Community ambulation before and after hip fracture: a qualitative analysis

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Abstract

Purpose. This qualitative study explored mobility levels around the home and in the community before and after hip fracture.

Methods. Twenty-four people receiving rehabilitation after hip fracture were interviewed using an in-depth semi-structured format: 12 who were receiving rehabilitation as inpatients, and 12 who had been discharged home from inpatient rehabilitation and were continuing therapy as outpatients. The recorded interviews were transcribed and coded independently by two researchers. From these codes themes were developed.

Results. Before their fracture, participants were independent about their houses, but their level of community ambulation had been reducing over recent months or years, often associated with another health problem. Participants who had returned home after inpatient rehabilitation for hip fracture reported much reduced levels of mobility both in their house and in the community compared with their pre-fracture performance. This reduced level of mobility was associated with psychological factors (fear, lack of confidence, frustration), physical factors (pain, the presence of another health problem) and social/environmental factors (reliance on daughter, and car). The level of optimism expressed by people receiving inpatient rehabilitation contrasted with the pessimism of those receiving outpatient rehabilitation.

Conclusions. Patients living back in the community after hip fracture described a reduced level of functioning and a pessimism that contrasted with the optimism expressed by people who were still in the inpatient phase of rehabilitation. These findings, and the importance of psychological factors and social support, may be considered when designing rehabilitation strategies to support the successful transition of people to their community after hip fracture.

Keywords: Ambulation, hip fracture, qualitative research

Introduction

Hip fracture is one of the most common fractures for older people [1]. Hip fractures result in serious health consequences for older people, with significant mortality rates [2,3] and ongoing disability, with only two-thirds of people living at home at the time of the hip fracture able to return home [3].

One of the main reasons for the relatively poor outcomes after hip fracture is mobility limitation. Only about 40% of people return to their pre-injury level of walking [3,4]. Only half of patients who had been able to walk out of doors before the fracture could do so afterwards [5], and more than half of the people who return to living in the community after hip fracture report having at least one fall in 6 months after injury [6]. For these reasons, one of the main goals and challenges of rehabilitation after hip fracture is to restore independent walking ability.

There is a developing literature on community ambulation that has recognised the importance that walking can play in allowing a person to successfully reintegrate into their home and community [7]. Lord et al. [8] defined community ambulation as having independent mobility outside the home, including ability to negotiate uneven terrain, private venues, shopping centres, and other public venues. Although there is an emerging literature, the few studies on walking in the community after rehabilitation have been completed on largely neurological populations.
[8,9]. Little is known about how people walk about their homes and their neighbourhood after rehabilitation for hip fracture, with a particular lack of information from the patient perspective.

Qualitative research is useful when little is known about a phenomenon and there is an issue that needs to be explored [10]. Therefore, the use of qualitative research methods is appropriate to find out more about community ambulation after hip fracture. The main aim of this qualitative study was to explore the perceptions of people undergoing rehabilitation after hip fracture about mobility levels around the home and in the community before and after hip fracture.

Method

A qualitative research design was used, in which in-depth semi-structured interviews were completed with volunteers who were receiving inpatient or outpatient rehabilitation after surgery for a fracture of the neck of femur.

Participants

A purposive sample of patients receiving either inpatient or outpatient rehabilitation after hip fracture was interviewed. Individuals who could provide information about community ambulation after hip fracture were deliberately selected. To be included participants had to be: receiving rehabilitation after a fracture of the neck of femur; aged at least 60 years; living independently in the community (not in supported care) before the fracture if an inpatient or currently living independently in the community if an outpatient; have a standardised mini-mental state examination (MMSE) score greater than 24 [11]; and be able to converse and express thoughts and experiences in English. The participants receiving inpatient rehabilitation typically received daily physiotherapy, regular therapy from the other members of the allied health team, as well as nursing and medical care. Participants receiving outpatient rehabilitation typically had undergone a period of inpatient rehabilitation before being discharged home and were further along the rehabilitation continuum than the participants receiving inpatient rehabilitation. Patients receiving outpatient rehabilitation received physiotherapy twice each week and intervention from other members of the allied health multi-disciplinary team if required, with the setting of their therapy either home-based or centre-based. All participants gave written informed consent to participate in the project, which had received approval from hospital and university ethics committees.

