the participant was able to explore the full range of their experience via a narrative telling that was not corralled into a question schedule that may presume or exclude issues of which the researcher may be unaware. The interviewer took a subliminal role in guiding the participant's response. Participants were put at ease using suggestions as outlined by Turner (2010) such as choosing a setting with minimal distraction, addressing confidentiality, and explaining the purpose and length of the interview.

Data collection continued until the researchers were satisfied that capturing of the rich detail of the participants' experiences was achieved. Twelve participants were interviewed. They were aged between 27 to 84 years, and most were female. Several had experienced multiple in-hospital falls (see Table 5.1).

Table 5.1 Participant characteristics

Participant (pseudonym)	Age (years)	Gender	Fall setting	Fall history
Maureen	78	Female	Cardiology unit	Normally lives at home alone. History of falling at home. Normally independently mobile but recently using a 4-wheel walking frame. Admitted for investigation of syncopal episodes. Fell in hospital while in the bathroom resulting in bruising and pain. Could not recall the details of the fall which occurred due to syncope. Physical presentation: well kempt.
George	84	Male	Geriatric evaluation management unit	Normally lives at home with wife. Normally uses a 4-wheel walking frame. History of falling at home. Admitted following a fall at home resulting in arm and leg abrasions. Fell twice while in hospital. Both falls were at the bedside whilst trying to get out of bed. No physical injuries sustained. Physical presentation: thin, frail, unkempt.
Arthur	69	Male	Rehabilitation and acute stroke unit	Normally lives at home alone. No previous history of falling. Admitted for treatment of a respiratory infection. Fell twice while in hospital. Both falls were at night at the bedside whilst attempting to use a urine bottle. No physical injuries sustained. Physical presentation: obese, short of breath.
Tony	70	Male	Infectious diseases unit	Normally lives at home with wife. No previous history of falling. Normally uses a 4-wheel walking frame. Admitted with gastritis. Fell in hospital in bathroom while attempting to use toilet; tripped on walking frame. Sustained hand laceration, arm skin tear, and bruise to forehead. Physical presentation: thin, frail.
Joan	56	Female	Rehabilitation Acute Stroke Unit	Normally lives at home with husband. Normally uses a 4-wheel walking frame. History of falling at home. Admitted following deliberate drug overdose. Fell four times while in hospital; related to muscle spasms. Fell once using 4-wheel walking frame going to toilet. Other falls from a sitting position. Physical

				presentation: small frame, low body weight.
Ray	76	Male	Acute general medical ward	Normally lives at home with brother. Normally uses a 4-wheel walking frame. Admitted following multiple falls resulting in skin tears and fractured ribs. Fell in hospital from bed side. May have fallen asleep. Sustained leg skin tear. Physical presentation: frail, low body weight, unkempt, previous bilateral toe amputations.
Maria	63	Female	Medical cardiology unit	Normally lives at home with husband. No previous history of falling. Normally uses a 4-wheel walking frame. Admitted with angina. Fell in hospital at night when walking to bathroom with walking frame, possibly related to water on floor. Sustained black eye. Physical presentation: fit and well.
Jane	50	Female	Infectious diseases unit	Normally lives at home with friend. Normally independent. No previous history of falling. Admitted with endocarditis. Fell twice while in hospital; both times while attached to intravenous fluids pole. First fall: tripped over scales nurse had placed on floor. Second fall: feet entangled in bed covers that had fallen to floor. Sustained muscular pain. Physical presentation: thin, tall.
Cynthia	76	Female	Rehabilitation and stroke unit	Normally lives at home alone. No previous history of falling. Admitted post myocardial infarction for heart surgery; mild stroke with left side weakness. Fell in hospital while mobilising around bed with 4-wheel walking frame. No physical injury sustained. Physical presentation: frail, low body weight.
Kylie	27	Female	Acute general medical unit	Normally lives at home with mother. History of falling at home. Admitted with hypoglycaemia-related seizures. Fell three times while in hospital. Fell twice in bathroom: no physical injuries. Fell while walking around bed: sustained fractured elbow. Physical presentation: pale, unkempt.
Peter	73	Male	Surgical	Normally lives at home with wife. Independently

			cardiology	mobile. No previous history of falling. Admitted with angina. Fell once while in hospital, while using toilet. No physical injury. Physical presentation: obese.
Margaret	70	Female	Medical cardiology	Normally lives at home with husband. Normally uses walking stick. History of falling at home. Admitted with acute diverticulitis. Fell once while in hospital; bending to pick up something from floor. No physical injury. Physical presentation: well-kempt, healthy.

3.3 Ethical considerations

Ethical approval was obtained from the relevant hospital and university human research ethics committees (refs: HREC/15/QPCH/185; 2015-211R) prior to the commencement of data collection. Participation was voluntary and written consent was obtained from all participants. Patient confidentiality was ensured by de-identifying all data.

3.4 Data analysis

Through analysis of the transcript data, themes were identified that gave shape to the phenomenon of falling in hospital. The analysis process began informally during and immediately after the interviews, when the interviewer's initial thoughts were recorded. The formal process then involved reading transcripts utilising a thematic approach (Van Manen, 1990) to identify and synthesise common topics into distinct themes. The text was treated as a source of meaning at all levels of the analysis (Van Manen, 2014). The interviews were read as a whole, revealing the essence of the themes inherent in the phenomenon. A selective reading approach was then undertaken in which transcripts were read and re-read. Then followed a process of writing and re-writing to reveal essential statements or phrases that addressed the question: 'What does having a fall in hospital mean to the patient that has experienced the fall?'

3.5 Rigour

Rigour and trustworthiness of research findings can be demonstrated when experts or persons other than the researcher code data in the same way (Sandelowski, 1996). To

maintain transparency and credibility, verification by research colleagues with expertise in phenomenology ensured credibility of the data analysis, as did feedback from multidisciplinary colleagues at a national conference. Field notes written immediately after the interview detailed participants' non-verbal communication, general demeanour, body language and tone, along with notes on the environmental setting. These notes were referred to and considered during the analysis. Documenting the research process created a dependable audit trail and would enable the study to be replicated in another setting (Koch, 1994).

4. Findings

Three key themes emerged from the analysis: *Feeling safe*; *Realising the risk*; and *Recovering independence and identity*. These themes describe the experience of falling as a continuum with participants at different psychosocial points. Their position on this continuum revealed their perception of falling with some disclosing that their potential to fall again was not such a concern: they trusted the staff to keep them safe and therefore tended not to seek assistance. Others began to appreciate the reality of their falls risk, feeling disempowered and disappointed with their loss of independence but more receptive to receiving help. The third theme revealed participants desire to regain their prior independence became stronger: they wanted others to perceive them to be physically competent, not as a frail older person. However, this also meant that they were more willing to take risks concerning their mobility safety. Although the majority of the participants were over 65 years old, one in her early twenties appeared to be affected by the experience of falling in a similar way as the older participants, suggesting that although older people are more at risk of falling, the consequences and experience of a fall can affect young and old alike.

4.1 Feeling Safe.

Some participants revealed an unwavering faith that nursing staff would protect them from harm while they were in hospital. Participants expressed that their own confidence was not affected by their fall as they had confidence in the nursing staff. The visibility of, and access to, nurses seemed to instil a misplaced sense of security and confidence in their ability to be physically safe when mobilising, even after they had experienced a fall:

Well it [the fall] never really affected my confidence 'cause I had confidence in the hospital staff. They were absolutely magnificent. I just yelled out and within seconds they were there and they never sort of went crook at you; just did everything to make you comfortable, which was good. [Arthur]

Often at the commencement of the interview, the participant did not understand that falling was a problem that could potentially lead to injury or an extended length of stay in hospital. It was almost as if they were embarrassed to have fallen and so made light of the incident and tried to deny they had fallen as a result of increased frailty or decreased physical ability that comes with being unwell:

I know how to fall - because of all the falls - I do the getting out of bed one quite often, not always getting out of bed, falling asleep on the edge of the bed and then just tipping over and falling. I've had a hundred falls... I get up every time – you'd think I'd break an arm or a hip. [Ray]

When the nurse said 'what are you doing down there' I said I thought it would be a change of view. [Maria]

When prompted to talk about how the fall affected their confidence, one participant stated, "I just make sure that I don't do it again and I want to stay mobile." The fact that they were being interviewed because they had experienced a fall seemed lost on some participants. Their confidence in the clinical environment was unshaken even after sustaining an injury-inducing fall if they felt that staff had followed correct procedures. One participant had fallen several times as a result of a medical condition. The fall that resulted in a fractured elbow was not as distressing to her as one that incurred no injury, because of the way she interpreted the nurses treated her at the time:

I fell and I actually shattered my elbow. That increased my time of stay but then that was just an accident in itself as I was getting up and fell over. But like I said, with that one my confidence wasn't affected at all because it was all treated by the book, kind of thing, whereas this time I definitely felt more shaken. [Kylie]

She perceived the injurious fall was appropriately managed and the subsequent actions of the nursing staff made her feel confident that correct procedures were adhered to, whereas her more recent falling experience with no resultant injury left her “more shaken” as she felt the incident was not taken as seriously by nurses because she had no communication from nurses that a “proper report was done.”

Participants equated their wellbeing with how nurses treated them. If they were confident in the care and treatment, they felt a sense of wellness:

I'm feeling pretty good today. I think the staff has helped a lot because they're pleasant. I haven't been grumpy with anyone. They have done every single test that they can do and it would have cost me a fortune if I had to pay for it. [Maureen]

The feeling of security and safety within the walls of the hospital was highlighted by Joan, who stated, “Yeah, I can get from the chair to the toilet. How did I learn not to do that? I think they threatened me with no tea [if the call bell was not used].” A false sense of confidence that she could get to the toilet from the chair without requesting assistance, even though she had experienced a previous fall, resulted in nurses using what the participant perceived to be threats, as a strategy to encourage her to call them. Her response to this perceived admonishment was to make light of the incident, giggling as she relayed how the staff reacted to her non-compliance with requesting assistance.

