

The Perceptions and Rehabilitation Experience of Older People after Falling in Hospital

Nicholas Turner, Diana Jones, Pamela Dawson and Barbara Tait

Northumbria University

Nicholas Turner¹, PhD, Diana Jones², PhD, Pamela Dawson³, PhD, Barbara Tait⁴, MPhil

1 Physiotherapist, Queen Elizabeth Hospital, Gateshead Health NHS Foundation Trust, UK. E-mail: nicturnerphysio@outlook.com

2 Reader, Faculty of Health and Life Sciences, Northumbria University, Newcastle upon Tyne, UK. E-mail: anna.jones@northumbria.ac.uk

3 Associate PVC for Strategic Workforce Planning and Development, Faculty of Health and Life Sciences, Northumbria University, Newcastle upon Tyne, UK. E-mail: pameladawson@northumbria.ac.uk

4 Head of Physiotherapy, Royal Victoria Hospital, Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle upon Tyne, UK. E-mail: barbara.tait@nuth.nhs.uk

Author note

Correspondence concerning this article should be addressed to Nicholas Turner. E-mail: nicturnerphysio@outlook.com

1 Abstract

2 Purpose— Falls are a major cause of disability and mortality due to injury. To reduce
3 falls rates and improve health outcomes it is important to design services based on
4 patient experience and engagement. This study aimed to explore the experiences of
5 older patients who fell during their hospital stay.

6 Design—Five patients from two rehabilitation wards in the UK participated in this qualitative
7 study.

8 Methods— Semi-structured interviews, incident reports and medical records provided
9 information about each fall. Thematic, discourse and descriptive analysis were used to
10 analyze data.

11 Findings— The data demonstrated how a fall impacted on patients' experience of
12 rehabilitation and resulted in changes to mobility, self-confidence, management of falls risk,
13 avoidance of daily activities and increased assistance from others.

14 Conclusions— Falling in hospital can influence patients' ability to reach their potential of an
15 optimal level of functioning.

16 Clinical Relevance— There is a need to place an equal and mutual understanding on the
17 physical, psychological and social impact of falling to reduce falls and improve functional
18 outcomes.

19 *Keywords:* falls, rehabilitation, hospital

20

21

22

23

Key Practice Points

24

Active engagement with patients in their rehabilitation, including the development

25 and implementation of falls prevention strategies, is an essential factor underpinning more

26 effective, safer care and positive experiences.

27 Any short- or long-term changes to a care plan following a fall should be discussed

28 thoroughly between staff and patients, particularly regarding any issues related to the balance

29 of risk, independence and safety.

30 Other than the physical consequences of falling, patients can experience emotional

31 distress, loss of confidence, increased length of stay, functional decline and an increased

32 likelihood of being discharged to long-term care.

33 It is important to consider and learn from the psychological and social consequences

34 of falling in equal measure to physical factors.

35

36

37

38

39

40

41

42

43

45 Despite efforts to prevent falls from occurring in hospitals, falls remain a major cause
46 of disability and mortality due to injury in people over 75 years (Host, Hendriksen, & Borup,
47 2011). Hospital patients, particularly those in a rehabilitation setting, are at higher risk of
48 falling than those in the general population (Rosario, Kaplan, Khonsari, & Patterson, 2014).
49 Patients can become less independent in hospital due to frailty, co-morbidities or other acute
50 events such as stroke and infections, and therefore require more one-to-one care for safety
51 and to regain independence (National Patient Safety Agency [NPSA], 2007). Hospital falls
52 have significant financial implications and are associated with an increased length of stay,
53 poorer rehabilitation outcomes and a higher risk of institutionalization (Hill et al., 2009).

54 An individual who falls at least once is at higher risk of experiencing further falls and
55 falls-related injuries (Tariq, Kloseck, Crilly, Gutmanis, & Gibson, 2013). Patients with
56 cognitive deficits are also likely to be recurrent fallers in hospital (Vassallo, Mallela,
57 Williams, Kwan, Allen, & Sharma, 2009). Tariq, Kloseck, Crilly, Gutmanis, & Gibson
58 (2013) suggest that age is significantly associated with an increased risk of repeated falls.
59 Therefore, recurrent fallers form an important group to target more specific preventative
60 interventions within a rehabilitation setting.

61 Other than the physical consequences of falling, patients can experience emotional
62 distress, loss of confidence and low self-efficacy (Rosario, Kaplan, Khonsari, & Patterson,
63 2014; Boltz, Resnick, Capezuti, & Shuluk, 2013). Fear of falling is a common psychological
64 consequence following a fall and can result in activity restriction and immobility that is more
65 self-imposed than necessarily due to actual physical capability (Ben Natan, Heyman, & Ben
66 Israel, 2014). A pattern of fear-related avoidance of activities and subsequent functional
67 decline can lead to an increased risk of falls (Delbaere, Crombez, Vanderstraeten, Willems, &

68 Cambier, 2004), particularly among recurrent fallers (Mazumber, Lambert, Nguyen,
69 Bourdette, & Cameron, 2015).

70 A limiting factor for the effectiveness of fall prevention strategies may be an
71 insufficient understanding of older people's views, such as the impact of any injuries
72 sustained and their thoughts on methods to prevent falls (Carroll, Dykes, & Hurley,
73 2010). To reduce falls rates and improve health outcomes it is important to design services
74 based on patient experience and engagement, and to develop an understanding of each patient
75 as an individual (National Institute for Health and Care Excellence [NICE], 2015a; Tzeng &
76 Yin, 2014).