Procedure

At the start of the interview, participants were asked to evaluate their ability to get from one place to another, based on the mobility domain of the London Handicap Scale (LHS) [12]. The participants were asked if their health stopped them getting around, with six options on an ordinal scale ranging from ‘1: not at all’ to ‘6: completely’. High test–retest reliability of the LHS has been reported in general populations (Intraclass Correlation Coefficient = 0.84) [12], and the scale has been able to differentiate successful outcomes in the community after surgery for hip fracture [13].

The focus of the interviews for people receiving inpatient rehabilitation was to reflect on their previous walking ability at home and in the community, their current mobility status, and to project about their expectations of being able to return to their previous living arrangements in the community. Interviews followed the broad themes and questions outlined in the interview guide (Table I). The focus of the interviews for people receiving outpatient rehabilitation was on exploring their perceptions of their current mobility abilities and difficulties. Interviews followed the broad themes and questions outlined in the interview guide (Table II).

All interviews were conducted by a physiotherapist research assistant experienced in the management of people with hip fractures, but she was not involved in the day-to-day management of any of the patients in the study. All interviews were conducted at a time and location convenient to the participant. Each interview took between 20 and 40 min to complete.

Data analysis

Interviews were audio-taped and records of all interviews were transcribed verbatim. Accuracy was maximised by sending each participant a copy of their transcript, for correction, clarification and further comment, a process termed member checking [14]. After amended transcripts were received back from participants, any identifying information was removed and each transcript assigned a pseudonym for further analysis.

Qualitative analysis of transcripts was undertaken by two researchers independently, one using qualitative data management software (NVIVO 2.0, Qualitative Solutions and Research Pvt Ltd, Australia), while the other used manual methods. The de-identified transcripts were read by each researcher for codes devised to represent the data. The codes were reviewed and emerging themes developed through a process of collapsing codes together and defining descriptive categories. Consensus between
the researchers on the emerging themes and categories was achieved through discussion.

Analysis of data was completed using a phenomenological theoretical framework and grounded theory methods. We aimed to put aside current knowledge and to review concepts through the eyes of the person experiencing them [15]. With grounded theory, new ideas and theories are derived from data, with data collection not influenced by existing theories or knowledge [16].

To help evaluate the possible effects that the researchers’ backgrounds might have on their interpretation of the results, the following information is included. Two of the researchers were physiotherapists and the third researcher was an occupational therapist. One of the physiotherapy researcher’s roles was to facilitate clinical research in that department; the other physiotherapist had extensive clinical experience in rehabilitation, but was working in an aged care assessment unit at the time of the study. The occupational therapist researcher had more than 15 years of experience, but was not working in rehabilitation at the time of the study. None of the participants were known to the researchers before the study.

Results

Participants

Twelve people were interviewed while receiving inpatient rehabilitation after hip fracture, an average of 3.9 weeks [standard deviation (SD): 2.4] after surgery. Another 12 people were interviewed who were living at home and receiving outpatient