4.2 Realising the risk.

Several participants recognised and acknowledged that they did require assistance with mobility following their fall. In doing this they were more open to accepting assistance and more likely to ask for help. They realised that staff did not always trust them but then again they did not always trust themselves to be safe while mobilising. One participant recalled:

All the ladies around me helped me immediately... It didn't make me feel anything at [the time]. It's just that the staff no longer trusted me to go on my own and I didn't trust myself either. [Cynthia]

Participants appeared to lose confidence in themselves and their ability to remain safe while mobilising. They talked about their bodies not behaving as expected revealing strategies they now used to keep themselves safe when they mobilised, as several participants expressed:

But see that's where you lose your confidence because you've got to check everything around you and just to go in one step at the back door. I have to drag myself up that and then to go to the toilet; I've had to train myself again. [Margaret]

It has affected me, yes definitely my confidence to work by myself. I didn't expect my left foot not work and when I took off I found my foot didn't come with me. So I just took a fall. [Cynthia]

At first, I used to touch the wall, you know, I wasn't really confident and I've just done it like that while I was alone. You forget that [your body] doesn't function as well. You have to concentrate on moving your body sometimes. [Maureen]

Some participants described the nurses as being there to catch them when they fell. They expressed that they were happy about this, accepting they needed help. Participants spoke about this behaviour as being what they would expect from the nurses:

When I was moving about, they were there ready to grab me if I slipped or made the wrong move. They'd also tell me, "Don't do this, don't do that" and to be quite honest, they were fantastic, magnificent. That's what they're there for. [Arthur]

Participants believed that this was the role of the nurse and verbalised that this behaviour showed that the nurse cared for them as patients. Some participants reported they liked this behaviour:

But as far as the service is concerned, the nurses are wonderful. I love them. They come along and ask you what you want and then they go ahead and do it and they don't take much time. It's a very good service. [Tony]

More importantly, this dialogue showed that the participants were now willing to seek and accept help. For example, Arthur stated:

I used to think, "Well, I won't annoy them. I'll do it by myself," and that's where you come unstuck. So I thought to myself, "No, it's not worth it no more," or otherwise I reckon I might have been home this week.

I'm going to wait for the nurse make sure my two feet are beneath me
[before getting up] [Peter]

Accepting help and modifying the assistance required was often as the result of a fall and the decision was not always instigated by the participant but made by health professionals on their behalf. This was more readily accepted by the participant when they recognised the limitations of their physical abilities. One participant recalled when the decision was made to change her mode of mobility:

So when I fell, they had me in a wheelie and I had a spasm in my right arm and all on my face, and then they said, "I don't think a wheelie-walker is good for you." "Yeah," I said, "I'm not using one of them again." I didn't hurt myself. I didn't get a bloody nose or – I think I just got a little bump on the head. That was a bruise. But I didn't like that. Then I couldn't walk properly because this leg, the right leg drags because of this dystonia and I fall. If there's a little lump in the floor, I fall, I trip over it. So I'm not going to walk anymore. The doctor said, "No more walking for you" so they put me in a wheelchair..... I'm a disaster waiting to happen. [Joan]

On the other hand, some participants felt that the nurses denied them their independence and their right to make decisions regarding their activities of daily living, reporting being made to feel like a child. These participants perceived that by nursing staff actively assisting them that they were not being listened to and their opinion was not considered:

[They] made me feel worthless, made me feel like, really useless, like a two year old. Yeah, it did kind of eat at my confidence because I'm so used to always looking after myself and not being able to get myself to get back onto my knees – it just was really hard. [Jane]

I'd asked for a commode and I basically was told to stop acting like a nine year old, type thing, and just use the toilet. Then when I did, I had the fall, so that kind of made me feel, I guess, not so much scared but just like that I was kind of worthless. [Kylie]

Often the participant was independent in most, if not all, aspects of their lives prior to their hospitalisation. By not engaging them with falls prevention through conversation or explanatory dialogue, nurses unintentionally put the participants in an unfamiliar situation, by making them feel they were incapable of making decisions involving their own care.

4.3 Recovering independence and identity.

Participants conveyed a gradual acceptance that reduced physical ability to protect themselves from a fall could have a long-term effect on their lives but did not necessarily want this to become a permanent state. By *Recovering independence and identity*, they acknowledged and talked about the person they were prior to the fall. Although some had accepted they were at a greater risk of harm, they considered strategic ways to mitigate that risk. Some referred to the time when their confidence would return, reassuring themselves that when this happens they would be fine:

Yeah, I've got it worked out and I'm getting – we are going to put in more rails and I'm pretty organised. Like once I get that and get my confidence back, and if it doesn't keep happening to me, then I'll be right. [Margaret]

So I know I've got that there and no matter what, you know, I decided, "No, I'm going to try and get off this walker. I can do it and I will do it." ...It gives me confidence [that every test has been done], yeah, that much more confidence. But I just won't overdo it. I'll just go in little stages and sort of be more aware of what I'm doing, I think, and yeah, I'll be fine. [Maureen]

Within this theme of *Recovering independence and identity* was a tendency for participants to keep the fall a secret as they were worried that the plan for discharge from hospital may be delayed if anyone found out they had fallen. To maintain the notion of all being well was important. One participant went to great lengths to conceal that she had fallen as her discharge was planned for that day:

So I thought, "It's all right. I won't say anything" but I think I had to ask for some [paracetamol]. I wanted to go home. I told her [nurse] I've got a headache then I told her I went to get up and I went down and landed on the floor. [Maureen]

The desire to preserve their dignity and to be seen as they were before the fall was reflected in these participants' interviews. They understood the rationale behind having to use devices to keep them safe while mobilising but they did not necessarily accept that this would be a long term solution, voicing their anticipation that with returning confidence they would get back to where they were functionally prior to falling.

Oh, I feel like I'm so old walking with this damn thing [four-wheeled walker]. I don't really want to do this ... I think I'd be a lot more careful now than what I was before ... without the walker. I wanted to get rid of that so I took the toilet seat and the shower chair – so they've gone. [Maureen]

Many of the participants accepted that they were responsible for themselves and it was up to them to keep themselves safe. They seemed to accept that they were responsible for their recovery that would lead to them going home:

So after that I went two weeks over at [hospital named] for rehabilitation. I've been rehabilitated over there and shown what to do so this is all what I've got to do when I go home, get into it and get it done. So I'm doing all that I can. Well if you can't get on top of it yourself no one else can help it, can they? [Margaret]

They reflected on what they had lost as the result of falling. Redefining who they were before this fall experience and how they were perceived by others was important to them. Several wanted to remain who they were before, recounting activities that they perceived defined who they were prior to the fall:

I think I want to try and be who I was and do what I did, because I've always been a strong-minded person, I suppose, a home person and my garden means a lot to me. [Maureen]

I used to dance every Saturday night and then you stop all of a sudden.

[George]

The desire to portray themselves in a positive light and to be seen as they were pre-fall acted as a motivator for participants to regain physically and psychologically what they perceived they had lost by falling.

5. Discussion

The goal of this study was to accurately describe the participants' experience of falling while they were an inpatient. Although the participant interviews were conducted within 24 hours of a fall in hospital occurring, several had past encounters with falling which formed part of their overall experience. The three themes identified: *Feeling safe, Realising the risk and Recovering independence and identity*, show the participants on a continuum with some participants at different points on this continuum. A confidence in the nursing staff which instilled a confidence in their own ability was one position identified as a theme. A second position on this continuum was acknowledging that assistance was required and a willingness to accept this help, with the third point identified as an understanding that having fallen they may be perceived as old and frail requiring the assistance of mobility devices, resulting in a desire to be seen as they were before the fall. Although the participant interviews were unstructured and started with a single question "Tell me about ..." very often their descriptions captured a relational description between themselves and the nurse caring for them. The participant's experience of falling appears to be directly related to their relationship with their nurse. The experience of *Feeling safe* indicates that participants may not have accepted their risk of falling, as found in other studies (McMahon, Talley, & Wyman, 2011; Miller *et al.*, 2016). For example, in the study by Mahler and Sarvimäki (2012), participants found it undignified and humiliating to have to accept help, which may help to explain their reluctance to accept they were at risk. The participants in this study confirmed this by reiterating such notions as they did not require assistance because they knew how to fall and that they had had many falls. However, though some participants indicated a confidence in knowing how to fall, they acknowledged that the presence of a staff member would somehow protect them from injury, making them feel

safer and less likely to fall and injure themselves. This was also found in a recent study in which nurses perceived that patients experienced a false sense of security through the presence of nearby hospital staff (Haines *et al.*, 2015). It is somewhat ironic that patients may feel a sense of security and safety when it is well documented that around 70% of patient falls are unwitnessed by hospital staff as they are not present at the time of the fall (Johnson, George, & Tran, 2011). Participants spoke about having confidence in the staff but this did not always motivate them to call for assistance. This may be congruent with their perception that the nursing staff are too busy (Boltz, Capezuti, & Shuluk, 2014; Carroll, Dykes, & Hurley, 2010) and feeling that they are an inconvenience or a burden if they seek assistance by using the nurse call system (Miller *et al.*, 2016). Being “threatened with no tea” if she failed to call for assistance was interpreted by the participant in this instance as a caring behaviour displayed by the nursing staff rather than intimidating behaviour and was viewed by the nurses as justifiable behaviour if it prevented a harmful situation that results in a fall (Clancy & Mahler, 2016).

The participants recognised that things were not the same as they were before and, consistent with the results of a previous study (Gettens & Fulbrook, 2015), expressed that their confidence was affected as the result of experiencing a fall. The theme, *Realising the risk*, describes how confidence in their bodies to work as well as they used to was lost, leading them accept assistance as offered by the nursing staff. Participants were aware of the changes in their bodies and modified their activities accordingly. These findings are consistent with a study by Berlin Hallrup *et al.* (2009) who reported that a changing body involves a fear of the future, as participants no longer took for granted their mobility. Some perceived that the nurses no longer trusted them after the fall and acknowledged that they also lost trust in themselves to be safe when mobilising. They did however maintain trust in the nursing staff to be there to stop them falling. As patients, they felt safe and protected in hospital, even those that had experienced a fall (Wolf & Hignett, 2015). While the majority of participants indicated that they liked a nurse to be available to assist and provide them with direction, as it made them feel well cared for, there were some that felt the nursing staff treated them like a child, diminishing their sense of worth and disempowering them. Nurses were perceived as forcing them to follow their directions rather than working collaboratively with them.