77 This paper reports on a study, set up in response to the concerns of one National
78 Health Service (NHS) Trust in the United Kingdom (UK) regarding in-patient fall rates. It
79 explored the experience of five patients who had fallen during their stay on two rehabilitation
80 wards in a general hospital in the north-east of England, and the impact of the fall(s) on their
81 individual rehabilitation journeys.

82 Method

83 Study Design and Participants

84 This exploratory study collected qualitative data to delve more deeply into
85 participants' perceptions and reflective experiences of each fall. Participants had been
86 admitted into hospital for rehabilitation either from home or transferred from an acute
87 ward. They were considered to have potential to improve their current level of
88 functioning and social circumstances following an assessment by a health professional of
89 their personal strengths such as motivation, cognitive function and the ability to make
90 measured functional gains (Bok, Pierce, Gies, & Steiner, 2016; New, 2009).

91

92 Patients admitted to the two wards at the time of the study initially formed a convenience
sample (Babbie, 2002). Throughout the duration of the study a total of 58 patients were
admitted onto the two wards; 27 of these 58 patients agreed to participate but only five fell
and therefore became eligible to be interviewed (see Table 1). Participants were also
interviewed after any further falls.

93 Eligibility Criteria

94 Eligibility criteria were kept to a minimum, with the only criteria being the ability to
95 verbally communicate in English, and a score above 20 on the Mini Mental State
96 Examination [MMSE] (Jensen et al., 2003), as documented in the medical notes, to indicate
97 an appropriate level of cognition to understand the aims of the research and their degree of
98 involvement. This was important as participants in this study were considered to be
99 vulnerable adults due to their varying degrees of disability, frailty, cognition and
100 chronic illness (co-morbidities).

101 Setting and Duration of Data Collection

102 The study was performed over a four month summer period on two rehabilitation
103 wards at a large general hospital in England (UK). Both wards were similar in terms of
104 patient demographics, numbers of patients, falls rates, length of stay, staffing levels,
105 interventions provided and workforce planning (see Table 2).

106 Data Collection

107 The semi-structured interview schedule questions were developed through a
108 consultation and pilot exercise with three older people who had fallen during their hospital
109 stay. Their feedback added greater clarity and definition to the questions asked, such as
110 ensuring the language was appropriate.

114

115 All interviews were conducted by the primary author [NT] within 48 hours of each
116 participant's fall. A secluded meeting room on the ward was used to minimize
117 distractions and to provide a more private environment for participants to disclose
118 personal and sensitive information. Responses were recorded using written notes.
119 Interviews consisted of twenty questions and were a mix of seven initial and thirteen
120 additional questions (see Table 3). Participants were asked all twenty questions after their
121 first fall (i.e. their first interview). If a participant fell a second time they were interviewed
122 again but only asked the thirteen additional questions.

123 To improve rigor and consistency in data collection a standardized form was used to
124 collect data from each of the faller's incident reports. Additional data, such as number of co-
125 morbidities, number of medications and primary reason for admission etc., were also
126 obtained from medical notes and added to the form. The combined data from these two
127 resources formed the basis of Table 1.

127 Data Analysis

128 Discourse analysis focused on the content and also the intent of the language used by
129 participants (Robson, 2011). It was used to explore the individual responses of participants
130 and examples are presented in the 'Results' section of this paper. Thematic analysis was used
131 to identify themes, concepts and context-specific issues of daily life on the wards from the
132 interview data (Clemson, Cusick, & Fozzard, 1999). Descriptive analysis was used to analyze
133 data obtained from the medical notes and incident report forms, such as time, location and
134 degree of injury (see Table 1). All data were analyzed by the principal investigator, with
135 emerging themes developed and validated during research team meetings.

136

137

162 Causes of Falling

163 A loss of balance was reported to be the main reason why participants fell. This loss
164 of balance was experienced during functional activities, such as walking to the dining room
165 (Margaret: “I was walking to the dining room and seemed to lose my balance”), standing up
166 from the toilet (Pat: “I stood up from the toilet...lost my balance...and fell to the floor”) or
167 washing/dressing (Joan: “I was standing up, getting dressed...I lost balance and fell between
168 the two beds”; David: “I was washing myself, standing at the sink despite being told not to,
169 but I waited too long...lost my balance”). These activities were largely performed alone as
170 participants either felt safe enough to perform the task by themselves or they had requested
171 assistance from staff (e.g. by pressing the call-bell) but did not – or could not out of urgency
172 – wait for help to arrive.

173 Falling was perceived to be ‘mechanical’ in nature, such as tripping, losing
174 balance/control of their body or related to lower limb weakness. There was a belief shared
175 between the participants that the loss of balance formed the basis of their understanding of
176 how a fall was defined as well as being a fundamental cause of the fall itself. This was
177 documented in the incident reports as being the mechanism of each fall and relied upon the
178 personal account of each patient as well as eyewitness reports from staff present during two
179 of the falls.