<table>
<thead>
<tr>
<th>Topic area</th>
<th>Sample questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>What walking did you do before admission?</td>
<td>- Could you tell me how much walking you normally did at home before you came into hospital?</td>
</tr>
<tr>
<td></td>
<td>- Could you tell me about how much walking you did about your local neighbourhood before you came into hospital?</td>
</tr>
<tr>
<td></td>
<td>- Can you tell me about what sort of things you walked to in your community before you came into hospital?</td>
</tr>
<tr>
<td>What were your walking limitations before admission?</td>
<td>- Can you tell me about activities or tasks around the home you couldn’t do because of your walking before you came into hospital (indoors, outside)?</td>
</tr>
<tr>
<td></td>
<td>- Can you tell me about any activities or tasks around your neighbourhood you couldn’t do because of your walking before you came into hospital?</td>
</tr>
<tr>
<td>What stopped you from walking before admission?</td>
<td>- Can you tell me what stopped you from doing more walking about the house before you came into hospital?</td>
</tr>
<tr>
<td></td>
<td>- Can you tell me what stopped you from doing more walking about your neighbourhood before you came into hospital?</td>
</tr>
<tr>
<td>How is your walking going now in rehabilitation?</td>
<td>- Are you having any difficulties at the moment (e.g. pain) that make it difficult to walk?</td>
</tr>
<tr>
<td>Walking after discharge home?</td>
<td>- Are there any things about the home that involve walking that you think you might have difficulty doing after you go back home?</td>
</tr>
<tr>
<td></td>
<td>- Are there any things about your neighbourhood that involve walking that you think you might have difficulty doing after you go back home?</td>
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<table>
<thead>
<tr>
<th>Topic area</th>
<th>Sample questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>What walking do you do?</td>
<td>- Could you tell me about how much walking you do in and around your local neighbourhood?</td>
</tr>
<tr>
<td></td>
<td>- Can you tell me about what sort of things you walk to in your neighbourhood?</td>
</tr>
<tr>
<td>What limitations do you have with your walking?</td>
<td>- Can you tell me about activities or tasks around the home you cannot do because of your walking?</td>
</tr>
<tr>
<td></td>
<td>- Can you tell me about any activities or tasks around your neighbourhood you cannot do because of your walking</td>
</tr>
<tr>
<td>What stops you from walking?</td>
<td>- Can you tell me what stops you from doing more walking about the house?</td>
</tr>
<tr>
<td></td>
<td>- Can you tell me what stops you from doing more walking about your neighbourhood?</td>
</tr>
<tr>
<td>What is needed to walk more?</td>
<td>- Can you tell me what you think you would need to be able to walk well enough to do the things you want to?</td>
</tr>
</tbody>
</table>
rehabilitation services an average of 12.2 weeks (SD: 4.9) after hip fracture (Tables III and IV). All of the people in the outpatient group for whom information was available had received a period of inpatient rehabilitation before being discharged home. There were eight females and four males (average age 76.6 years, SD: 5.6) in the inpatient sample and nine females and three males (average age 80.6 years, SD: 7.5) in the outpatient sample. All of the inpatients and all but one of the outpatients were using a mobility aid at the time of interview, but prior to the hip fracture six of the outpatients and nine of the inpatients did not use mobility aids. There were an average of 4.5 (SD: 2.2) co-morbidities listed in the inpatients’ medical records, and 5.8 (SD: 2.1) co-morbidities listed for the outpatients. There was no significant difference between the inpatient and outpatient groups for age \[ t(22) = 1.658, p = 0.11 \], cognitive status as determined by MMSE \[ t(22) = 0.59, p = 0.30 \], or number of co-morbidities \[ t(22) = 1.512, p = 0.15 \].

Participants’ scores for the mobility domain of the LHS pre-fracture averaged 1.7 for inpatients and 1.6 for outpatients, indicating that pre-fracture, on average, their health stopped them from getting around less than ‘very slightly’. Mobility domain scores at the time of the interview averaged 3.2 for inpatients and 3.0 for outpatients, indicating that their health stopped them getting around ‘quite a lot’ at the time of interview (Tables III and IV). There was no difference between inpatients and outpatients in mobility domain scores, either pre-fracture (Mann–Whitney U-test = 64.5, \( p = 0.63 \)) or at the time of interview (Mann–Whitney U-test = 62.0, \( p = 0.53 \)).

**Inpatient rehabilitation interviews**

**Walking function before hip fracture.** A key theme that emerged was that the majority of people with a hip fracture were functioning at a lower level in their community before they had fractured their hip (Figure 1).

Didn’t do much outside . . . Oh about four or five years since I gave up the golf. I used to play a couple of days a week.

