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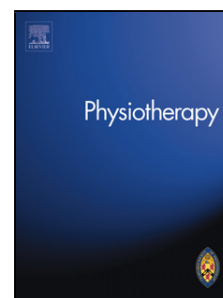
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# Journal Pre-proof

Patients' perceptions of rehabilitation in the community following hip fracture surgery. A qualitative thematic synthesis

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**Patients' perceptions of rehabilitation in the community following hip fracture surgery. A qualitative thematic synthesis.**

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**Abstract**

**Background**

Hip fracture is one of the most common injuries in adults and can be a life changing experience for most. Many patients are ill-prepared for the changes in their normal daily activity that often occur in the following months after surgery. Community rehabilitation services vary, as management often focuses on acute over community services. This can impact on the patient's experience post hip fracture.

## **Objectives**

The aim of this review was to understand and examine patients' perspective, views and experiences of physiotherapy rehabilitation in the community after hip fracture surgery, to improve future clinical practice for this population.

## **Design**

A qualitative thematic synthesis was undertaken to investigate the aim. A content thematic analysis approach was used to analyse the qualitative data.

## **Data sources**

A systematic search was carried out of the following databases: CINAHL, PEDro, PubMed, Whiley Online, AMED & CINAHL. Further searches were performed in Google Scholar and backwards citation was used to search within included studies.

## **Study selection**

A review of qualitative studies was performed using the SPIDER tool for identification of suitable studies and the CASP tool for analysis of quality. Studies were included if they were qualitative or part qualitative and involved patients' perceptions of rehabilitation after hip fracture following hospital discharge.

## **Results**

Full text review was performed on 35 studies of which, 10 were identified as suitable. Three key themes were identified regarding experiences of rehabilitation within the community after hip fracture: Engaging in physical activity; Maintaining a positive perspective, and Support.

## Conclusion

Findings support the need for the patient perspective and experience to be considered in the improvement of hip fracture care pathways regarding rehabilitation in the community setting after hip fracture. This can help identify key areas of improvement in rehabilitation to enhance and improve the patient journey after hip fracture.

**Prospero:** CRD42018095434

**Keywords:** Hip fracture; Rehabilitation; Patient perception;

## Contribution of the paper

- Wider understanding of patient perception of community rehabilitation
- Aid current inpatient and community services to review hip fracture rehabilitation in the community
- Help to focus on specific themes based on previous research

## Introduction

Hip fracture is one of the most common injuries in older people and the main cause of reduced mobility in adults over the age of 65 (1). Within the UK alone, the National Health Service (NHS) estimate that £1.4 billion is associated with hip fracture care. However, this is now a worldwide issue and the social and economic impact is becoming more apparent (1). Hip fracture can be a life changing experience for most adults, and for whom, many are ill-prepared for the changes in their normal daily

activity that often occur (2). Management of this condition often involves substantial community care and therefore these aspects should be considered when evaluating the service provision for patients following a hip fracture (3). This was highlighted in the Getting It Right First Time (GIRFT) report (4), in which concerns regarding hip fracture management were highlighted. However, as well as meeting targets and adhering to clinical criteria, it is important to take into account the views of the patients to fully understand how patient care after hip fracture, in the short and longer-term, can be improved.

In 2016, in excess of 65,000 people aged 60 and over, presented to Accident and Emergency with hip fracture (1). From this group, 77% had a physiotherapy led assessment with 67% of these patients returning to their original residence within 4 months. The National Hip Fracture Database (NHFD) also recommend that as part of the routine follow-up, consideration of patients' views should be retrieved at 120 days. This information can be vitally important in improving how future services for patients following hip fracture can be improved (1). Community rehabilitation services vary, depending on many factors which often include financial restraint, lack or too few staff within the therapy service. This may impact on the patient's experience of rehabilitation after hip fracture and their functional outcome (5, 6). The role of rehabilitation in hip fracture management is key to improving service performance and achieving patient goals in the community (7).

In 2017, the Physiotherapy Hip Fracture Sprint Audit (PHFSA) (6), commissioned by the Chartered Society of Physiotherapy (CSP), was undertaken within the UK. This audit aimed to give hospitals and care teams the opportunity to improve their understanding of the patient's journey. From this audit, it was found that 30% of hospitals had no access to follow-up physiotherapy in care homes, which is at odds

with the hip fracture pathway recommendations from National Institute for Health and Care Excellence (NICE) (7).