180 Contributing factors to participants’ loss of balance were evident in data obtained
181 from their falls risk assessments, co-morbidities and reasons for admission. All participants
182 had pre-existing medical conditions and multiple medications that have been associated with
183 balance impairments. Every participant had also been identified as being unsteady in their
184 falls risk assessment performed at admission.

185

186 Changes to Mobility

187 Patients had already been identified as experiencing difficulties with their mobility in
188 their falls risk assessments (i.e. being unsteady) and reasons for admission. For example, both
189 Margaret and David were admitted with reduced mobility following a urinary tract infection
190 and fall, respectively. The other three participants also demonstrated pre-admission signs of
191 impaired mobility as they struggled to function safely at home.

192 Each participant reported falling whilst mobilizing or performing a functional activity,
193 as documented in the incident reports. Only one fall resulted in a minor (soft tissue) injury;
194 injurious falls and any clear association with changes in mobility did not feature in
195 participants' responses.

196 Other than the reported loss of balance, the most significant impact on mobility
197 occurred after each fall, whereby participants' mobility status changed in two key ways. The
198 first was advice given to patients from ward staff to mobilize with supervision or physical
199 assistance rather than by themselves (Margaret: "I walk with supervision from the staff,
200 especially when I'm turning around"; David: "I walk...with supervision...and with the help
201 of staff"). Considering four out of the five participants were independently mobile (with aids)
202 prior to admission and before falling, this was a substantial change to their walking and daily
203 function. Patients described feeling discouraged or disempowered to mobilize, as the
204 perceived risk of falling was reduced by the presence of staff (Pat: "I don't do anything...I'm
205 not allowed to transfer myself. This makes me feel more secure"; Margaret: "I no longer want
206 to take any chances...it's important to have someone in charge of my actions...I did what I
207 needed to do...despite being told not to"). Only Ron was accompanied by ward staff when
208 he fell as he had been identified early on admission (i.e. pre-fall) to require a walker (walking
209 frame) and assistance due to deterioration in his mobility.

210

211 The second major change in participants' mobility was the provision of alternative walking
aids, though sometimes without a perceived adequate explanation as to why a patient had to
use an unfamiliar item of equipment (Pat: "staff have changed my usual walking aid and I
don't know why...I was mobile at home with my [cane] but now this has been changed
212 to a [walker]"). The change in mobility aid was accepted by some of the participants, though
213 not all as Ron believed his mobility had deteriorated beyond the use of his walker ("my
214 [walker] is no longer suitable – I need a wheelchair"). However, despite the change in
215 walking aids, balance was still considered to be a significant factor for reduced mobility.

216 Changes in Confidence, Self-efficacy and Attitude Toward Rehabilitation

217 Changes to participants' mobility were closely associated with feelings of reduced
218 confidence, low self-efficacy and less positive attitudes toward their rehabilitation.
219 Participants reported not walking as frequently or as far in comparison to pre-fall levels of
220 mobility. Fear of falling was commonly reported to be a significant factor for changes to
221 participants' behavior. For example, Pat reported feeling "frightened to go to the toilet in case
222 I fall", and Margaret altered her evening routine as she felt this was a way of minimizing the
223 risk of falling again ("I don't stay up late to watch television anymore as I get shaky...I don't
224 take chances now compared to my previous normal behavior").

225 Reduced confidence, fear of falling and low self-efficacy meant that functional
226 activities were usually performed more cautiously following a fall and some activities were
227 no longer pursued if the risk of falling was perceived to be high. This was commonly
228 associated with requiring additional assistance from ward staff to achieve the task safely
229 (Margaret: "I perhaps did more than what I was capable of"; Pat: "I can only walk with my
230 [walker] now and I depend on more people"). Three participants clearly remarked how falling
231 affected their confidence and how they generally felt dissatisfied with their post-fall level of

234 functioning (Pat: “I feel more unnerved now, more anxious. I try to be more careful”; Joan:
235 “falling has really changed my confidence...I wonder if this is normal for me now”; Margaret:
236 “I was overconfident that nothing would happen...I feel my confidence has been most
237 affected”).

238 The data revealed differences in participants’ attitudes toward how falling impacted
239 on their progress and rehabilitation. Some responses suggested a stoical, enduring outlook
240 that portrayed a sense of wanting to move forward with therapy and to prevent further falls
241 (Joan: “there has been no effect on my rehabilitation...I want to carry on as I was before this
242 happened”; David: “the fall didn’t affect my daily life...I just got on with things”). In
243 contrast, other responses were suggestive of feelings of low self-efficacy and a stronger focus
244 on applying blame to the fall (Pat: “if the nurses were present I wouldn’t have fallen”;
245 Margaret: “this fall was stupid, it was my own fault...if I had more sense”). Participants
246 expressed strong views with regards to blame, low self-efficacy, and increased assistance
247 from staff, particularly if they fell a second time.

248 Role of Staff

249 Managing risk and safety were fundamental priorities of the wards, and it was
250 important for patients to feel safe when mobilizing (Margaret: “it’s important to have
251 someone in charge of my actions”). Participants reported being advised by staff to request
252 assistance by pressing the call-bell. Patients were also provided with walking aids and offered
253 physical assistance from staff to support their recovery and on-going rehabilitation. These
254 measures became increasingly important if a patient was deemed to be at a higher risk of
255 falling. However, an issue highlighted by Pat was the alteration to her mobility made by staff
256 (Pat: “I’m not allowed to transfer myself...this makes me feel more secure”) without any
257 reference as to the longevity of this change i.e. if the change was only temporary and

258 therefore when her care plan would be updated in view of any physical and cognitive
259 improvements.