(John).

The factors associated with reduced walking in the community were themed as physical, and social/environmental. The physical factor associated with the lowered level of walking function was the presence of a co-morbidity. Almost all of the participants had another health problem that had started to affect them. Although the co-morbidities

<p>| Table III. Demographics of inpatients receiving rehabilitation after surgery for hip fracture. |
|----------------------------------|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Age (years)</th>
<th>Sex</th>
<th>MMSE score</th>
<th>Number of co-morbidities</th>
<th>Type of surgery</th>
<th>Time since surgery (weeks)</th>
<th>Current mobility aid</th>
<th>Mobility aid pre-fracture</th>
<th>Mobility aid post-fracture</th>
<th>Lives alone</th>
<th>Mobility aid pre-fracture</th>
<th>Lives alone</th>
<th>Mobility aid post-fracture</th>
<th>Lives alone</th>
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<td>Carol</td>
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<td>Female</td>
<td>30</td>
<td>3</td>
<td>Internal fixation</td>
<td>2</td>
<td>Four wheeled frame</td>
<td>No</td>
<td>Yes</td>
<td>2.00</td>
<td>4.00</td>
<td>No</td>
<td>3.00</td>
<td>No</td>
</tr>
<tr>
<td>Ada</td>
<td>69</td>
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<td>27</td>
<td>6</td>
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<td>4</td>
<td>Four wheeled frame</td>
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<td>Yes</td>
<td>2.00</td>
<td>3.00</td>
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<td>3.00</td>
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<tr>
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<td>1.00</td>
<td>3.00</td>
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<td>4.00</td>
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<td>Four wheeled frame</td>
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<td>1.00</td>
<td>Yes</td>
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<tr>
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<td>30</td>
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<td>No</td>
<td>1.00</td>
<td>4.00</td>
<td>Yes</td>
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<tr>
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<td>1.00</td>
<td>4.00</td>
<td>Yes</td>
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<td>Iris</td>
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<td>Yes</td>
<td>1.00</td>
<td>4.00</td>
<td>Yes</td>
<td>4.00</td>
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<td>1.00</td>
<td>4.00</td>
<td>Yes</td>
<td>4.00</td>
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<tr>
<td>John</td>
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<td>25</td>
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<td>Internal fixation</td>
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<td>Four wheeled frame</td>
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<td>1.00</td>
<td>4.00</td>
<td>Yes</td>
<td>4.00</td>
<td>Yes</td>
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<td>28</td>
<td>4</td>
<td>Internal fixation</td>
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<td>Four wheeled frame</td>
<td>None</td>
<td>Yes</td>
<td>1.00</td>
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<td>Yes</td>
<td>4.00</td>
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<td>Four wheeled frame</td>
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<td></td>
<td></td>
<td>4.5 (2.2)</td>
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<td>1284</td>
<td>N. F. Taylor et al.</td>
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Table IV. Demographics of participants living at home and receiving outpatient rehabilitation after surgery for hip fracture.

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Age (years)</th>
<th>Sex</th>
<th>MMSE score</th>
<th>Number of co-morbidities</th>
<th>Type of surgery</th>
<th>Time since surgery (weeks)</th>
<th>Prior to discharge home</th>
<th>Current mobility aid</th>
<th>Mobility aid pre-fracture</th>
<th>Lives alone</th>
<th>LHS-mobility score pre-fracture</th>
<th>LHS-mobility score post-fracture</th>
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<td>Yes</td>
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<td>No</td>
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<td>3</td>
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<td>6</td>
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<td>8</td>
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<td>Four wheeled frame</td>
<td>SPS</td>
<td>No</td>
<td>1</td>
<td>2</td>
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<tr>
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<td>Female</td>
<td>28</td>
<td>6</td>
<td>Internal fixation</td>
<td>14</td>
<td>Yes</td>
<td>SPS</td>
<td>None</td>
<td>No</td>
<td>1</td>
<td>3</td>
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<tr>
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<td>4</td>
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<td>9</td>
<td>Yes</td>
<td>Two wheeled frame</td>
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<td>1</td>
<td>4</td>
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<tr>
<td>Mary</td>
<td>78</td>
<td>Female</td>
<td>26</td>
<td>6</td>
<td>Internal fixation</td>
<td>18</td>
<td>Not reported</td>
<td>Four wheeled frame</td>
<td>SPS</td>
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<td>4</td>
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<td>Yes</td>
<td>Four wheeled frame</td>
<td>SPS</td>
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<td>3</td>
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<td>6</td>
<td>Hemiarthroplasty</td>
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<td>Yes</td>
<td>SPS</td>
<td>None</td>
<td>No</td>
<td>3</td>
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<td>Richard</td>
<td>74</td>
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<td>2</td>
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<td>SPS</td>
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<td>Female</td>
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<td>9</td>
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</table>