At present, although qualitative research on patient perception on rehabilitation after hip fracture in the community has been undertaken, only systematic reviews of quantitative studies are available. A meta-synthesis was performed by Perry *et al* (2) however, this was focussing on perception of discharge from hospital, rather than rehabilitation after discharge from hospital after hip fracture. Similar studies have also evaluated the experiences of family members of patients following hip fracture and their perceptions (8) suggesting cognitive state can be a major factor in the caregiver's experience.

Therefore, the aim of this review was to understand and examine patients' perspective, views and experiences of rehabilitation which focuses primarily on physiotherapy in the community after hip fracture surgery. By synthesising this literature, this can provide key themes regarding patient experiences, which can be used to influence future service provision within hip fracture management after hospital discharge.

## **Methods**

A systematic literature search was undertaken using the following databases: PubMed, Cumulative Index Nursing & Allied Health Literature (CINAHL) and PEDro. Other sources of search included University Library Search facility and Google Scholar. Experts within the field of Orthopaedics were contacted for any relevant articles that they had been involved in. A manual search was also performed of all the reference lists from articles deemed appropriate for full text review. The review

protocol was registered prior to commencement of the study with PROSPERO, protocol no.: CRD42018095434. However, deviations from the protocol were required following piloting. These related to the study design of the articles best suited to address the aim of the study and its related quality assessment tool. Thus, qualitative designs (or qualitative studies as part of a larger trial) using the Critical Appraisal Skills Programme (CASP) tool to assess quality (15) were included in this synthesis. The review was conducted in accordance with the 'enhancing transparency in reporting the synthesis of qualitative research' (ENTREQ) guidelines (9) (Appendix A).

To facilitate rigour, the search was undertaken by the one reviewer (JB) and a subject librarian using the SPIDER tool (Sample, Phenomenon of Interest, Design, Evaluation, Research type) (Appendix B). This provided a standardised systematic search strategy for qualitative and mixed-methods research (10). For Google Scholar, a simplified search criteria was used in absence of an advanced search form. Search terms included: Physiotherapy, Physical Therapy, Rehabilitation, Hip Fracture, Interview, Case study, Qualitative, Patient view, Patient experience, Patient opinion, Participant. These search terms or database specific search terms (for example: MeSH, subject terms, subject headings, and CINAHL headings) or a combination of both were used. The Boolean operators "OR" and "AND" were used in various combinations. Articles were independently reviewed for eligibility (JB and GY). There were no disagreements.



## **Eligibility Criteria**

### **Inclusion criteria**

Studies were included if they were primarily based on hip fracture recovery, were qualitative or part qualitative. Articles published January 2007- September 2018 (completion date of the search) were included. The search used date limits due to changes within the models of hip fracture care in the UK and internationally (11, 12, 13, 14). The population was inclusive for adults over the age of 18. The specific patient group focused on all patients who had successful hip fracture fixation surgery following hip fracture. The type of hip fixation was not specified or restricted to one type, as the rehabilitation is standard for all types post routine surgery. All articles presented patients that had had routine post-operative rehabilitation.

### **Exclusion criteria**

Studies were excluded if not written in English, and if they were a quantitative study. Study proposals and abstracts were excluded as they were not complete or published at time of this review.

Titles and abstracts of articles were screened and those found not to be relevant to the research question were excluded. Duplicates were then excluded. Full text articles were reviewed and screened against the eligibility criteria and those not meeting the criteria were excluded (see Figure 1).

## **FIGURE 1 AROUND HERE**

### **Quality assessment**

The CASP tool for qualitative research, was used to assess the quality of each paper (15) (Table 1a). A list of the CASP tool questions used can be seen in table 1b.

### **Data extraction and synthesis of findings**

Once the articles had been retrieved, study characteristics including aims, methodology and data collection were retrieved and summarised (table 2). This was performed by the main author (JB). Inductive content thematic analysis, which goes beyond counting the frequency of words within the text by also exploring patterns and meanings within the data (16) was then undertaken independently by both authors (JB, GY). The authors agreed in their analysis and any differences were due to semantics, which were resolved through discussion. Content thematic analysis involved manually coding segments of the participant data within the articles that identified salient points relevant to the aim of the study. Recurring patterns across the codes were arranged into categories. In total 39 main categories were identified within the 10 articles reviewed. Conceptually similar categories were then grouped into sub-themes. The sub-themes were then grouped into three main themes (table 3). The frequency of these key themes across the studies was noted.