260 Viewing staff in this way caused a subtle shift in the locus of control and sense of
261 self-reliance (Margaret: “attachment, respect...I now walk with supervision because someone
262 is in charge”). Staff were considered as having a greater role in assisting patients, particularly
263 if patients placed self-imposing restrictions to their mobility, such as avoiding physical
264 activities through lack of confidence or fear of falling again, or indeed if patients
265 overestimated their own ability to walk safely therefore requiring staff to intervene. Some
266 examples included Joan not feeling safe to “walk by myself anymore” and Pat depending “on
267 more people...I need more assistance with getting on and off the toilet”. Even David, who
268 remained reasonably stoical throughout the study and was the most mobile, accepted changes
269 to his walking “with the help of staff...I take more care and ask for assistance”. It was
270 important that any such measures were re-assessed so as to ensure patients regained a sense
271 of ownership of strategies that promoted a shift toward independence and optimal
272 functioning.

273 Discussion

274
275 This study captured personal insights into the lives of five older people who had begun a
course of in-patient rehabilitation to improve their level of functioning. Rehabilitation is an
enabling process concerned with improving a person’s well-being, increasing their quality of
life, and optimizing their ability to undertake activities of daily living and social participation
(Meyer et al., 2011). However, having experienced a fall, or for some participants two falls, it
became evident from their responses that their progress had been altered.

276

281

282 The chain of post-fall events and consequences had changed aspects of patients' care with
further emphasis on risk management. This change highlighted the difficulty in balancing the
needs of the patients in terms of optimizing function and independence with the
283 responsibility of the staff to minimize the risk of falls and to promote safety within a
284 rehabilitation environment (Bok, Pierce, Gies, & Steiner, 2016; NICE, 2015b & 2013;
285 Haggqvist, Stenvall, Fjellman-Wiklund, Westerberg, & Lundin-Olsson, 2012). The patient
286 interviews often described changes that initially may have seemed to belie the aims of
287 rehabilitation, by promoting a greater dependence on other people and aids (Bok, Pierce,
288 Gies, & Steiner, 2016). However, it is important to acknowledge the broader circumstances
289 surrounding patient care, particularly the effect of acute illness, the protective role of staff
290 and the unfamiliarity of hospital environments (Haggqvist, Stenvall, Fjellman-Wiklund,
291 Westerberg, & Lundin-Olsson, 2012), as it can be these factors that contribute to the balance
292 of risk reduction and optimization of function.

293

As part of this dichotomy was the notion of control (Clemson, Cusick, & Fozzard,
294 1999). The implementation of fall prevention strategies that could have resulted in placing
295 restrictions on patients' mobility and discouraging any behaviors that could compromise their
296 safety suggests a degree of control exerted over activities, particularly if there was conflict
297 between what patients believed they could manage safely and the duties and responsibilities
298 of staff to manage these risks. This resonated with another study investigating licensed
299 practical nurses' experiences of falls and fall prevention (Haggqvist, Stenvall, Fjellman-
300 Wiklund, Westerberg, & Lundin-Olsson, 2012), whereby changes in support during mobility
301 and patient transfers were carefully graded by staff in fear of misjudgment or error, even if
302 they considered their assistance to be overprotective or more than what was essentially
303 required (Bok, Pierce, Gies, & Steiner, 2016). It was unclear from the data in this study the
304 extent to which staff had explained to patients the duration of which changes should be

306 adhered to, and therefore the longevity of the shift in control over aspects of patient choice
307 and behavior. However, it is reasonable given the responsibilities of the staff and the
308 rehabilitation ethos of the two wards that care plans would have been reviewed and modified
309 on a regular basis.

310 As a means of learning from fall experiences it has been suggested that post-fall
311 investigations provide an open opportunity to explore the means to change current practice
312 (Bok, Pierce, Gies, & Steiner, 2016) while understanding the perception of risk within the
313 context of patients' past experiences. This can be particularly important if patients are
314 overconfident or unrealistic when evaluating the degree of risk associated with specific
315 activities and circumstances (Clemson, Cusick, & Fozzard, 1999). To gain a deeper
316 understanding of the impact of a fall as well as to enhance adherence to interventions it is
317 necessary to consider factors that are predictable and familiar to patients. These form a
318 fundamental aspect of a patient's sense of control and behavior whereby past experience, fear
319 of falling, self-efficacy and freedom of choice can influence risk perception and therefore
320 management strategies (Host, Hendriksen, & Borup, 2011; Clemson, Cusick, & Fozzard,
321 1999).

322 Participants in this study described an overall shift in their pre-fall rehabilitation, such
323 as levels of physical activity and mobility status, to a post-fall trajectory beset with feelings
324 of low self-efficacy, fear of falling and a loss of independence. This resonates with similar
325 research exploring older people's experiences of falling (Bok, Pierce, Gies, & Steiner, 2016;
326 Rosario, Kaplan, Khonsari, & Patterson, 2014; Ben Natan, Heyman, & Ben Israel, 2014;
327 Boltz, Resnick, Capezuti, & Shuluk, 2013). Participants also gave examples of choosing to
328 limit or avoid certain activities altogether. Being more cautious when they mobilized or
329 performed functional tasks was a common coping strategy to enhance their feelings of safety
330 and security (Ben Natan, Heyman, & Ben Israel, 2014; Host, Hendriksen, & Borup, 2011).