MMSE, mini mental state examination; LHS, London handicap scale.
mentioned were variable (including back pain, cardiovascular, respiratory and arthritis) all had an impact on functional levels and activities:

So it’s restricted my breathing. But I used to try not to use too much oxygen . . . that limited my walking before the hip fracture.

(Edward).

An environmental factor associated with the lowered levels of functioning before the hip fracture was the change in the neighbourhood, such as friends moving away from the area, which made them less willing to walk in their community. A key social and environmental theme was the central role of the car in enabling people to get around their community, either to shopping centres or to doctors appointments. As part of the central role played by cars and shopping at big centres, a majority of the participants drove themselves, while the other participants required the assistance of family members:

(Driving) is very important to my independence, because there’s not much public transport the way I go.

(Kathleen).

The social support provided by family members was important in helping many of those interviewed to get out into the community and one of the comments highlighted the inter-relationship between family support and the use of a car to get out into the community:

I enjoy it. And at weekends I’d you know, be at one of the family’s places, they’d come and pick me up in the car then I’d walk down from the car.

(Fay).

In contrast to reduced levels of walking in the community almost all had remained active and independent about their homes. Many of those interviewed reported that they actively participated in housework before their fracture:

I’d do the washing up, washed all the kitchen floor, washed the bathroom and the toilet floor every day . . .

(Herbert).

Many of the participants were also involved in maintenance of the garden, although several had reduced the amount that they could do in the garden due to health problems.

Walking function during rehabilitation. Participants receiving inpatient rehabilitation after hip fracture were asked about how they were managing while they were receiving rehabilitation, and how they expected to manage after discharge from rehabilitation. Participants generally reported that their walking was progressing well during rehabilitation and that physical factors were not problems. In particular, pain was not perceived to be a problem by any participant:

Oh, yeah, it doesn’t worry me. It’s still a bit sore. I’ve never had a broken hip before and it’s nowhere near as excruciating as I thought it probably would be.

(Geoffrey).

Weakness and balance were also not perceived to be major problems by the participants. However, fatigue was mentioned by a few participants as a factor that was affecting them.

When asked how they thought they would manage after returning home all participants were very
optimistic and did not foresee that they would experience major difficulties:

Well, I don’t think it will alter very much at all.  

(Ada).

Four of the participants agreed that regaining walking ability and independence was very important to them. As Lorna summed up:

I like my independence, and I don’t like to . . . I mean I’ve got to rely on somebody for the next couple of weeks or so but I don’t want that as an ongoing thing.  

(Lorna).

Walking function at home after hip fracture. A separate sample of 12 outpatients who were further along the rehabilitation continuum and had returned to the community after hip fracture was interviewed. A key theme emerged of reduced walking and mobility both at home and in the community (Figure 2). All participants were either not walking outside or walking much less than they used to:

I wouldn’t even attempt walking outside . . . I feel a bit like a prisoner.  

(Olive).

Participation in community activities was much reduced. Most participants said that they had either not gone shopping since the fracture, or they had only been shopping once or twice with the assistance of family members. Participants also mentioned that they had not returned to previous activities such as going to church, study group, book club, or golf; and others said that they were reliant on a family member to get them to medical appointments.