### **Results**

Based on the search strategy 10 studies and a total of 253 participants were included in the qualitative synthesis (3, 18-26) (see Figure 2). Seven of the 10 articles (3, 19-21, 23-25) addressed all 10 elements in the CASP tool and one study addressed 9 out of 10 elements (22) indicating the credibility of these studies (15) (Table 1a). Two studies addressed 6 out of 10 elements (18, 26), impacting their credibility.

One of the studies by Ziden *et al* (19) provided an initial study and then a follow-up study 1 year later (20). Whilst the studies were on the same patient group, both were included in the final 10 articles reviewed as their aims and findings were different (see table 2). Two out of the 10 studies were from in the UK, the other 8 being from Sweden, USA, Canada and Australia.

The recruitment of participants was from a variety of in-patient settings, who then became outpatients within the community. Other participants included, were those recruited from pre-existing studies. Five of these studies were part of a larger mixed-methods study (3, 18, 19, 21, 22). Within these five studies, the main focus was the quantitative phase, however, there was sufficient depth and detail in the qualitative element for these studies to be deemed suitable to be included.

All of the studies used individual interviews either over the phone or face to face. Four out of 10 studies used interview guides (18, 22-24) and the other 6 studies (3, 19-21, 25-26) used initial prompt questions then free open ended questions, to collect free dialogue from the participants.

The studies interviewed participants at varied times after hip fracture surgery. Four studies interviewed participants more than once (3, 19, 22-23). Six interviews took place less than 3 months after surgery (3, 19, 21-24), two interviews took place from 3-6 months (3, 23) and 6 interview sessions took place at 12 months post-operatively (18-20, 22-23, 26). One study did not specify the time of interviews but described them taking place at a convenient time to the patient or participant (25). Purposeful selection was described and used in six out of 10 studies (3, 19-20, 23-25). Young and Resnick (18) used convenience sampling in their study whilst Sims-Gould (22) recruited participants already selected via a randomised controlled trial as part of a larger study. Within this particular study that was part of a larger RCT, the patients

were also part of a specialist hip fracture rehabilitation programme. However, if it were communicated to the participants that they were part of a specialist rehabilitation programme, this may have influenced their perception of physiotherapy rehabilitation.

**TABLE 1 AROUND HERE**

**TABLE 2 AROUND HERE**

### **Content Thematic Analysis**

Three main themes were identified from the analysis of the findings of the articles included in this review (see table 3): Engaging in physical activity; Maintaining a positive perspective, and Support.

**TABLE 3 AROUND HERE**

### **Engaging in physical activity**

This theme was used to describe how patients interact and react when given post-operative exercises or instructions from the physiotherapist. It was difficult to establish a clear boundary between physical activity, function and mobility; hence they were grouped together as the first theme. Seven out of 10 articles portrayed engaging in physical activity as a main theme (3, 18, 20, 22, 24-26). Included within this theme were both positive and negative concepts of self-care, balance / weakness, engagement in activity, daily activities and recovery of function.

Sims-Gould *et al* (22) described the theme of mobility and a strong link to the patient having control over the recovery. The patients in this study reported a return to their pre-fracture function as a result of being motivated and having some self-determination when completing exercise or physiotherapy sessions. In contrast within the same study, one patient who did not see any functional change after months of rehabilitation, then expressed a negative feeling of discouragement and being dissatisfied with their recovery. Ziden *et al* (20) found similar feelings of negativity regarding mobility and progression of mobility with patients reporting requiring assistance to stand or mobilise.

Taylor *et al* (24) findings add to these feelings of negativity towards mobility, with participants highlighting reduced post-discharge mobility, with many not returning to previous activities such as gardening and shopping. This study also highlighted the important the role of family and the reliance they had on them in aiding their functional recovery. Four participants reported that they had changed their home circumstances and were now living with their daughter post discharge from hospital.

### **Maintaining a positive perspective**

This theme was used to describe a positive perspective both in terms of positivity and a lack of positivity and its impact on functional improvements within physiotherapy rehabilitation. This was a key theme in eight of the studies (18-20, 22-24, 25, 26) (Table 3). Positivity and maintaining a positive outlook were identified in six of the studies (18-20, 22-23, 25). However, within this theme there was a wide variation of the concept of positivity, which included motivation, fear, and having a new appreciation of how to maintain positivity.