331

332 If patients believed they were unable to handle the situation using their own knowledge of
past experiences and cognitive/physical abilities (i.e. internal control) it was likely the shift in
decision-making reinforced activity-avoidance and changes in behavior (Mazumber,
Lambert, Nguyen, Bourdette, & Cameron, 2015; Tzeng & Yin, 2014; Boltz, Resnick,
Capezuti, & Shuluk, 2013; Host, Hendriksen, & Borup, 2011; Delbaere, Crombez,
333 Vanderstraeten, Willems, & Cambier, 2004). Control was exerted by patients who favored an
334 adherence to interventions recommended by staff (i.e. an external locus of control) rather
335 than devising their own strategies to prevent a fall (Clemson, Cusick and Fozzard, 1999).
336 This could perhaps be explained by patients already being unwell or frail hence their
337 admission into hospital, as well as the unfamiliar and at times stressful hospital environment
338 itself (Host, Hendriksen, & Borup, 2011).

339 Recurrent falls was another important issue contributing to changes in patients'
340 rehabilitation and hospital experience (Mazumber, Lambert, Nguyen, Bourdette, & Cameron,
341 2015). In this study two out of the five participants fell more than once during the research
342 period. Perceptions of low self-efficacy, reduced motivation to strive for independence (or
343 perhaps, less dependence), and a stronger sense of blaming staff for falling – in parallel to an
344 increasing expectation of staff to keep them safe – were more apparent in data associated
345 with recurrent fallers than single fallers. This demonstrated the potential for each subsequent
346 fall to act as a catalyst for further deterioration in function and patient experience (Rosario,
347 Kaplan, Khonsari, & Patterson, 2014; Ben Natan, Heyman, & Ben Israel, 2014; Boltz,
348 Resnick, Capezuti, & Shuluk, 2013).

349 Limitations of the Study

350 A larger sample size would have been more beneficial to potentially reveal new ideas
351 or concepts (Bok, Pierce, Gies, & Steiner, 2016) and to yield a wider data set of patients'

355 voices to support transferability (Krefting, 1991). Unfortunately, the duration of the study and
356 the flow of patients admitted and discharged through the two wards only produced a small
357 sample.

358 Data were fed back to participants to clarify statements and viewpoints at the time of
359 each interview only, with no feedback of findings possible (Mays & Pope, 1995). However,
360 regular meetings were held between the primary author and the experienced research
361 supervision team to discuss findings, personal reflections, any concerns regarding the
362 research process and to compare understanding between each other about developing
363 themes (Host, Hendriksen, & Borup, 2011; Mays & Pope, 1995).

364 Despite feedback from a consultation and pilot exercise prior to the main study, the
365 phrasing of the questions in the interviews could have affected participant responses, as some
366 were written for “yes/no” answers. Having more open-ended questions could have
367 encouraged greater description in their answers and the generation of further fall-related
368 concepts.

369 Implications for Practice

370 The value of subjective data from patients’ experiences cannot be underestimated as a
371 source of information to help support and guide decision-making (NICE, 2015a & 2013;
372 Tzeng & Yin, 2014; NPSA, 2007). Utilizing the free text in incident reports and staff to be
373 allowed more time to interface with patients after a fall can facilitate this enhanced learning
374 (Tzeng & Yin, 2015; NPSA, 2007). It would be worthwhile for future studies to explore
375 conversations and the physical interaction between patients and ward staff with regard to the
376 perception of falling and appraisal of risk and safety. In particular, further research is needed
377 to understand how the evaluation of risk and safety may vary between individuals and in
378 different daily situations or activities, and how this can impact on goal-setting and adherence

EXPERIENCES OF OLDER PEOPLE FALLING IN HOSPITAL

379 to interventions (Haggqvist, Stenvall, Fjellman-Wiklund, Westerberg, & Lundin-Olsson,
380 2012; Clemson, Cusick and Fozzard, 1999).

381 The active involvement of patients is integral to exploring and learning from falls, and
382 patients should continue to be placed at the center of the rehabilitation process (NICE, 2015a
383 & 2013; Tzeng & Yin, 2014). This becomes even more important for recurrent fallers given
384 the detrimental effects of experiencing multiple falls (Mazumber, Lambert, Nguyen,
385 Bourdette, & Cameron, 2015). Therefore, future research could explore the additional support
386 required to prevent exacerbation of fear-avoidance behaviors and risk of injuries in this sub-
387 group of fallers (Tariq, Kloseck, Crilly, Gutmanis, & Gibson, 2013; Delbaere, Crombez,
388 Vanderstraeten, Willems, & Cambier, 2004).