Consistent with the finding by Dollard *et al.* (2012), the participants' desire to preserve their dignity and save face was often stronger than their concern of falling as identified in *Recovering independence and identity*. They were reflective of what they had lost and wanted to be seen as who they were before the fall. The threat to their identity and autonomy often resulted in participants taking risks that may have resulted in further falls (Carroll, Dykes, & Hurley, 2010). The four-wheeled walker was seen as an enemy to be gotten rid of as soon as possible so not to lead people to view them in an undesirable way, as being frail, which they perceived to be negative (Dollard *et al.*, 2012). While the decision to throw away the walker and use the wall as a mobility aid may not be the best choice for falls prevention (Berlin Hallrup *et al.*, 2009), participants were willing to risk falling again if it meant they were seen as the person they were before, and not as they perceived others saw them - old and frail (Dollard *et al.*, 2012). A qualitative study conducted by Stewart and McVittie (2011) provides support for this theme. It described how participants refused to use walking aids because they perceived that they made them feel old and were identified socially as being unwell. Participants struggled to identify with their changing body, as described by Stewart and McVittie (2011), as they felt a loss of their social identity and of themselves. To be seen as the dancer or the gardener, rather than 'old' as they felt others saw them, seemed more meaningful to most than calculating the risk of another fall (McMahon, Tally, & Wyman, 2011).

5.1 Limitations and further research

Sample size in qualitative studies can be variable, however it is not the size of the sample that is important but the quality of the data obtained. The sample for this study was purposively recruited and although relatively small, given the population and the topic it deemed to hold significant information power in the final analysis (Malterud *et al.*, 2016). The emergence of recurring themes suggests that this study has adequately captured a common experience of falling in hospital. The findings may therefore be transferable to other clinical settings. Difficulty in removing some participants from the ward area to interview because of treatments and clinical conditions was a limitation of this study as the information gathered from the interviews may have been somewhat influenced by the participants' surroundings. Despite these limitations, participants provided important insights with regard to the meaning of falling while being hospitalised and the challenges

faced by them. As with all qualitative studies, the information obtained and the analysis of data are invariably shaped by the researchers' inherent perspectives, thus a similar study conducted by other researchers may yield somewhat different findings. However, the emergence of recurring themes suggests that this study has adequately captured a common perspective of falling in hospital, and the findings may therefore be transferable to other clinical settings.

6. Conclusions

The experience of a fall by its very nature incites in the person that has fallen an initial awareness of the risk of falling but there still exists an unwillingness to accept this risk and seek help. The subsequent acceptance that assistance is required but the motivation and readiness to seek this help is coupled with feeling disempowered and that independence is lost. As they recover, they progress to the end of the journey where they accept the risk of further falls in order to be seen as they were before falling, physically competent (Dollard *et al.*, 2012), and not as an older frail person. These findings are important as they identify that confidence is a key factor in hospital falls and does affect how patients view themselves. This in turn influences behaviour after a fall in terms of interpreting and understanding directions from staff, and the information given to them on reducing falls in hospital. By comprehending how a patient's confidence has been affected by an in-hospital fall, nurses conducting risk assessment and providing information on preventing falls can identify the patient's progression in their psychosocial journey, resulting in a reduction of communication failures that lead to falls in hospital (Haines *et al.*, 2015). It is imperative that nurses and other health professionals are supported with knowledge of how and when to employ strategies and facilitate discussions with the patient that will be interpreted correctly by the patient without making them feel 'useless' and 'old'. As many patients feel that information related to preventing falls is not relevant to them, the clinical challenge is to communicate effectively with them amidst the competing priorities of acute health care (Dykes *et al.*, 2009).

7. Relevance to clinical practice

Preventing patients from falling in an acute clinical setting is a challenge faced by nurses worldwide. In order to meet this challenge, they need to be equipped with evidence-based, innovative strategies. The findings from this study reveal the importance of understanding the patient's perspective concerning their falls risk. This indicates that a more individualised and patient-centric approach to falls prevention in the hospital setting may increase the effectiveness of falls interventions. To be able to offer a more patient-centred approach to falls prevention, it is necessary to understand their experience. This requires staff to communicate with the patient to comprehend which stage of the falls journey the patient is experiencing and to tailor information, communication, and interventions to suit that phase.

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Conflicts of interest

The authors declare no conflicts of interest.

Further Considerations and Limitations

The study is limited in terms of the participants who were recruited from a single hospital site, which may have impacted their particular experiences. As well, some participants had fallen previously and this may have slanted their perspectives compared to those with no history of a previous fall. As with all qualitative research, it is an interpretive endeavour, which is shaped to a large extent by the researcher's view of the world. Thus, a similar study might yield somewhat different findings. Further qualitative research is needed in a wide variety of settings including surgical in an acute hospital with a wider population sample including the younger old population of 60 to 70 years old to further amplify the findings from this study

Chapter 6: Discussion and Conclusion

Introduction

The purpose of this research was to investigate and describe the impact falling has on patients in an acute hospital setting. This was achieved by using a convergent mixed methods study - the quantitative study confirming the relationship between confidence, falls and hospital LOS and the qualitative study offering complementary findings by exploring the patient perception of a fall in hospital. The relationship between the findings in the two phases will be described noting that while phase 1 measured the confidence levels of patients, the second phase delved into the patient perspective of falling and without prompting, uncovered the extent to which confidence following a fall affected the patient.

The mixed methods approached enabled the research question to be comprehensively addressed, leading to confirmation of existing knowledge and a new appreciation of the effects of falling in an acute hospital from the patient perspective. In this study, Phase 2 in particular has revealed new knowledge that has not been reported previously, which makes a significant contribution to the understanding of falls from the faller's perspective. A paucity of research in an acute hospital setting focusing on the experience of the patient was identified during the literature review detailed in Chapter 2, therefore this research has contributed to addressing this gap.

This chapter presents the convergent phase of this mixed methods study and provides a discussion of the major findings from Phases 1 and 2. In keeping with the convergent mixed methods explanatory design as outlined in Chapter 3, the discussion will incorporate an interpretation of the results from both the quantitative and qualitative phases of the research study, making an assessment of how the information from both phases addresses the mixed methods question: What is the impact of sustaining an in-hospital fall?

Although the MFES was not designed to provide information about in-hospital treatment, the results from Phase 1 suggest that it may be a useful tool to assess those less confident and therefore more likely to fall in hospital. Therefore when used in conjunction with other falls assessment and management tools provided a better assessment of those factors that

contribute to falls than the risk assessment tool that was used throughout the hospital at that time. The association between lower admission MFES scores and falls supported the proposal that the MFES was sensitive to the prediction of an in-hospital fall. Furthermore, as might be expected, Phase 1 demonstrated that experiencing a fall reduced patients' confidence in their ability to perform daily activities. A study by Boltz and colleagues (2014) supported this finding by describing a fear of falling as playing a significant role in the restriction of physical activity and function. This is consistent with previous community-based research which investigated the relationship between fear of falling and physical activity in older adults (Roe et al., 2008).

In Phase 1, the relationship between confidence and falls as indicated by the MFES is consistent with the findings of Hill et al. (1996). These results suggest that the MFES is sensitive in predicting falls and could be incorporated into a routine assessment to identify patients that are at greatest risk of falling in hospital. However, in terms of risk mitigation, it is important to note that when a risk is identified it should be followed by implementation of preventative interventions. Thus, if a fall is predicted, and intervention implemented effectively, the expected outcome would be that a fall is prevented. This is one of the key problems when attempting to make causal links between risk identification and outcomes. The outcome, such as fall incidence, is potentially more dependent on the effectiveness of preventative strategies than the initial identification of risk. Since it would be unethical not to implement preventative intervention once a risk has been identified, it is difficult to control for the effect of various interventions on outcome.

The results of Phase 1 revealed that the less confident patients were, as indicated by the MFES, the longer was their length of hospital stay, regardless of whether they were short- or long-stay patients, and whether they fell or not. Since longer hospital stays incur greater cost (Haines et al., 2013), there is a cost-based argument to consider routine screening of patients on admission with the MFES in conjunction with validated risk assessments in order to identify less confident patients that are more likely to fall. Offering this group of patients targeted interventions to enhance their mobility and build confidence in physical activities may result in a decrease in their hospital length of stay and the associated costs. Although Phase 1 was a single centre study, with a relatively small sample, the finding that a lower level of patient confidence in their ability to perform daily activities without fear of falling

was associated with a longer hospital stay and represented a significant cost, not only in terms of health care but also personal cost to the patient. Morello and colleagues (2015) were able to calculate the cost of falling in a multi-site prospective study which looked at all patient admissions to 12 acute hospital wards across 6 public hospitals in New South Wales and Victoria. They found the mean LOS for fallers was 8 days longer and incurred average hospital costs of approximately \$6669 more than non-fallers. A LOS of 18 days is significant when compared to 8 days in the Morello et al. (2015) study in an acute ward setting. The rationale for this is likely to be the inclusion of the longer stay interim care unit and rehabilitation unit in the phase one study. The patients admitted to these wards are generally more frail and have a longer LOS as they recover. In terms of cost to the health care system, based on the cost of care following a fall as calculated by Morello et al., (2015) of \$6669 for 8 days, the average cost incurred by a patient with LOS of 18 day and a non-injurious fall was \$15,005.

Although the financial implications of a fall are important to the health care budget, the personal cost of a fall in terms of injury, reduced mobility and delayed recovery is possibly of more significance to the patient. In the frail older population of patients in particular a minor injury can cause significant functional impairment. Falls that result in a minor injury or indeed in no physical injury, can be the initial cause of a fear of falling leading the older person to restrict activity and mobility with a consequent loss of strength and independence (Oliver, Healey & Haines, 2010).

The cost in terms of their confidence is evident in the qualitative phase of our study with the participants acknowledging their lost confidence in themselves during *realising the risk* theme as described in Chapter 4.

Patients' confidence in their performance of activities, as indicated by their MFES scores, was significantly lower on admission, when compared to their scores on discharge, with patients that had not experienced a fall indicating they were more confident both on admission and discharge. In Phase 1, it should be noted that although confidence improved between admission and discharge for both fallers and non-fallers, it is clinically significant that over a third of participants rated themselves less than fairly confident on discharge from hospital. Given the result from Phase 1 that an MFES score of < 5 is a reasonably good predictor of sustaining a fall, these discharge MFES scores suggest that many of the

participants that were discharged from hospital were at risk of sustaining a fall at that time. This is supported by the Queensland Health Statistics report, compiled by Van Roo, Johnson and Petersen (2013), of readmissions for falls which found that 14.3% of patients discharged to their place of residence re-present with a fracture as the result of a fall within two years. Given that we have this information it would be prudent to provide details of how to reduce risk to the patient and their family on discharge from hospital, increasing confidence in those activities identified as scoring low on the MFES. Ideally, a follow up from a mobility expert to assess the patient's confidence and mobility would be warranted to reduce the risk of representation.