Maintaining a positive outlook helped patients avoid, or block, negative feelings of disappointment or depressive thoughts (22). Patients were able to talk more openly of what motivated them to remain positive during their rehabilitation after discharge (26). The recognition that rehabilitation after hip fracture is, and can be a slow process, helped encourage patients to set their own realistic goals along with the therapists (22, 25). Spirituality and support from family and friends aided positivity and helped patients remain optimistic about the future with regards to their rehabilitation (18, 25).

In contrast, a lack of positivity about the future was identified in five studies (19, 20, 22-24). A general disengagement about their own recovery affected patients' positivity, as they perceived limited improvements after discharge due to a mismatch between patient goals and their expectations regarding hip fracture rehabilitation (19). A general frustration was due to the length of time that regaining their independence was taking (19, 24) and in one study, patients began to become less positive at the six month point after hip fracture (22). Insecurity about the future was mentioned in a variety of ways. McMillan *et al* (23) described that the patients were starting to regain confidence but also quoting the physiotherapists telling patients information such as "It's up to you now" and "if you don't do your exercises then you will not progress". Positivity did have an impact on patients' rehabilitation and was specifically linked to the patients' personal experience of their hip fracture rehabilitation (25).

## Support

This theme describes who and how patients were supported in continuing their physiotherapy advice and rehabilitation, and the impact if support was absent.

Although somewhat overlapping with positivity, there did seem a clear difference in support as an independent theme, which was identified in eight studies (3, 18-20, 22-25). Support that was present in the patient's home and therefore aided patient recovery was identified in three studies (23-25). Support was identified mostly by family that lived with the patient although some support was described as care staff that were not present prior to the patient's injury as part of their normal daily routine. Schiller *et al* (25) reported that support was greatly received by the patient however, that patients struggled with asking for help in the first place as they were aware of how much they wanted to retain their own independence. Non-face to face contact also provided patients with a feeling of security and safety in the form of follow-up phone calls (22). In contrast, patients demonstrated a sense of frustration and dependence when aware of the need to rely on others during their rehabilitation (23).

## Discussion

The aim of this review was to understand and examine patients' perspective, views and experiences of physiotherapy rehabilitation in the community after hip fracture surgery. Within this review, three key themes were identified as Engaging in physical activity; Maintaining a positive perspective, and Support. This review has found that mobility and function seemed to be the most dominant issue that was identified within the studies reviewed. Some participants seemed frustrated at their sudden lack of functional independence. Ziden *et al* (19) reported patients having feelings of

isolation, and a limited independence. Patients within this study felt insufficient in their own ability after hip fracture and did not feel that they could trust their body to function in the way it did prior to fracture. One patient was quoted as saying 'I keep thinking to myself, how long can I live here by myself'. Additionally, Taylor *et al* (24) findings suggest that pre-fracture mobility was linked to the reduced ability to mobilise after hip fracture once in the community, which could heighten feelings of isolation and loss of independence. Engaging older people in conversation about their own perceptions and fears is a crucial part of allowing them to take control. McMillan *et al* (23) reported this as having the need to have a 'healthy risk awareness'. A key role of any healthcare professional is the enhancement of self-efficiency in rehab post-hip fracture. It is linked however to patients having control of their future after hip fracture and that our role of therapists is to understand and have an awareness of how this control is taken and under what kind of conditions. Within the McMillan *et al* (23) study one patient mentioned 'The physiotherapist visited me for 3 weeks and then said it is up to you now'.

It is common for participants to misunderstand the recovery time after hip fracture (20). Participants recalled being told by surgeons that they may be 'back to normal' by six months, when in reality this may be much longer and that on occasions the complications from surgery that may occur have not been taken into account. The results from the study by Ziden and colleagues (20), highlighted the need for an increase in information sharing to patients. The study also demonstrated the need for an enhanced understanding of what patients' actually experience after hip fracture and discharge from hospital with regards to their rehabilitation. Within the national Hip Sprint Audit (6), it was reported that 10% of patients did not have a clear enough handover from the therapists on the ward to the community services. This alone



emphasises the importance of the links between communication and patient progression within rehabilitation in the community after hip fracture. As part of the holistic and multi-disciplinary approach to patient care, this could help identify the need to help other health professionals to answer questions regarding rehabilitation and improve communication within the patient pathway.