389 Information obtained from each fall should be freely accessible to all ward staff and
390 discussed as part of an interdisciplinary team-based approach to individualized fall
391 prevention (Bok, Pierce, Gies, & Steiner, 2016; NPSA, 2011). It has been suggested that a
392 regular team forum could form a useful means for staff to share information and discuss falls
393 events including falls risk assessments (Haggqvist, Stenvall, Fjellman-Wiklund, Westerberg,
394 & Lundin-Olsson, 2012). Staff education on the range of risk factors for different patterns of
395 fallers could form a part of these forums (Clemson, Cusick and Fozzard, 1999).

396 Regular updates of patients' movement patterns and behavior should be included in
397 staff communication with each other, such as oral and written handovers at the start and end
398 of working shifts and following therapy sessions (Haggqvist, Stenvall, Fjellman-Wiklund,
399 Westerberg, & Lundin-Olsson, 2012). If changes are made to care plans, such as mobility
400 status or the number of staff required to assist with transfers, this information should be
401 shared between team members on an efficient and continuous basis, with rehabilitation goals
402 updated accordingly. Future research should address the effectiveness of inter-professional

403 communication on patient outcomes. The rehabilitation process is inherently dynamic,
404 seeking to promote positive change in patients' cognitive and physical status. Communication
405 of these changes and their implications to all involved – patients, carers and professionals – is
406 key to optimizing a patient's functioning at each stage of the rehabilitation process (Bok,
407 Pierce, Gies, & Steiner, 2016; NPSA, 2011).

408 Conclusion

409
410 This study demonstrated the extent to which a fall impacted on the lives of five older patients
within a rehabilitation setting. Patients who had fallen during their time in hospital were
invited to describe their experience of falling, with a particular focus on the perceived
411 causes, circumstances and consequences of each incident. Findings from this study contribute
412 to a growing body of qualitative work exploring the impact of hospital-based falls, with a
413 particular highlight on psychological and social issues.

414 Themes demonstrated similarities in experience – namely, impaired balance being a
415 common perceived cause of falling; changes to mobility including an increased need for
416 assistance from staff and walking aids for safety; reduced confidence, fear of falling and
417 restrictions to physical activity; and the difficulties in balancing risk with safety, which
418 impacted on decision-making and the degree of control exerted by patients and staff during
419 the rehabilitation process. The experience of a second fall exacerbated these factors further by
420 making it more difficult for patients to reach an optimal level of functioning.

422 References

423 Babbie, E. (2002) *The Practice of Social Research* (9th ed.). Belmont: Wadsworth Thomson.

424 Ben Natan, M., Heyman, N. & Ben Israel, J. (2014) Identifying risk factors for elder falls in
425 geriatric rehabilitation in Israel. *Rehabilitation Nursing*, 41, 54-59. [http://doi:10.1002/
426 rmj.170](http://doi:10.1002/rmj.170)

- 427 Bok, A., Pierce, L.L., Gies, C. & Steiner, V. (2016) Meanings of falls and prevention of falls
428 according to rehabilitation nurses: A qualitative descriptive study. *Rehabilitation*
429 *Nursing*, 41(1), 45-53. <http://doi:10.1002/rnj.221>
- 430 Boltz, M., Resnick, B., Capezuti, E. & Shuluk, J. (2013) Activity restriction vs. self-
431 direction: Hospitalised older adults' response to fear of falling. *International Journal*
432 *of Older People Nursing*, 9, 44-53. <http://doi:10.1111/opn.12015>
- 433 Calhoun, R., Meischke, H., Hammerback, K., Bohl, A., Poe, P. Williams, B. & Phelan, E.A.
434 (2011) Older adults' perceptions of clinical fall prevention programs: A qualitative
435 study. *Journal of Aging Research*, 12, 1-7. <http://doi.org/10.4061/2011/867341>
- 436 Carroll, D.L., Dykes, P.C. & Hurley, A.C. (2010) Patients' perspectives of falling while in an
437 acute care hospital and suggestions for prevention. *Applied Nursing Research*, 23,
438 238-241. <http://doi:10.1016/j.apnr.2008.10.003>
- 439 Clemson, L., Cusick, A. & Fozzard, C. (1999) Managing risk and exerting control:
440 determining follow through with falls prevention. *Disability and Rehabilitation*,
441 21(12), 531-541
- 442 Delbaere, K., Crombez, G., Vanderstraeten, G., Willems, T. & Cambier, D. (2004) Fear-
443 related avoidance of activities, falls and physical frailty. A prospective community-
444 based cohort study. *Age and Ageing*, 33, 368-373. <http://doi:10.1093/ageing/afh106>
- 445 Haggqvist, B., Stenvall, M., Fjellman-Wiklund, A., Westerberg, K. & Lundin-Olsson, L.
446 (2012) "The balancing act" – Licensed practical nurse experiences of falls and fall
447 prevention: A qualitative study. *BMC Geriatrics*, 12(62), 1-9. <http://doi:10.1186/1471>
448 -2318-12-62
- 449 Hill, A.M., Hill, K., Brauer, S., Oliver, D., Hoffmann, T., Beer, C., McPhail, S. & Haines,
450

451
452

T.P. (2009) Evaluation of the effect of patient education on rates

of falls in older

hospital patients: Description of a randomised controlled trial. *BMC Geriatrics*, 9(14),
1-9. <http://doi:10.1186/1471-2318-9-14>

453 Host, D., Hendriksen, C. & Borup, I. (2011) Older people's perception of and coping

454 with falling, and their motivation for fall-prevention programmes. *Scandinavian*

455 *Journal of Public Health*, 39(7), 742-748. <http://doi:10.1177/1403494811421639>

456 Jensen, J., Nyberg, L., Gustafson, Y. & Lundin-Olsson, L. (2003) Fall and injury prevention

457 in residential care-effects in residents with higher and lower levels of cognition.