Phase 1 identified that a low admission MFES score was an effective indicator of falls and was associated with a longer length of hospital stay. By scoring low on the MFES, which indicates reduced confidence, patients are signalling that they do not feel safe when performing daily mobility activities. Patients may experience a fear of falling prior to admission if they have previously experience a fall therefore as part of a patient's routine assessment on admission to hospital – all patients, whether the admission is as the result of a fall or not should have their confidence level assessed as part of the routine assessment process. This presents an opportunity to employ a multidisciplinary approach to provide the patient with targeted exercises and activities to increase mobility, and thereby confidence, and potentially decrease the risk of falls and reduce hospital length of stay.

With the knowledge that confidence was a predictor of falls, it was a natural corollary to explore the patient's experience of falling in hospital. It should be emphasised that it was not the intention of the Phase 2 to explain the results from Phase 1 but to complement them. Therefore, the qualitative study forming Phase 2 explored hospitalised patients' perceptions of their fall. The goal of Phase 2 was to seek complementary information about the experience of falling, in particular to better understand participants' psychosocial perceptions associated with their fall, such as confidence. However, although the Phase 1 results indicated a strong association between confidence and falls, it was important that this was not a presumed relationship from the patient's perspective. Thus, the qualitative design of the study, with its unstructured interview method of data collection, enabled a non-directive approach that avoided a potentially biased focus on confidence.

In Phase 2, analysis of participants' transcripts revealed that it was fairly rare for them to refer directly to their confidence in relation to falling, or the potential to fall again. However, following analysis, the three themes that emerged; *Feeling safe*, *Realising the risk*, and *Recovering independence and identity*, described a process whereby participants moved through several stages before finally acknowledging their fall risk, in which self-confidence, over-confidence, and lack of confidence were palpably present.

Initially, their potential to fall again was not much of a concern to Phase 2 participants: they trusted the staff to keep them safe and therefore tended not to seek assistance. This finding is consistent with a study by Wolf and Hignit (2015) that explored patients' perceptions of their fall risk, and discovered they felt protected and safe in the hospital in the belief that a nurse would not let them fall, even though they often attempted to mobilise without calling for a nurse to be present. Subsequently, Phase 2 participants began to appreciate the reality of their fall risk, but felt disempowered and disappointed with their loss of independence, although they became more receptive to receiving help. Finally, as participants recovered, their desire to regain their prior independence became stronger: they wanted others to perceive them to be physically competent; not as a frail, older person.

The experience of participants *feeling safe* indicates they may not be accepting of their risk of falling, but were confident that staff would look after them. Whilst not explicitly stating a lack of confidence in their own ability, this was implied by their faith in the staff. On the other hand, participants in Phase 2 were often reluctant to seek help, as this impacted on their perception of self, and their desire to be perceived as independent; rather than frail or old. This is consistent with the findings of Mahler and Sarvinäki's (2012) study in which participants found it undignified and humiliating to have to accept help. However, though some participants suggested they knew 'how to fall', they acknowledged that the presence of a staff member made them feel safer and less likely to fall and injure themselves, drawing on a false sense of security from the presence of a nurse to somehow protect them from injury, as found by Haines and colleagues (2015) in a qualitative study set in a rehabilitation hospital, tertiary hospital and community rehabilitation program. Semi-structured interviews were conducted with patients, carers and health professionals two weeks and three months post hospitalisation. Health care professionals included in this study established patients may feel more confident with mobility as the nurses make them feel

protected, not only in the hospital environment but also in the community when health care staff are attending.

On the other hand, this sense of security did not always motivate them to call for assistance, which may be related to a perception that the nursing staff are too busy, as reported in other studies (Carroll, 2010; Boltz et al., 2014), with the patient feeling they are an inconvenience or a burden if they seek assistance by using the nurse call system (Miller et al., 2016). It is interesting to note that 77% of patient falls are unwitnessed by staff, suggesting that the majority of the time patients do not request help to mobilise even when instructed to do so. Johnson et al. (2011) analysed 577 hospital falls and incidents and found the majority of these unwitnessed falls resulted in no harm, which may be related to the post fall care given by nurses; commenting that this required further research.

Clancy and Mahler (2016), in interviews with fourteen nurses during a qualitative hermeneutic phenomenological study, identified that they focused primarily on protection and prevention rather than promoting safety. For these nurses, preventing falls at the cost of hampering the patient's independence appeared to be a dilemma because of the priority placed on advocating for and protecting the patient. Therefore, being "threatened with no tea" if they did not call for assistance was interpreted by the participant in this instance as caring and protective rather than intimidating behaviour displayed by the nursing staff and possibly viewed as justifiable by the nurse if it prevented a harmful situation that resulted in a fall.

The Phase 2 theme, *Realising the risk*, describes how participants' confidence in their bodies to work as well as they used to was lost, leading them to accept assistance offered by nurses. This theme illustrates a rationalised moderation in their self-confidence as they gradually recognised that things were not the same as they were before their fall and expressed that their confidence was affected as the result of experiencing a fall. Whereas previously, participants tended to deny their risk of falling, even to the extent of being untruthful in some instances, to some extent suggesting over-confidence. When the realisation 'hit home' that something had changed; that their body was no longer to be relied upon, they modified their activities accordingly. This finding is consistent with the study by Berlin Hallrup et al. (2009) that found that a changing body involved a fear of the future, as participants no longer took for granted their mobility. Participants acknowledged

that not only did they feel that nurses had lost trust in their ability to be safe, but they also had lost trust in themselves after falling, further affecting their confidence. Some participants felt diminished and unheard. They were treated like a child by nurses who were perceived as forcing them to follow their direction rather than working collaboratively with them. This behaviour by nurses has the ability to increase falls as the patient is willing to risk “...just going by myself which would increase my falls risk,” rather than requesting help from staff that are seen as controlling and unwilling to compromise. Rush et al. (2007) provided the perspective of the nurse, describing a patient fall as a very stressful, highly charged event that had a significant impact on nurses explaining why nurses at times appear to make care decisions without consultation as a means of protecting the patient and themselves from the potential stress of a fall.

A qualitative study using patient interviews that was undertaken by Dollard et al. (2012) found that participants’ desire to preserve their dignity and ‘save face’ was often stronger than their concern of falling, which is consistent with the findings from Phase 2. As participants worked towards *recovering independence and identity*: they were reflective of what they had lost and wanted to be seen as who they were before the fall. Outwardly, they wanted to demonstrate confidence to others. In this context, mobility aids were seen to be a badge that labelled them as frail or elderly; an undesirable perception that was seen to be negative. In a similar vein, Stewart and McVittie (2011) described participants’ refusal to use a walking aid because it made them feel old and socially identifiable as unwell. And, in the study by Carroll (2010), threats to identity and autonomy often resulted in participants taking risks that may have resulted in further falls.

A strong motivator for such a response in this study was to “be who I was and do what I did” before the fall, participating in activities like gardening and dancing. Participants struggled to identify with their changing body, as also described by Stewart and McVittie (2011), as they described a feeling of a loss of their social identity and of themselves. To be seen as the dancer or the gardener in a real sense and not old, as they felt others saw them, seemed more meaningful to most than calculating the risk of another fall.

A major discussion point of this study was that whilst ‘confidence’ was a term rarely used by participants in Phase 2, it is evident from the results of Phase 1 that confidence was identified as influencing a patient’s fall risk. The three themes illustrate how participants’

behaviours demonstrate a progression from lack of confidence (*feeling safe*) to potential over-confidence (*recovering independence and identity*). No matter whether a patient is lacking in confidence or is over-confident, they are not always aware or accepting of their risk of falling and as a result may not be as compliant as might be expected with protective falls prevention interventions. Depending on where they are in their understanding of fall risk will determine the way in which they understand and interpret the information given to them on fall prevention by the nurses assessing them.

The relationship between falling, confidence and hospital LOS, together with the finding that confidence is an accurate predictor of falling in hospital, was confirmed in Phase 1 of this research study. This phase also identified that the less confident patients are, the greater the risk of falling. Phase 2 complements these findings by adding the patient voice to the data and thus confirming that patients felt their confidence was affected by the experience of falling in hospital. The transition to accepting that they did require assistance and were willing to seek this assistance indicated a reduced confidence in their ability to undertake daily activities. Whereas the willingness to take risks that may lead to further falls in an attempt to avoid being identified as a frail older person suggests a returning confidence. These findings confirm the phase 1 results, which showed a significant increase in the MFES scores on discharge when compared to the admission scores indicating that while a patient's confidence in daily activities is initially reduced it increases as the patient recovers.

While Phase 1 confirmed that lack of confidence in participants' ability to perform activities without falling was associated with hospital falls and increased length of stay, Phase 2 demonstrated how they transitioned from dependence to a desire to regain independence.

It is clear from the findings of these studies that when it comes to fall risk assessment and interventions, one size does not fit all. The current approach that tends to assess patients for a level of risk then apply a range of strategies to mitigate this risk is clearly flawed as indicated by inpatient falls rates (AIWH: Brady, 2013). As identified in a cluster-randomised, stepped-wedge controlled trial of eight rehabilitation units across Australia, an individual approach to fall interventions is needed (Hill et al., 2015). The Australian Commission on Safety and Quality (ACSQHC) in Healthcare National Standard 10 - Preventing Falls and Harm from Falls (2012) supports this approach and the expectation from the ACSQHC is that health care facilities will provide an individualised tailored plan of care developed in

partnership with the patient and their carer. Identifying the activities in which the patient has less confidence provides clinicians with powerful information on which multidisciplinary team to approach and what intervention activities will provide the most benefit to the patient. Insight into the patients' perspective and understanding of falling in hospital may enable these specialist staff, and the targeted interventions they propose, to be communicated to the patient in a way that is meaningful, understood and valued by the patient, promoting uptake of the interventions. Oliver, Healey and Haines (2010) research summarised the evidence and the considerations for preventing falls in hospital and recommended four key components to preventing falls; a safer environment of care, identification of specific modifiable risk factors, implementation of interventions targeting these risk factors and finally injury risk reduction. Haines et al. (2014) suggest that it is preferable for clinicians to discuss the benefit of fall prevention activities with the patient in order to highlight the benefit of participating in them. This will potentially result in an augmented uptake of the targeted interventions, increasing confidence in the activity with a flow-on effect of a reduced hospital LOS, reduced health cost and reduced personal cost to the patient and their family.