Schiller *et al* (25) concluded that patients had little hip fracture knowledge (i.e. available resources, expected recovery process). Because of this lack of knowledge, participants felt ill-equipped about the expected rate of recovery and indicated that perhaps a “recovery map” or checklist of indicators that provides a benchmark as to what should be happening (and when), would help their recovery. Tsui *et al* (27) also concluded that patients and their families should be more involved in creating educational material for patients after hip fracture to enhance their rehabilitation journey.

An interesting and overlooked factor that was documented in the study by Ziden *et al* (20) was the role of family members, after hip fracture and during the recovery phase. This was discussed by Toscan *et al* (21), and assumptions that family will take over once the patient was at home and that their family will adapt according to their needs was grossly unrealistic. However, Toscan *et al*'s study (21) was a single patient study and many factors could have introduced bias such as the patient having previous hip surgery and being a nurse by background.

Within the community, there is a visible reduction in medical support especially when compared to their experience as an inpatient where medical support is around the clock. Interestingly there was also some focus on the level of psychological support that could be factored in to future programmes of rehabilitation. Furthermore, psychological distress was evident in the study by Taylor *et al* (24), as such, this

should be discussed and incorporated more by therapists in the planning of rehabilitation for patients after hip fracture particularly in the community.

In this review, communication was a common thread across the three main themes which may impact the effective management of this population. Therefore, future research should investigate communication methods from inpatient to outpatient services and expansion of early discharge services from acute care to home.

Rehabilitation over a longer period of time would provide more positive reassurance to the patient and increased confidence regarding long term functional outcomes and goals.

### **Strengths and limitations**

Limited qualitative reviews have been undertaken in this area. This review addresses this gap by bringing together relevant qualitative research and the patient perspective around community therapy, which can be used to inform clinical practice in this area.

The timeframe used for the search strategy may have been a limitation and not including these limits may have revealed additional articles that may have been included in this review. However, as hip fracture rehabilitation has seen substantial changes in the last 10 years, this may present some confusion as to whether the findings link to current rehabilitation guidelines. Different countries will have differences in healthcare systems and this could impact the patients' rehabilitation perspective. Another potential limitation is that patient perception may be different at different points of the hip fracture rehabilitation journey. The timeframes within each article differed from on average 1 month to 12 months. However, one article (25) had

a time frame of 6 months to 8 years post-surgery which would provide different perspectives.

## **Conclusion**

This review examined patients' perspective, views and experiences of physiotherapy rehabilitation in the community after hip fracture surgery. Participants described three main messages that enabled recovery: engaging in physical activity, maintaining a positive perspective and seeking support. Furthermore, it cannot go unrecognised that communication was an important element within this. This information could be used to inform the development of rehabilitation services to hip fracture patients after hospital discharge to ensure the service meets patients' needs. Patient experience within qualitative research is useful to develop and work alongside community therapy services over longer time periods.

## **Conflicts of Interest**

No conflicts of interest were declared.