Participants also reported reduced levels of mobility around home. Although it was an effort, all were walking in the house. However, most participants were either doing much less or no housework:

I do very little (housework). Very, very little.  

(Rose).

Only two participants had attempted gardening since their fracture, with Stan still feeling ‘nervous about it’. The factors associated with reduced walking at home and in the community were themed as psychological, physical, social/environmental. Psychological factors emerged as a strong theme, most commonly described as a lack of confidence and a fear of falling:

I’ve never had a fall before. 86 years and I didn’t have a fall, so now I’m a bit frightened.  

(Thelma).

Some participants also explained that they felt lazy and others spoke of feelings of frustration. Physical factors were also perceived to be associated with reduced mobility. Similar to the

Figure 2. Outpatient perceptions of walking at home and in the community after hip fracture.
participants interviewed during rehabilitation, almost all participants mentioned that they had other health problems that affected their mobility. However, other physical factors such as fatigue, pain and weakness were also often mentioned as reducing mobility. Ongoing fatigue was a problem for seven participants

I haven’t been doing much lately. I keep going to sleep instead.

(Richard).

Pain was an issue for most participants that limited mobility. However, a couple of participants had no problems with pain:

The hip, I can tell you honestly, I haven’t had an ache or a pain. It’s been absolutely wonderful. People don’t believe me, even the doctor.

(Yvonne).

Other physical factors included mild to moderate weakness and a lack of balance.

The final factor associated with reduced mobility after hip fracture was social/environmental. The role of the family, in particular the daughter, and the interrelationship between this factor and the reliance on the car for getting about the community, was affecting almost all participants. Most participants specifically mentioned the increased role their daughter was playing since their return home after fracture. Four participants had changed their living arrangements and were living with their daughter at the time of the interview.

Participants also spoke of how their daughters were providing practical support:

My daughter ... she’s taken over the shopping, the works.

(Stan).

The only other family members mentioned were a son-in-law, a husband, a brother and a niece (all mentioned by one participant each).

Most participants spoke of the importance of the car in enabling them to get about the community, and spoke of how they were reliant on their daughter driving them to appointments or to shopping centres. Of the six participants who previously drove, only one (Richard) had returned to driving.

The outpatients’ outlook was not as positive as that of the patients interviewed during inpatient rehabilitation. In general, these participants were more pessimistic or resigned about their circumstances:

And I get frustrated, and I turn the television off and I think if I’m going to be like this for the rest of my life I don’t want to live.

(Winifred).

I want to get rid of this life I’m living now.

(Patricia).

As summed up by one participant, the hip fracture had had a major impact:

It’s altered my whole life, believe me.

(Yvonne).

Discussion

There was a marked contrast in the attitudes and outlook of people interviewed while receiving inpatient rehabilitation when compared with the attitudes of a similar group of people further along the rehabilitation continuum, who had returned to the community, and were interviewed while receiving outpatient rehabilitation services. Inpatient rehabilitation at about 3 weeks after injury was a time of optimism. Participants were looking forward to returning home and generally did not perceive that they would have too many difficulties. In contrast, the outlook of people who had completed a period of inpatient rehabilitation and were living in the community about 12 weeks after hip fracture was much more pessimistic. They were frustrated about their reduced level of functioning and were aware of the negative impact of the hip fracture on their lives.

One explanation for the contrasting outlooks is that inpatient rehabilitation is a time when people receive full support and attention. As well as receiving daily physiotherapy, regular therapy from other members of the allied health team, and medical and nursing care, all cleaning and catering is provided, and it is a time when there may be regular visits from family and friends. In contrast, when living in the community there is much less support. Apart from receiving physiotherapy twice each week and intervention from other members of the multidisciplinary team if required, people may be much more isolated. Also, the reduced level of medical and nursing care for people living in the community may explain why pain levels did not appear to be as well controlled for this group. These observations raise the question of whether inpatient rehabilitation raises unrealistically optimistic expectations about people’s ability to cope after hip fracture. There is some evidence that optimism during rehabilitation is unrelated to outcome [17]. It also raises the question of whether the level of support provided to people after hip fracture adequately prepares them for the difficult transition of returning to live in the community [18].