458 *Journal of the American Geriatrics Society*, 51(5), 627-635. <http://doi:10.1034/j.1600->

459 0579.2003.00206.x

460 Krefting, L. (1991) Rigor in qualitative research: The assessment of trustworthiness. *The*

461 *American Journal of Occupational Therapy*, 45, 214-222. <http://doi:10.5014/ajot.>

462 45.3.214

463 Mays, N. & Pope, C. (1995) Rigour and qualitative research. *British Medical Journal*,

464 311, 109-112. <http://doi:10.1136/bmj.311.6997.109>

465 Mazumder, R., Lambert, W.E., Nguyen, T., Bourdette, D.N. & Cameron, M.H. (2015) Fear

466 of falling is associated with recurrent falls in people with multiple sclerosis.

467 *International Journal of MS Care*, 17, 164-170. <http://dx.doi.org/10.7224/1537->

468 2073.2014-042

469 Meyer, T., Gutenbrunner, C., Bickenbach, J., Cieza, A., Melvin, J. & Stucki, G. (2011)

470 Towards a conceptual description of rehabilitation as a health strategy. *Journal of*

471 *Rehabilitation Medicine*, 43, 765-769. <http://doi:10.2340/16501977-0865>

472 National Institute for Health and Care Excellence (2013) Falls: Assessment and prevention

473 of falls in older people. *National Institute for Health and Care Excellence*, 161, 1-

- 475 National Institute for Health and Care Excellence (2015a) Patient experience in adult NHS
476 services overview. *National Institute for Health and Care Excellence*, 1-9.
- 477 National Institute for Health and Care Excellence (2015b) Falls in older people overview.
478 *National Institute for Health and Care Excellence*, 1-13.
- 479 National Patient Safety Agency (2007) *Slips, Trips and Falls in Hospital*. London: National
480 Patient Safety Agency.
- 481 National Patient Safety Agency (2011) *Rapid response report: Essential care after an in-*
482 *patient fall*. London: National Patient Safety Agency.
- 483 New, P.W. (2009) The assessment and selection of potential rehabilitation patients in acute
484 hospitals: A literature review and commentary. *The Open Rehabilitation Journal*, 2,
485 24-34. <http://doi:10.2174/1874943700902010024>
- 486 Robson, C. (2011) *Real world research* (3rd ed.). Chichester: John Wiley & Sons Ltd.
- 487 Rosario, E.R., Kaplan, S.E., Khonsari, S. & Patterson, D. (2014) Predicting and assessing fall
488 risk in an acute inpatient rehabilitation facility. *Rehabilitation Nursing*, 39, 86-93.
489 <http://doi:10.1002/rnj.114>
- 490 Tariq, H., Kloseck, M., Crilly, R.G., Gutmanis, I. & Gibson, M. (2013) An exploration of risk
491 for recurrent falls in two geriatric care settings. *BMC Geriatrics*, 13(106), 1-7.
492 <http://doi:10.1186/1471-2318-13-106>
- 493 Tzeng, H.M. & Yin, C.Y. (2014) i-Engaging as an innovative approach to engage patients in
494 their own fall prevention care. *Patient Preference and Adherence*, 8, 693-700.
495 <http://doi:10.2147/PPA.S62746>
- 496 Tzeng, H.M. & Yin, C.Y. (2015) Exploring post-fall audit report data in an acute care setting.
497 *Clinical Nursing Research*, 24, 284-298. <http://doi:10.1177/1054773814529791>
498

- 498 Vassallo, M., Mallela, S.K., Williams, A., Kwan, J., Allen, S. & Sharma, J.C. (2009) Fall risk
499 factors in elderly patients with cognitive impairment on rehabilitation wards.
500 *Geriatrics & Gerontology International*, 9, 41-6. <http://doi:10.1111/j.1447->
501 0594.2008.00506.x.

EXPERIENCES OF OLDER PEOPLE FALLING IN HOSPITAL

Table 1 *Patient Characteristics*

Participant Pseudonym	Data Source	Margaret	David	Joan	Pat	Ron
Gender	IR/MN	Female	Male	Female	Female	Male
Age	IR/MN	77	82	78	88	81
No. of co-morbidities	MN	5	6	9	7	7
Past medical history	MN	Bilateral total knee replacements, left hip replacement, subluxation of metatarsals, bipolar disease, previous falls, ankle fracture	Polio, previous falls, abdominal pain, hip fracture, atrial fibrillation, depression, malaria	Osteoarthritis, cataracts, anaemia, thrombocytopenia, CVA, right hemicolectomy, renal failure, previous falls	High blood pressure, transient ischaemic attack, diverticulosis, previous falls, gastrointestinal bleed, chronic kidney disease, osteoporosis	High blood pressure, hyponatraemia, type 2 diabetes (with bilateral foot drop and peripheral neuropathy), glaucoma, osteopenia, bowel cancer, previous falls
Primary reason for admission	MN	Reduced mobility (“off legs”), likely urinary tract infection. Admitted from home	Fell outdoors - reduced mobility and balance. Admitted via emergency department	Fell indoors, not managing at home. Admitted after short-stay on acute medical ward	Urinary tract infection (currently unsafe at home). Admitted from home	Not coping at home - unwell and recent deterioration in health. Admitted from home
Number of falls risk factors* identified	MN	5/9	5/9	3/9	4/9	7/9
No. of falls during study	IR	1	1	1	2	2
Day, time and location of fall(s)	IR	Sunday, 07:45, ward corridor	Tuesday, 07:55, bedroom	Monday, 09:20, bedroom	Wednesday, 18:35, toilet Friday, 11:30, bedroom	Monday, 12:10, day/dining room Thursday, 16:30, dining room