Although this study highlights the importance of understanding the experience of falling in order to appropriately target patient education, it also reveals the importance of educating nurses and other health professionals consider this targeted approach. By training staff to deliver individualised falls prevention education (Hill et al., 2015) and seeing the reduction in falls rates as the result is empowering to staff and encourages a positive team environment with the patient at the centre of the care (Hill et al., 2016). This individualised approach will achieve concordance and compliance with potentially risk-reducing fall strategies and will assist health care staff need to identify the most effective method of communicating with each patient, particularly those that have experienced a previous fall in hospital. By perceiving how their confidence has been affected, health care staff conducting risk assessments and providing information on fall prevention can identify the patient's position on their particular psychosocial journey, thereby helping to reduce communication failures, which can lead to further in-hospital falls (Haines et al., 2015). The competing priorities of acute healthcare make it imperative that nurses are well equipped to employ strategies and have discussions with the patient that will be interpreted correctly, rather

than the patient being made to feel 'useless' or 'old' and that the information related to falls prevention is not relevant to them (Dykes et al., 2009).

Implications for Staff Education and Training

The goal of health services is to improve the health outcomes of patients within a healthcare facility. The findings from this study have the potential to positively influence patient care by contributing to the evidence on understanding of hospital falls from a patient's perspective, while providing further evidence that assessing a patient's confidence on admission by incorporating the MFES in the patient assessment is an effective strategy for predicting falls in an acute setting.

Falls in hospital attract attention from a multitude of concerned organisations from governing bodies such as the Australian Commission on Safety and Quality in Health Care (ACSQHC), health care economists, hospitals and health services to medical teams, clinicians and of course the patient. However, despite the increasing interest and imperative in reducing hospital falls, the funding allocated to achieving this does not always reflect the importance of the task.

Relevance to Clinical Practice

Clinical practice, including evaluation methods by which the patient is assessed, is constantly evolving, informed by a number of factors including the model of nursing care used, policy and procedural influences. With the fast approaching assimilation of patient medical records into an electronic platform prompting a move to a more integrated care model, the opportunity to incorporate an assessment that includes a measure of confidence may become a reality in the near future. Therefore, this research has timely and significant implications for clinical nursing practice. The Phase 1 results indicate that the MFES may be a useful tool when used in conjunction with other falls assessment and management plans to assess fall risk. Incorporating it into an integrated assessment to identify areas where patients would benefit from review of other health professionals, such as physiotherapists or occupational therapists, would provide a more detailed assessment and enable focused treatment. This more individualised, focused approach to treatment can help to improve

mobility, thereby enhancing confidence in performing everyday activities, which in turn can reduce hospital length of stay.

Phase 2 findings highlighted the importance of appreciating the patient's perspective concerning their falls risk by identifying which phase the patient is transitioning through. This is crucial for nurses to appreciate, so they can identify the most appropriate method of communication to counsel patients about their risk, and to help them accept it. When this risk is subsequently realised, as evidenced in *realising the risk*, the nurse can then work closely with the patient and multidisciplinary team to develop strategies to mitigate it, and to set realistic goals for meaningful treatment plans that work on building confidence in activities.

Recommendations

A recommendation of this research is to consider incorporating the MFES into a fall risk assessment. The findings have shown that evaluation of the patient's confidence using the MFES enables identification of areas where the patient is less than confident and therefore more at risk. Additionally, working with the patient to provide an individual, tailored mobility plan to improve confidence in mobility can reduce the risk of falling and improve their healthcare outcomes. To be able to effectively establish individualised plans for patients, it is imperative that staff involved understand both the rationale and potential benefits of this practice, therefore engaging and guiding health care professionals to consider the benefits to the patient of an individualised plan, which is a further recommendation. This undertaking could potentially become the role of a specialist health care professional, who could provide staff with guidance, leadership and training in the implementation of individual mobility plans to enhance confidence in activities, and auditing and evaluation of these programs.

Patients that experience a fall within the healthcare setting are at risk of falling again therefore it is important that they are offered education on prevention strategies. Extensive research has been conducted within the area of patient education by Hill et al. (2016) emphasising the importance of staff engaging with patients to understand their perceptions and provide support for the patient to take an active role in their recovery. Raised

awareness and knowledge about falls and the risk of falling has been demonstrated in patients undertaking targeted education (Hill et al., 2016).

Overall Limitations and Recommendations for Further Research

One of the challenges of undertaking research in a busy hospital environment is the difficulty for some participants to move from the ward area to be interviewed because of treatments and clinical conditions. This was also a limitation as the information gathered from these participant's may have been somewhat influenced by their clinical surroundings. Despite these limitations, participants provided valuable insights into the experience of falling while being hospitalised and the challenges faced by them in relation to overcoming reduced confidence in daily activities.

A recommendation as the result of phase one of this research is to undertake further studies using regression analysis with a larger sample size to allow for adjustment of confounding factors such as age, preventive interventions implemented based on the FRAT score and primary diagnosis of admission. A limitation of this study was not adjusting for these factors.

It should be noted that the patient sample in phase 1 was different to those in phase 2. This could potentially be seen a limitation to the overall research due to the two populations having different perspectives dependent on age and hospital setting for example, a young person in an acute surgical ward will have a different perception of falling than an older person in a Rehabilitation setting. However for the purposes of the qualitative study, the diversity of populations and ward setting made for richer more in-depth data because of the diversity.

Further qualitative research is needed in a wide variety of settings including surgical in an acute hospital with a wider population sample including the younger old population of 60 to 70 years old to further amplify the findings from this study. Barriers to the uptake of education by patients is also an area of focus that would benefit from further research.

Further research into nurses' perceptions of patient experiences of falling is warranted, as are studies that consider the inclusion of patients that are cognitively impaired - these

patients can at times appear over confident in their ability to mobilise, therefore further adding to their risk of sustaining a fall.

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Appendix A. Modified Falls Efficacy Scale

The Modified Falls Efficacy Scale

Name _____ Date _____

On a scale of 0 to 10, please rate how confident you are that you can do each of these activities without falling, with 0 meaning "not confident/not sure at all", 5 being "fairly confident/fairly sure", and 10 being "completely confident/completely sure".

Note:

- * If you have stopped doing the activity at least partly because of being afraid of falling, score a 0
- * If you have stopped an activity purely because of a physical problem, leave that item blank (these items are not included in the calculation of the average MFES score).
- * If you do not currently do the activity for other reasons, please rate that item based on how you perceive you would rate it if you had to do the activity today.


		Not Confident			Fairly Confident				Completely Confident			
Activity		0	1	2	3	4	5	6	7	8	9	10
1.	Get dressed and undressed											
2.	Prepare a simple meal											
3.	Take a bath or a shower											
4.	Get in/out of a chair											
5.	Get in/out of bed											
6.	Answer the door or telephone											
7.	Walk around the inside of your house											
8.	Reach into cabinets or closet											
9.	Light housekeeping											
10.	Simple shopping											
11.	Using public transport											
12.	Crossing roads											
13.	Light gardening or hanging out the washing *											
14.	Using front or rear steps at home											

* Rate most commonly performed of these activities

Score/Item Rated= ____/____

Average= ____

Appendix B. Fall Risk Assessment Tool

 <p>Queensland Government Queensland Health</p> <p>NURSING CARE PLAN BOOKLET</p> <p>METRO NORTH HEALTH SERVICE DISTRICT THE PRINCE CHARLES HOSPITAL</p>	<p style="text-align: right;">(Affix patient identification label here)</p> <p>URN: _____</p> <p>Family Name: _____</p> <p>Given Names: _____</p> <p>Address: _____</p> <p>Date of Birth: _____ Sex: <input type="checkbox"/> M <input type="checkbox"/> F</p>			
FALLS RISK ASSESSMENT & INTERVENTION SHEET				
Category	Date/ Score	Date/ Score	Date/ Score	Date/ Score
<p><i>Complete the risk assessment on admission, at weekly intervals, following a fall and by exception on change in patient condition</i></p>				
Days since admission				
0	On admission			
1	Up to 7 days			
2	8-14 days			
3	Over 14 days			
Age				
0	0-19 years			
1	20-59 years			
2	60-70 years			
3	> 70 years			
Falls History				
0	No falls in last year			
1	Fall in last 6 months			
2	Fall in last 3 months			
3	Fall in last month			
Balance				
0	Ambulate safely with/without assistive device			
1	Ambulates with assistive device and/or 1 person			
2	Needs assistive device & 2 people			
3	Chair/ Bed fast / Stand & pivot only with help			
Mental State				
0	Orientated to time, place & person			
1	Orientated to place, person			
2	Orientated to person only			
3	Disorientated &/or impaired judgement &/or impulsive			
General Health				
0	Well nourished, normal sleep pattern			
1	Poor appetite &/or sleep disturbance			
2	Severe sleep disturbance			
3	Mainourished, weight loss			
IV Delivery devices / IDC / Drains / NGT or PEG				
0	None			
1	One device, self managed			
2	One or two devices, needs assistance to manage			
3	More than one device, dependent for management			
Vision				
0	Normal			
1	Wears glasses			
2	Blurred vision, cataract glaucoma			
3	Severe visual disturbance or blindness			
Communication				
0	Normal			
1	Speech deficit but understood			
2	Dysphasia / language barrier / hearing deficit			
3	Severe deficits or severe language barrier			
Medications				
0	No effectors			
1	CV effectors eg. Beta blockers, diuretics, anti-hypertensives			
2	CNS effectors eg. Tranquillisers, sedatives, psychotropics			
3	Both CV & CNS effectors			
Chronic illness				
0	None			
1	1 Chronic condition			
2	> 1 Chronic condition			
3	Multiple illnesses			
Continenence				
0	Normal			
1	Increased frequency			
2	Nocturia / stress incontinence			
3	Urge incontinence, indwelling catheter			
Total Score				

DO NOT WRITE IN THIS BINDING MARGIN

Falls Risk Assessment & Intervention Form

1-00964-05 05/2009



Queensland Government
Queensland Health

NURSING CARE PLAN BOOKLET

METRO NORTH HEALTH SERVICE DISTRICT
THE PRINCE CHARLES HOSPITAL

(Affix patient identification label here)

URN:

Family Name:

Given Names:

Address:

Date of Birth:

Sex: M F

Admission Date: _____ Unit: _____ Risk Assessment Score: _____
Desired Outcome: *Risk factors for falls will be minimised *Patient will remain injury free

☑ Nurse implementing, to tick ✓ each intervention, initial at bottom of columns on right hand side

Risk Level	Intervention Category	Date				
		Date	Date	Date	Date	
High (21-30)	LOW-STANDARD INTERVENTIONS	Nursing Interventions				
		Nurse call bell within reach				
		Personal possessions and mobility aids are safely within reach				
		Ensure sensory aids are worn and in working order				
		Avoid bedrails and adjust height of bed and chairs				
		Assess and document needs for toileting and continence care				
		Review medication regime for agents with adverse indicators				
		Ensure flat, well fitting shoes are worn				
		Provide information pamphlet on footwear				
		Provide information pamphlet & education to patient / carer				
	Provide information pamphlet on exercise and balance					
	< Optional ^	Highlight on patients bed with risk awareness sign/s				
		Observe whereabouts & activity in ward on a regular basis				
		Encourage rest periods during the day				
		Assist with hygiene and dressing				
		Direct & assist to toilet 4-6 hourly or as per assessed need				
		Advise to have a companion for walking outside the ward				
		Provide visual orientation cues and prompts				
		Refer to Physiotherapist for strength / balance exercises				
		Apply BLUE armband - Marked HIGH				
Highlight on patients bed with risk awareness sign/s						
Medium (11-20)	Assist/supervise with <u>all</u> transfer to / from bed, chair or toilet					
	Assist and directly supervise with hygiene / dressing activities					
	Ensure rest periods during the day and / or following activity					
	Must have companion for walking activities in / out of ward					
	Provide Low-Low bed (adjusted for height) – avoid bedrails					
	Assess for provision of hip protectors					
	Family / Visitor companion					
	1:1 observation by care staff (Special)					
	Sensor mat linked to nurse call (ECU only)					
	Initials					

☑ Evaluate outcomes at weekly intervals, following a fall and by exception on change in patient condition

EVALUATION:

SIGNED: _____ (PRINT NAME & DESIGNATION): DATE

SIGNED: _____ (PRINT NAME & DESIGNATION): DATE

SIGNED: _____ (PRINT NAME & DESIGNATION): DATE

SIGNED: _____ (PRINT NAME & DESIGNATION): DATE

Appendix C. Phase 1 Ethics Approval: The Prince Charles Hospital



Queensland Health
Human Research Ethics Committee
The Prince Charles Hospital
Metro North Health Service District
Rode Road,
Chermside QLD 4032

Prof Paul Fulbrook
C/- Petra Lawrence
Nursing Research and Practice
Development Centre
5th Floor, Clinical Sciences Building
The Prince Charles Hospital

Executive Officer (07) 3139 4500
Research & Ethics Ph: (07) 3139 4691
Office Ph: (07) 3139 4691
Fax: (07) 3139 6907
Our Ref: PL/JL/ Low Risk Approval

7 January 2011

Dear Prof Fulbrook,

Re: HREC/11/QPCH/4: Fear of falling; is it associated with falls and does it increase hospital length of stay? P. Fulbrook; S. Gettens; P. Lawrence

I am pleased to advise that The Prince Charles Hospital Human Research Ethics Committee reviewed your submission and upon recommendation, the Chair has granted final approval for your low risk project.

Approval of this project is subject to the same confidentiality and privacy requirements as apply to other research projects and research subjects are not recognisable in publications or oral presentations.

Please complete the Commencement Form before starting your study and return to the office of the Human Research Ethics Committee.
http://www.health.qld.gov.au/northside/documents/form_notification.dot

If you intend to publish the results of your work, it is advisable to ascertain from prospective journal editor/s the actual requirements for publication e.g. some journals may require full ethical review of all studies. When results are published, appropriate acknowledgment of the hospital should be included in the article. Please forward copies of all publications resulting from the study for inclusion in the Internet website list.

On behalf of the Human Research Ethics Committee, I would like to wish you every success with your research endeavour.

Yours truly,

A handwritten signature in black ink, appearing to read "RDR", written over a light blue horizontal line.

Dr Russell Denman
Chair
HUMAN RESEARCH ETHICS COMMITTEE
METRO NORTH HEALTH SERVICE DISTRICT

Office	Postal	Phone	Fax
The Prince Charles Hospital	Rode Road Chermside Q 4032	(07) 3139 4500/3139 4691	(07) 3139 6907

Appendix D. Phase 1 Ethics Approval: Australian Catholic University

2014 109Q Registration of External Ethics Approval - Paul Fulbrook

<https://outlook.office.com/owa/?viewmode=ReadMessageItem&Item..>

2014 109Q Registration of External Ethics Approval

Kylie Pashley on behalf of Res Ethics

Mon 13/02/2017 16:30

To: Paul Fulbrook <Paul.Fulbrook@acu.edu.au>;

Cc: stephanie.gettens@myacu.edu.au <stephanie.gettens@myacu.edu.au>;

Dear Paul,

Principal Investigator: Prof Paul Fulbrook

HDR Student: Ms Stephanie Gettens

Ethics Register Number: 2014 109Q

Project Title: Fear of Falling - Does it extend patient hospital length of stay?

Risk Level: Multi Site - The Prince Charles Hospital HREC

TPCH Approval date: 07/01/2011

The Australian Catholic University Human Research Ethics Committee has considered your application for registration of an externally approved ethics protocol and notes that this application has received ethics approval from The Prince Charles Hospital, Metro North Health Service District [Reference: HREC/1/QPCH/4].

The ACU HREC accepts the ethics approval with no additional requirements, save that ACU HREC is informed of any modifications of the research proposal and that copies of all progress reports and any other documents be forwarded to it. Any complaints involving ACU staff must also be notified to ACU HREC (National Statement 5.3.3)

We wish you well in this research project.

Regards,

Kylie Pashley

on behalf of ACU HREC Chair, Dr Nadia Crittenden Ethics Officer | Research Services Office of the Deputy Vice Chancellor (Research) res.ethics@acu.edu.au

Appendix E. Phase 1 Consent

The Prince Charles Hospital
Metro-North Health Service District
Patient Consent Form

Project: **Fear of falling: is it associated with falls and does it increase hospital length of stay?**

I,(the participant) have read and understood the information provided in the *Patient Information Sheet*, outlining the nature, purpose, benefits and risks of the project and the extent of my involvement, and these details have also been explained to me. I have been given a copy of the *Patient Information Sheet* and *Patient Consent Form* to keep.

I am aware that The Prince Charles Hospital Human Research and Ethics Committee has given approval for this project to proceed.

I freely agree to participate in this project according to the conditions in the *Participant Information Sheet*.

I understand that the researcher will treat all information confidentially and will not reveal my identity and personal details when information about this project is published or presented in any public form.

I am aware that, although the project is directed to the expansion of knowledge in general relating to the provision of care to a patient with fear associated with falling and that this project may not result in any direct benefit to me.

I have been informed that I may withdraw from the project at my request at any time and that this decision will not affect in any way the care and treatment provided by The Prince Charles Hospital or Queensland Health.

I hereby consent voluntarily to:

Circle response

- Participate in a questionnaire survey on admission, discharge and if I fall while I am in hospital YES NO
- The collection of de-identified information from my medical records YES NO
- I would like to receive a summary of the research findings at the conclusion of the study YES NO

Name of Participant:
(block letters)

Signature:.....date:.....

Name of Researcher:.....
(block letters)

Signature.....date:.....

Appendix F. Phase 1 Information Letter for Participants

The Prince Charles Hospital
Metro-North Health Service District
Patient Information Sheet

Project title: Fear of falling: is it associated with falls and does it increase hospital length of stay?

Researchers: Professor Paul Fulbrook
Ms. Stephanie Gettens
Ms. Petra Lawrence

Invitation

You are invited to participate in a study which aims to identify the role that fear has in falling.

Participation is voluntary and if you decide not to participate it will not affect your care or treatment in any way. If you agree to participate, you will be asked to sign a consent form.

If you agree to participate, all of your personal details will be de-identified in order to protect your privacy.

Study purpose

The purpose of the study is to gather information about all patients who present to wards: Extended Care Unit (ECU), Geriatric Evaluation and Management (GEM), Acute Rehabilitation Unit (ARU) and Ward 1F at The Prince Charles Hospital (TPCH), with regards to their fear of falling and confidence levels in performing daily activities. This information will help the researchers to develop interventions to reduce fear and increase the mobility of patients while in hospital which will help to speed up recovery rates and reduce length of stay in hospital.

What will happen if I decide to participate?

If you agree to participate in this study, you will be asked to complete a survey about your fear, confidence and activity levels. These will take approximately 15 minutes for you to complete.

Personal information such as your name and address will not be recorded.

Your responses to the survey will be known only to the researchers. Medical, nursing and allied health staff will not be shown your results.

Possible benefits

There are no specific benefits for participants who take part in this study, although in the long term, the research seeks to enhance the care of patients who present to the hospital who may have low confidence levels in regards to their mobility and this will enable staff to develop interventions to help these patients.

Possible risks

There are no foreseeable risks to participants involved in this study.

Participation is voluntary

Participation is entirely voluntary and you can decide to withdraw from the study at any time. If you choose not to take part it will not in any way affect the care and treatment provided to you by The Prince Charles Hospital or Queensland Health.

Privacy, confidentiality and disclosure of information

Version 1.0 22 December 2010

All information you give will be treated confidentially. Any information you provide will be identified by a number only and no personally identifiable information will be recorded. All data will be collected and stored securely at The Prince Charles Hospital and will be destroyed five (5) years from the completion of the data collection.

Results of project

It is planned to publish the results of this work in academic journals and present it at medical conferences. Because no personal information will be collected about you, any publications or presentations that arise from this study will contain only summarised information. This will ensure that any information collected from you or about you is de-identified.

Ethical guidelines

This project will be carried out according to guidelines produced by the National Health and Medical Research Council (NHMRC) Australia. It has also been reviewed and approved by TPCCH Human Research Ethics Committee.

Should you wish to discuss the study with someone not directly involved, in particular in relation to matters concerning policies, information about the conduct of the study or your rights as a participant, or should you wish to make an independent complaint, you can contact the Executive Officer, TPCCH Research and Ethics on 07 3139 4500, who will forward your concerns to the Chair of the Human Research Ethics Committee.