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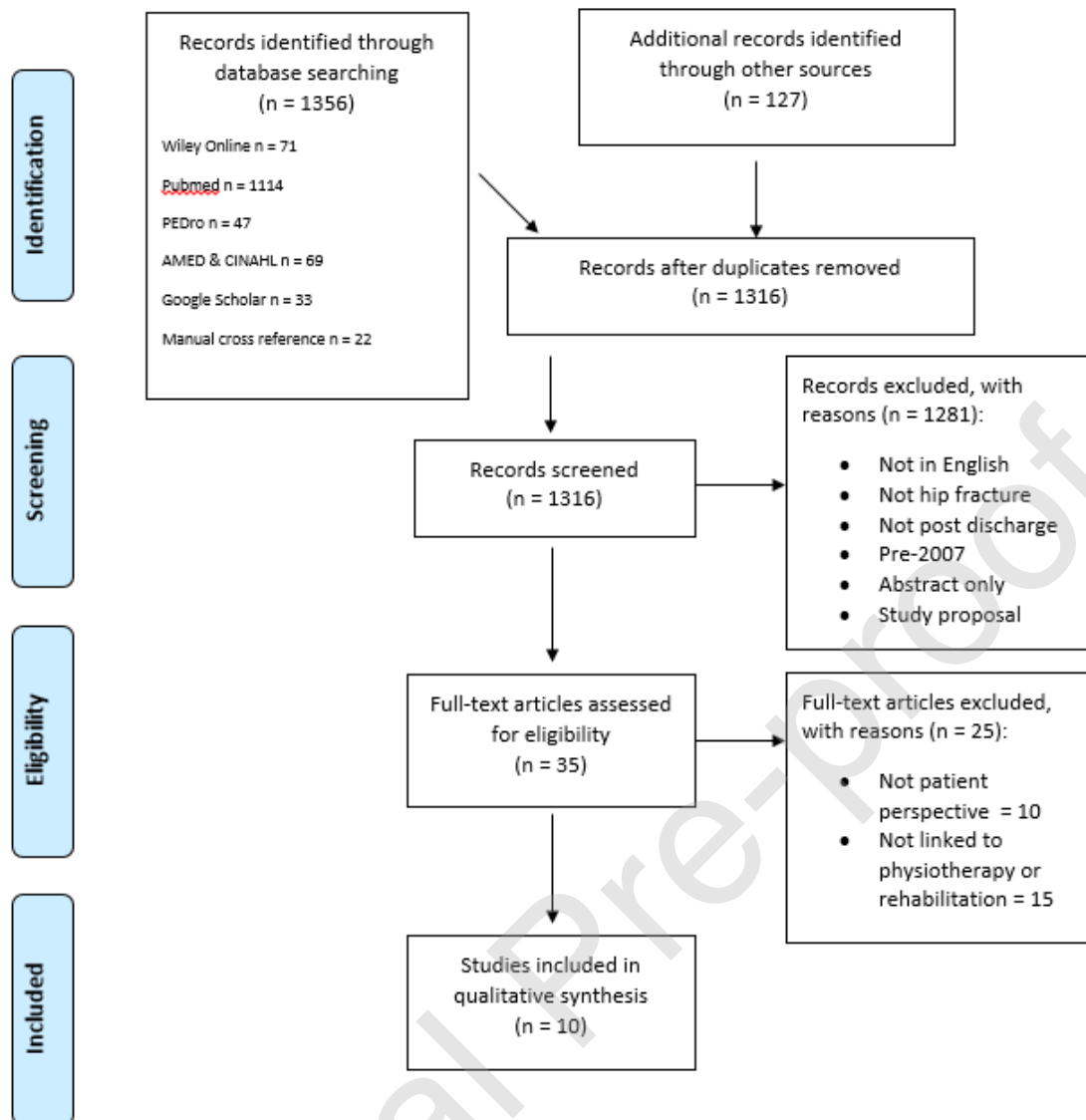


Figure 1. PRISMA (28) flow diagram showing phases of the systematic search

**Table 1a. Critical appraisal of study quality (CASP).**

Study	Aims	Method	Design	Sampling	Data collection	Reflexivity	Ethical	Data analysis	Findings	Value
Schiller <i>et al</i> (2015)	y	y	y	y	y	y	y	y	y	y
Sims-Gould <i>et al</i> (2017)	y	y	y	y	unsure	y	y	y	y	y
Griffiths <i>et al</i> (2015)	y	y	y	y	y	y	y	y	y	y
Young & Resnick (2009)	y	y	y	y	unsure	y	n	n	y	unsure
Ziden <i>et al</i> (2008)	y	y	y	y	y	y	y	y	y	y
Taylor <i>et al</i> (2010)	y	y	y	y	y	y	y	y	y	Y
Ziden <i>et al</i> (2010)	y	y	y	y	y	y	y	y	y	y
Gorman <i>et al</i> (2013)	y	y	y	y	y	unsure	y	n	unsure	unsure
Toscan <i>et al</i> (2013)	y	y	y	y	y	y	y	y	y	y
McMillan <i>et al</i> (2012)	y	y	y	y	y	y	y	y	y	y

**Table 1b. CASP tool questions**

1. Was there a clear statement of the aims of the research?
2. Is a qualitative methodology appropriate?
3. Was the research design appropriate to address the aims of the research?
4. Was the recruitment strategy appropriate to the aims of the research?
5. Was the data collected in a way that addressed the research issue?
6. Has the relationship between researcher and participants been adequately considered?
7. Have ethical issues been taken into consideration?
8. Was the data analysis sufficiently rigorous?
9. Is there a clear statement of findings?
10. How valuable is the research?



Table 2 - Summary of the 10 articles included in the review.