Table 1 continued overleaf

EXPERIENCES OF OLDER PEOPLE FALLING IN HOSPITAL

Injuries sustained from fall(s)	IR	Soft tissue injury to hip; no disturbance of hip prosthetic already in situ	None	None	None	None
Documented cause of fall (from incident reports)	IR	Walking along ward corridor, lost balance, unwitnessed, found lying on left side	Walking around room, fell whilst walking and carrying newspaper from one side of bedroom to other	Found by side of bed - patient had been standing at sink washing herself when lost balance and fell to floor	Fell whilst getting off toilet, unwitnessed, lost balance Fell when walking from bedroom to ward corridor, lost balance, possible trip	Walking with healthcare assistant across dining room, tripped over room-partition on floor; staff member unable to save patient Lost balance when sitting down. Ron miscalculated his position in relation to chair. Staff unable to stop patient from falling, fell to floor
Number of medications (associated with falls risk in parentheses)	MN	7 (2)	9 (2)	9 (0)	7 (1)	9 (2)
Types of medications	MN	Antidepressant, anticoagulant, laxative, antipsychotic, bone mineral, antifungal	Antiandrogen, urinary retention drug, laxatives, antidepressant, beta-blocker, anticoagulant, haemorrhoidal preparations, diuretic	Analgesics, laxative, bone minerals, lipid-regulating drug, anticoagulant, diuretic, proton-pump inhibitor	Hypertensive drug, analgesic, bone minerals, laxative, anticoagulant, nutritional supplement	Anticoagulant, antidiabetic drugs, bone minerals, hypertensive drugs, analgesic
Mobility pre-fall	MN	Independent with four-wheeled walker (rollator)	Independent with cane (stick)	Independent with cane (stick)	Independent with cane (stick)	Assistance of 1 person + walker (frame)
Mobility post-fall	MN	Independent with walker (frame) + supervision	Independent with walker (frame)	Assistance of 1 person + walker (frame)	Assistance of 1 person + walker (frame)	As above, but use of wheelchair for distances >10m
Length of stay	MN	>6 weeks	>5 weeks	>8 weeks	>9 weeks	>9 weeks

Note. *Falls Risk Factors: History of falls (<2), history of falls (>3), history of dizziness or blackouts, mental state, vision, medications, eliminations, environmental hazards, and unsteadiness. IR = Incident Report. MN = Medical Notes.

Table 2

Characteristics of Rehabilitation Wards

	Ward 'A'	Ward 'B'
Average number of staff on duty	Days: 12-14 Nights: 3-4	Days: 12-14 Nights: 3-4
Types of professions involved	Physiotherapists Rehabilitation assistants Ward sisters Nurses Nurse practitioner Support workers Medical consultant Occupational therapists Admin staff	Physiotherapists Rehabilitation assistants Ward sisters Nurses Doctor Support workers Medical consultant Occupational therapists Admin staff
Layout	22 patient beds (including 9 allocated stroke beds), day room, therapy room, 3 toilets, 2 bathrooms, dining room, staff room, 2 administrative offices, conservatory	22 patient beds, day room and dining room, therapy room, 2 toilets, 2 bathrooms, team meeting room, 1 administrative office
Average number of patients occupying beds	22 (full capacity)	22 (full capacity)
Number of falls*	25	18
Number of fallers*	11	12

Note. *Data collected from Health and Safety statistics, dated January to June 2006.

Table 3

Interview Questions

	<ol style="list-style-type: none"> 1) How would you define a fall? 2) Before coming onto the ward, did you expect to fall during your hospital stay? 4) Do you regard having a fall/falling in hospital as being a problem to you? 5) What do you think could be the consequences of falling in hospital? 6) Did you have/do you now have a fear of falling in hospital? 7) Do you think falling in hospital can be prevented?
Additional Questions	<ol style="list-style-type: none"> 1) Which number fall is this? 2) What day did you fall? 3) Do you know the time of your fall (approximately)? 4) Where on the ward did you fall? 5) What were you doing at the moment of falling? (movement/ activity) 6) Did you get any warning that you were going to fall? 7) What happened after you fell? 8) Why do you think you fell? 9) If you were to do the same movement/activity again, is there anything you would do differently? 10) Did you injure yourself when you fell? If so, how were these injuries treated/investigations e.g. X-rays, bone scans? 11) Who or what do you think was responsible for your fall? And who or what would be responsible if you fell again? 12) What impact has this fall had on you? How did the fall make you feel? 13) Is there anything else you wish to say about your fall?