Further information or any problems

If you require any information about this project, please direct enquiries and any questions you may have about this project to:

1. Stephanie Gettens
Novice Researcher
Nursing Research and Practice Development Centre
Level 5, Clinical Sciences Building
The Prince Charles Hospital, Rode Road, Chermside Qld 4032
07 3139 4984
Petra_Lawrence@health.qld.gov.au
2. Professor Paul Fulbrook
Nursing Research and Practice Development Centre
Level 5, Clinical Sciences Building
The Prince Charles Hospital, Rode Road, Chermside Qld 4032
07 3139 4087
Paul_Fulbrook@health.qld.gov.au

Appendix G. Concepts and Themes

	2 nd Stage	3 rd Stage	
Participants' voice	Key Words	Concept	Theme
<ul style="list-style-type: none"> • I'm feeling pretty good today. I think the staff have helped a lot because they're pleasant. I haven't been grumpy with anyone. • They have done every single test that they can do and it would have cost me a fortune if I had to pay for it. It's incredible. How do you thank them other than to send them a thank you letter? • I do ring the buzzer because I like somebody there • <i>And how do you feel about using a walker? I'm okay with it, it helps me, it gives me a bit more confidence.</i> • Well, actually it never affected my confidence because I have confidence in the hospital staff. They were absolutely magnificent • Well, that's what they're there for. So fair enough, call them • My daughter already got all the other bits and pieces and stuff like that, so the house is spot-on. • My confidence wasn't affected at all because it was all treated by the 	<p>Staff have helped a lot</p> <p>How do you thank them</p> <p>I like someone there</p> <p>More confidence</p> <p>Never affected my confidence. I have confidence in staff</p> <p>What they are there for</p> <p>Call them</p> <p>Daughter all ready</p> <p>All treated by the</p>	<p>Confidence in facility and staff</p> <p>No stone left unturned</p> <p>Feeling of confidence in the staff as they followed procedure</p> <p>Secure in the knowledge</p>	<p>1. Safe in the hands of others - Misplaced confidence – denying there is a problem and making light of falling.</p> <p>Placing themselves in the hands of others</p> <p>(Feel safe in the hospital environment.</p> <p>Don't acknowledge that there is a problem</p> <p><i>Beginning of the journey down the road of frailty and uncertainty but not</i></p>

<p>book</p> <ul style="list-style-type: none"> • But as far as the service is concerned, the nurses are wonderful. I love them. They come along and ask you what you want and then they go ahead and do it and they don't take much time. It's a very good service. • I yelled out. I just yelled out and within seconds they were there and they never sort of went crook at you, just did everything to make you comfortable, which was good • They were ready to grab me if I slipped 	<p>book</p> <p>Confidence not affected</p> <p>Treated by the book</p> <p>Good service, Nurses are wonderful, Love them, Don't take much time</p> <p>Ready to grab me</p>	<p>that the nurses will save me if I trip</p>	<p><i>aware or denying awareness</i></p>
<ul style="list-style-type: none"> • I know how to fall because of all the falls • I do the getting out of bed one quite often, not always getting out of bed, falling asleep on the edge of the bed and then just tipping over and falling • I had a lot of falls up there too • I think I'd be a lot more careful now than what I was before, because I'm not on my walker anymore. • I think I can get dressed by myself but I cant 	<p>I know how to fall</p> <p>I do the getting out of bed one quite often</p> <p>Has a lot of falls</p> <p>Think I can but I cant</p> <p>Get up after every</p>	<p>Confidence in self</p>	<p>False sense of confidence/ security</p> <p>Clinging to independence and</p>

<ul style="list-style-type: none"> • I've had a hundred falls • I get up every time – you'd think I'd break an arm or a hip 	time (I fall)		
<ul style="list-style-type: none"> • The doctor said, "No more walking for you" so they put me in a wheelchair. • I'm a disaster waiting to happen • In fact I couldn't lift myself up made me feel like really useless, like a two year old. Yeah it did kind of eat at my confidence because I'm so used to always looking after myself and not being able to get myself to get back onto my knees – it just was really hard. • But see that's where you lose your confidence because you've got to check everything around you and just to go in one step at the backdoor I have to drag myself up that and then to go to the toilet I've had to train myself again • I want to exercise but I get a little bit reticent about doing that because I want to do it and I do do it but I'm always really afraid • Worst night of my life 	<p>No more walking Im a Disaster Useless like a 2 year old Eat at my confidence Really hard Lose your confidence Check everything Had to train myself I want to exercise - afraid Worst night</p>	<p>Feelings of helplessness, useless ness Eating at confidence</p>	<p>2. No sense of confidence/ security Wake-up call Staff insecurity in the patients and patient lack of confidence. <i>No one trusts the patient – not even the patient!</i></p>

<ul style="list-style-type: none"> • Yeah like I tried to lift myself and I've got no strength at all in my arms...but I didn't realise just how sick I was I think • And did you ring the buzzer before you went? No. I got into trouble for that • And I basically was told to stop acting like a nine year old type thing and just use the toilet. • Yeah, and they thought I was kind of being a hypochondriac and that was kind of what then affected me afterwards and made me not want to get up and do things because I thought well if something happens again they're just going to think it's just • Yeah, I can get from the chair to the toilet. How did I learn not to do that? I think they threatened me with no tea (if I didn't use buzzer) • I just thought attitudes towards it would have been – I don't know, I just felt like I was being judged which may or may not be true. • Staff no longer trusted me to go on my own • They (nurses) tell me don't do this and don't do that • I probably try to think, "Be a bit more careful", you know, but then again, you take 50 or 60 bloody steps and everything is going smoothly 	<p>Trouble</p> <p>Stop acting like a 9 year old</p> <p>Thought I was being a hypochondriac</p> <p>Not want to get up</p> <p>Threatened me with no tea</p> <p>Being judged (cos needed help to toilet)</p> <p>Staff didn't trust me (Placeholder1)ⁱ</p>	<p>In trouble</p> <p>Enable dependence</p> <p>Take away</p> <p>Helicopter nursing</p>	<p>Use your buzzer or no cup of tea for you</p> <p>Helicopter nursing</p> <p>Nurses had no confidence in the patients ability</p> <p>Some acknowledgement that there is a problem but</p>
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<p>and then all of a sudden, boom, your foot just catches somewhere. It's so easy to have something go wrong with your balance and you trip on something like that</p>			
<ul style="list-style-type: none"> • Oh no. Why is it happening here because I want to go home?" So I didn't say anything straight away • So I thought, "It's all right. I won't say anything" but I think I had to ask for some Panadol. • Because I think I can balance with both my legs but I can't and I have to hold onto that. • I used to think, "Well, I won't annoy them. I'll do it by myself" and that's where you come unstuck. So I thought to myself, "No, it's not worth it no more 	<p>I didn't say anything</p>	<p>Don't tell – you may not get home</p> <p>Delay discharge home if staff thought you are going to fall</p>	<p>3. Recovering independence and identity</p> <p>Keeping up appearances to staff so you can go home</p> <p><i>Self acknowledge that need help – but not wanting to show that face, vulnerability yet</i></p>
<ul style="list-style-type: none"> • "I think I want to try and be who I was and do what I did", because I've always been a strong-minded person, I suppose, a home person and my garden means a lot to me • Think I'd be a lot more careful now than what I was before, because 	<p>Be who I was</p> <p>Wanted to get rid of</p>	<p>Self perception</p> <p>reflection</p>	<p>Keeping up appearances - to self:</p> <p>I used to go dancing –</p>

<p>I'm not on my walker anymore. I wanted to get rid of that so I took the toilet seat and the shower chair – so they've gone</p> <ul style="list-style-type: none"> • “Oh, I feel like I'm so old walking with this dam thing. I don't really want to do this.” • You forget that it doesn't function. You have to concentrate on moving your body sometimes. • Because I think I can balance with both my legs but I can't and I have to hold onto that. • I used to dance every Saturday night and when you stop all of a sudden • Well if you can't get on top of it yourself no one else can help it can they? • Yeah I've got it worked out and I'm getting –put in more rails and I'm pretty organised. Like once I get that and get my confidence back and if it doesn't keep happening to me then I'll be right. • So after that I went two weeks over at St Vincent's for rehabilitation. I've been rehabilitated over there and shown what to do so this is all what I've got to do when I go home, get into it and get it done. So I'm doing all that I can. 	<p>it</p> <p>I Feel like I'm so old with this damn thing</p> <p>You forget that it doesn't function</p> <p>I think I can but I cant</p> <p>Used to dance</p> <p>So used to looking after myself</p> <p>Not able to get myself to my knees</p> <p>Help yourself</p> <p>No one else can help you</p>	<p>Preserve self dignity</p> <p>Reflecting on days before falling</p>	<p>self perception</p> <p>Don't call me old</p>
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Appendix H. Phase 2 Ethics Approval: The Prince Charles Hospital

Enquiries to: R&ETPCH@health.qld.gov.au
Office Ph: (07) 3139 4198
(07) 3139 4500
Our Ref: Low Risk Final Approval



22 July 2015

Human Research Ethics Committee
Metro North Hospital and Health Service
The Prince Charles Hospital
Building 14
Rode Road, Cherside QLD 4032

Professor Paul Fulbrook
C/- Stephanie Gettens
Nursing Research & Practice
Development Centre

Dear Professor Fulbrook

Re: HREC/15/QPCH/185: The relationship between falls and confidence of in-hospital patients

Thank you for submitting your Low Risk project for ethical and scientific review. I am pleased to advise that The Prince Charles Hospital Human Research Ethics Sub Committee reviewed your submission and upon recommendation, the Chair has granted final approval for your low risk project.

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) National Statement on Ethical Conduct in Human Research (2007), NHMRC and Universities Australia Australian Code for the Responsible Conduct of Research (2007) and the CPMP/ICH Note for Guidance on Good Clinical Practice.

I am pleased to advise that the Human Research Ethics Committee has granted approval of this research project. The documents reviewed and approved on 22 July 2015 include:

Document	Version	Date
Low Risk Application (AU/10/7F7F114)		
Protocol	1	2 June 2015
Participant Information Sheet & Consent Form	3	22 July 2015

This information will be tabled at the next HREC meeting held 27 August 2015 for noting.