People living independently in the community after hip fracture in the current study were often not doing very well. Although they had returned to living in the community after hip fracture, their
level of mobility and functioning was much reduced. They were walking less in and about their homes, and their level of community ambulation was much reduced. This reduced level of mobility is broadly consistent with reports in the literature that less than half of people after hip fracture return to their pre-injury level of walking [4]. However, the group of outpatient participants in the current study had been considered well enough for discharge to the community from rehabilitation, so there was an expectation that we were exploring the perceptions of people considered to have had successful outcomes after hip fracture [3]. The current study suggests that defining returning to living in the community as a successful outcome is too simple and does not take account of the fact that people returning home after hip fracture often struggle to cope with their daily activities.

Although mobility levels were reduced after hip fracture, a theme also emerged of reduced levels of community ambulation before the injury. The factor that seemed most associated with this reduced community ambulation was the presence of a comorbidity or health problem. The presence of comorbidities is a risk factor for poorer prognosis after hip fracture [19,20]. More than 90% of men have at least one medical problem, and a mean of three medical problems, before admission with hip fracture [21], and quality of life is reduced before fracture [22]. For these reasons, hip fracture has been considered to be more a geriatric rather than an orthopaedic disease [23], consistent with the clinical observation that hip fractures are often associated with general medical and physical decline.

The reduced level of walking and functioning of people living in the community after hip fracture meant that they were much more dependent on family members to do things such as to get appointments and to get shopping done. An important theme that emerged was the important role of the daughter for many of the participants in our study. Some participants were living with their daughters at the time of the interview and many were dependent on their daughters to drive them to appointments. This theme is consistent with findings that daughters are more likely to care for frail parents, and that sons tend to become involved in caring only in the absence of a female sibling [24]. Although social support has been associated with improved outcome after hip fracture [25], and the important role of carers in providing practical help and psychological support demonstrated during inpatient rehabilitation [26], it appears that the role of the daughter in caregiving for people at home after hip fracture has been considered little.

Psychological factors emerged as an important theme associated with the reduced mobility of people living at home after hip fracture. Participants were fearful, lacking in confidence and frustrated. The importance of psychological factors after hip fracture has been acknowledged elsewhere with self-efficacy and reduced fear of falling associated with improved outcomes after hip fracture [27,28]. Our findings of psychological distress for those living at home after hip fracture suggest that this factor could be given more emphasis during rehabilitation [29]. Currently, it appears that the focus of rehabilitation is on physical training factors, practicing walking, transfers, and activities of daily living such as self-care, with relatively few resources provided for specialist psychological support and coping strategies.

The main strength of the current study was that samples of people during inpatient rehabilitation and following discharge back to the community after hip fracture were interviewed to gain an in-depth exploration of how they were managing with their mobility during these two different phases of recovery. From the data of these interviews, we gained an increased awareness of the issues facing people after hip fracture. Strategies to increase the rigour or trustworthiness of the data included using member checking, rich test description, and having two researchers independently code the data. In addition, we were confident that we had achieved saturation by the end of each set of 12 interviews as no new themes were emerging. A limitation of the current study was that a separate sample of inpatients and outpatients were interviewed, rather than following the same group through the rehabilitation continuum. However, the sample characteristics of each group were similar.

In conclusion, this qualitative study highlights that people who have what are categorised as successful outcomes after hip fracture and return to living in the community are often struggling to cope, displaying reduced levels of functioning and a reliance on family members, especially daughters. They demonstrate symptoms of psychological distress that contrasts with the relative optimism of people still in the early inpatient phase of rehabilitation. These findings suggest a broader patient-centred approach to rehabilitation, incorporating biopsychosocial factors may lead to more successful integration back into the community after hip fracture.

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