Please note the following conditions of approval:

1. The Principal Investigator will immediately report anything which might warrant review of ethical approval of the project in the specified format, including any unforeseen events that might affect continued ethical acceptability of the project.
2. Amendments to the research project which may affect the ongoing ethical acceptability of a project must be submitted to the HREC for review. Major amendments should be reflected in revised documents. Further advice on submitting amendments is available from http://www.health.qld.gov.au/ohmr/documents/researcher_userguide.pdf

Office	Postal	Phone
Research, Ethics & Governance Office	Building 14	(07) 3139 4500
The Prince Charles Hospital	Rode Road, Cherside Q 4032	(07) 3139 4198

3. Amendments to the research project which only affect the ongoing site acceptability of the project are not required to be submitted to the HREC for review. These amendment requests should be submitted directly to the Research Governance Office/r (by-passing the HREC).
4. Proposed amendments to the research project which may affect both the ethical acceptability and site suitability of the project must be submitted firstly the HREC for review and, once HREC approval has been granted, then submit to the RGO.
5. The HREC is notified, giving reasons, if the project is discontinued at a site before the expected date of completion.
6. The Principal Investigator will provide research status reports, annually and on completion of the research, to the HREC.
http://www.health.qld.gov.au/tpch/documents/tools_progrep.dot
7. The Human Research Ethics Committee or Hospital and Health Service Administration may inquire into the conduct of any research it approves for a specific site; or which the Committee has approved when conducted outside at multiple Hospital & Health Service sites.

HREC approval is valid until **30 June 2016**.

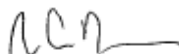
Should you have any queries about the HREC's consideration of your project please contact the Executive Officer on 3139 4500. The HREC terms of Reference, Standard Operating Procedures, membership and standard forms are available from http://www.health.qld.gov.au/ohmr/html/regu/regu_home.asp.

You are reminded that this letter constitutes ethical approval only. You must not commence this research project at a site until separate authorisation from the Hospital and Health Service CEO or Delegate of that site has been obtained.

A copy of this approval must be submitted to the relevant Hospital & Health Services Research Governance Officer/s or Delegated Personnel with a completed Site Specific Assessment (SSA) Form for authorisation from the CEO or Delegate to conduct this research at the site/s listed below.

The HREC wishes you every success in your research.

Yours faithfully



Dr Russell Denman
Chair

**HUMAN RESEARCH ETHICS COMMITTEE
METRO NORTH HOSPITAL AND HEALTH SERVICE**

Appendix I. Phase 2 Ethics Approval: Australian Catholic University

By email:

Dear Applicant,

Principal Investigator: Prof Paul Fulbrook

Student Researcher: Stephanie Gettens (HDR student)

Ethics Register Number: 2015-211R

Project Title: The relationship between falls and confidence of in-hospital patients

Risk Level: Multi Site

Date Approved: 21/09/2015

Ethics Clearance End Date: 30/06/2016

The Australian Catholic University Human Research Ethics Committee has considered your application for registration of an externally approved ethics protocol and notes that this application has received ethics approval from the Metro North Hospital and Health Service - The Prince Charles Hospital HREC [Reference: HREC/15/QPCH/185].

The ACU HREC accepts the ethics approval with no additional requirements, save that ACU HREC is informed of any modifications of the research proposal and that copies of all progress reports and any other documents be forwarded to it. Any complaints involving ACU staff must also be notified to ACU HREC (National Statement 5.3.3)

We wish you well in this research project.

Kind regards,

Kylie Pashley

on behalf of ACU HREC Chair, Dr Nadia Crittenden

Ethics Officer | Research Services

Office of the Deputy Vice Chancellor (Research), Australian Catholic University

Appendix J. Phase 2 Consent



The Prince Charles Hospital
Metro North Hospital and Health Service



Participant Consent Form

HREC No:	HREC/15/QPCH/185
Project Title:	Patient experiences of sustaining an in-patient fall: how is confidence affected?
Name of Researchers:	Professor Paul Fulbrook, Stephanie Gettens ACU MPhil Student, Professor Nancy Low Choy, Clinical Associate Professor Melanie Jessup

I,(the participant) have read and understood the information provided in the *Patient Information Sheet*, outlining the nature, purpose, benefits and risks of the project and the extent of my involvement, and these details have also been explained to me. I have been given a copy of the *Patient Information Sheet* and *Patient Consent Form* to keep.

I am aware that The Prince Charles Hospital Human Research and Ethics Committee has given approval for this project to proceed.

I freely agree to participate in this project according to the conditions in the *Participant Information Sheet*.

I understand that the researcher will treat all information confidentially and will not reveal my identity and personal details when information about this project is published or presented in any public form.

I am aware that the project is a Master of Philosophy student project directed to the expansion of knowledge relating to the provision of care to a patient with fear associated with falling, and that this project may not result in any direct benefit to me.

I have been informed that I may withdraw from the project at my request at any time and that this decision will not affect in any way the care and treatment provided by The Prince Charles Hospital or Queensland Health.

I hereby consent voluntarily to:

Circle response

- Participate in a recorded interview with the researcher after a fall while I am in hospital YES NO
- The collection of de-identified information from my medical records YES NO
- I would like to receive a summary of the research findings at the conclusion of the study YES NO

Name of Participant:
(block letters)

Signature:..... date:.....

Name of Researcher:.....
(block letters)

Signature:..... date:.....

Appendix K. Phase 2 Information Letter for Participants



The Prince Charles Hospital
Metro North Hospital and Health Service



Participant Information Sheet

HREC No:	HREC/15/QPCH/185
Project Title:	Patient experiences of sustaining an in-patient fall: how is confidence affected?
Name of Researchers:	Professor Paul Fulbrook, Stephanie Gettens MPhil student Professor Nancy Low Choy, Clinical Associate Professor Melanie Jessup

Invitation

You are invited to participate in a study which aims to explore how having a fall may have affected your confidence.

Participation is voluntary and if you decide not to participate it will not affect your care or treatment in any way. If you agree to participate, you will be asked to sign a consent form.

If you agree to participate, all of your personal details will be de-identified in order to protect your privacy.

Study purpose

The purpose of the study is to gather information about patients who have experienced a fall while an inpatient at The Prince Charles Hospital (TPCH). This information will help the researchers to develop interventions to support patients while in hospital which will help to speed up their recovery rates and reduce their length of stay in hospital. This study is an Australian Catholic University Master of Philosophy student project and forms the second study of a two phase research project.

What will happen if I decide to participate?

If you agree to participate in this study, you will be asked to participate in a recorded interview about your experience of the fall. This will take approximately 30 – 60 minutes.

Personal information such as your name and address will not be recorded.

Your comments in the interview will be known only to the researchers. Medical, nursing and allied health staff will not be shown your results.

Possible benefits

There are no specific benefits for participants who take part in this study, although in the long term, the research seeks to enhance the care of patients who present to the hospital and who experience a fall or who are at risk of falling. This will enable staff to develop interventions to help these patients.

Possible risks

There are no foreseeable risks to participants involved in this study.

Participation is voluntary

Participation is entirely voluntary and you can decide to withdraw from the study at any time. If you choose not to take part it will not in any way affect the care and treatment provided to you by The Prince Charles Hospital or Queensland Health.

Privacy, confidentiality and disclosure of information

All information you give will be treated confidentially. Any information you provide will be identified by a number only and no personally identifiable information will be recorded. All data will be collected and stored securely in a locked filing cabinet or in a password protected computer in a lockable office at The Prince Charles Hospital and will be destroyed five (5) years from the completion of the data collection.

Results of project

It is planned to publish the results of this work in academic journals and present it at medical conferences. Because no personal information will be collected about you, any publications or presentations that arise from this study will contain only summarised information. This will ensure that any information collected from you or about you is de-identified.

Ethical guidelines

This project will be carried out according to guidelines produced by the National Health and Medical Research Council (NHMRC) Australia. It has also been reviewed and approved by The Prince Charles Hospital Human Research Ethics Committee.

Should you wish to discuss the study with someone not directly involved with the study, particularly in relation to matters concerning policies, information about the conduct of the study or your rights as a participant, or should you wish to make an independent complaint, you can contact the Executive Officer, The Prince Charles Hospital Research and Ethics on 07 3139 4500, who will forward your concerns to the Chair of the Human Research Ethics Committee.

Further information or any problems

If you require any information about this project, please direct enquiries and any questions you may have about this project to:

Stephanie Gettens MPhil Student
Nursing Research and Practice Development Centre
Level 5, Clinical Sciences Building
The Prince Charles Hospital, Rode Road, Chermside Qld 4032
07 3139 4984
stephanie.gettens@health.qld.gov.au

Professor Paul Fulbrook
Nursing Research and Practice Development Centre
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Appendix M. Submission Confirmation Journal of Clinical Nursing

From: onbehalfof+JCN+wiley.com@manuscriptcentral.com on behalf of [Journal of Clinical Nursing](#)
To: [Stephanie Gettens; dsgettens@bigpond.com](mailto:dsgettens@bigpond.com)
Cc: Stephanie Gettens; dsgettens@bigpond.com; paul.fullbrook@acu.edu.au; melanie.iessup@acu.edu.au; nancy.lowchoy@acu.edu.au
Subject: Journal of Clinical Nursing - Your manuscript JCN-2017-0637
Date: Thursday, 18 May 2017 5:09:48 PM

18-May-2017

Dear Mrs. Gettens,

Your manuscript entitled "Falling in hospital - what the patient has to say: a qualitative study" has been successfully submitted online and is presently being given full consideration for publication in the Journal of Clinical Nursing. Your manuscript ID is JCN-2017-0637.

Please mention the above manuscript ID in all future correspondence or when calling the Editorial Office with queries. If there are any changes in your mailing address or e-mail address, please log onto Manuscript Central at <https://mc.manuscriptcentral.com/jcnur> and edit your account accordingly.

The review process is usually completed within 10 weeks, but can take longer, depending on reviewer availability (e.g. during holiday periods or if an alternative reviewer needs to be approached). This time frame includes selecting and inviting reviewers, awaiting their response to the request, consideration of the reviews by the assigned Editor and, finally, the Editor's decision and communication with the author.

Please be patient during this process and it would be much appreciated if you would not email the Editorial Office to enquire about the status of your manuscript until a period of at least 10 weeks has lapsed. You can track the progress of your paper using the tracking facility in your author centre. If you wish to view the status of your manuscript, you can do so at any time by checking your Author Centre after logging onto <https://mc.manuscriptcentral.com/jcnur>.

Thank you very much for submitting your manuscript to the Journal of Clinical Nursing.

With best wishes,

Liz Caloi
Editorial Office
Journal of Clinical Nursing