Author & Date of publication	Focus of study	Methodology	Participants	Data collection
Schiller <i>et al</i> <sup>19</sup> (2015)	Understand recovery phases after hip fracture from patient perception. To identify specific messages for future educational material.	Qualitative descriptive design Strength based focus Semi-structured interviews Purposeful sampling	19 participants 15 had hip fracture. 13 female 2 male  60+ years old	2 investigators 3 sessions of interview via phone call. 30-90mins in length Recorded by tape. No time restrictions. On average interviews were 2.5 years from hip fracture.
Sims-Gould <i>et al</i> <sup>16</sup> (2017)	To understand older adults engagement in recovery experience and rehabilitation after hip fracture.	Mixed methods approach (interventional and qualitative from which all participants were invited to take part in the qualitative arm of the study) Semi-structured interviews	50 participants 48 agreed to be interviewed, 45 agreed to be interviewed twice (3 declined or did not complete the interview). All were post hip fracture 32 female 18 male  65+ years old <b>Sub-study of RCT</b>	Over the phone interviews 20mins in length Interviewed twice at 6 and 12 months post hip fracture. Interview guide used.
McMillan <i>et al</i> <sup>17</sup> (2012)	Explore older people's concerns following surgery after hip fracture. To increase awareness of issues that may impact on recovery.	Grounded theory & constant comparative method. Purposeful sampling Theoretical sampling Semi structured interviews	19 participants All were post hip fracture 15 female 4 male  61-89 years old	Interview guide used Digital recorded and transcribed 34-70 mins in length Interviewed at 2 and 12 months post hip fracture.

Griffiths <i>et al</i> <sup>3</sup> (2015)	To explore what patients consider when evaluating recovery from hip fracture, and to consider how to use these in the future.	Semi-structured interviews Thematic and Phenomenological approach Purposeful sampling Cross case analysis	31 participants All were post fracture 21 patients were interviewed once, 10 were interviewed twice giving 31 participants and 41 interviews.  20 female 11 male  12 were cognitively impaired	Phone calls for invitation Interviewed at home 4 weeks and 4 months after hip fracture.
Young and Resnick <sup>12</sup> (2009)	Factors that facilitate functional recovery 1 year after hip fracture	Descriptive study Content analysis Convenience sampling	62 participants All were patients post hip fracture. 76% female 65+ years old <b>Part of longitudinal study</b>	Interview guide used Transcribed verbatim 2 clinicians transcribing Interviewed after 12 months as part of exit interview from longitudinal study.
Ziden <i>et al</i> <sup>13</sup> (2008)	Explore and describe experiences of hip fracture patients after discharge from hospital.	Purposeful selection from larger study cohort. Phenomenological approach Semi-structured interviews	18 participants All were following hip fracture surgery. 16 female 2 male 65-99 years old <b>Part of interventional study</b>	Interviews at patients home 1 month and 12 months post hip fracture. 37mins long on average Dialogue inter-subjectivity used 3 authors
Taylor <i>et al</i> <sup>18</sup> (2010)	Explore perceptions of people regarding	Semi-structured interviews Purposeful sampling	24 participants All were post hip fracture (12 in-patients	Interview guide used Audiotaped interviews

	mobility before and after hip fracture in the community	Phenomenological approach + Grounded theory	and 12 outpatients). 8 females and 4 males (inpatient sample) 9 females and 3 males (outpatient sample).	20-40 mins length 2 independent interviewers Interviewed at 4 weeks post hip fracture.
Ziden <i>et al</i> <sup>14</sup> (2010)	Explore conceptions of what influences hip fracture recovery (1 year study follow-up of previous study)	Semi-structured interviews Purposeful selection Phenomenological approach	15 participants All were post hip fracture 13 female 2 male	Audiotaped 3 authors 1 <sup>st</sup> author interviewed Transcribed verbatim Interviewed 12 months post hip fracture.
Gorman <i>et al</i> <sup>20</sup> (2013)	Identified perceived barriers, enablers and motivators to engaging in exercise after hip fracture.	Mixed methods design In-person cognitive interview	29 participants in qualitative arm of study. All were post hip fracture. Caregivers were invited to take part but does not state how many were interviewed. 60+ years old 22 (68.8%) female	Interviewed in own home Interviewed between 3-12 months post hip fracture
Toscan <i>et al</i> <sup>15</sup> (2013)	Explore experience of transitional care of a single hip patient	Ethnographic approach Semi-structured interviews Inductive approach	1 participant post hip fracture surgery who had been a nurse by background. <b>Study part of larger study</b> Other health professionals interviewed. Female	Interviewed multiple times. Initial interview was 3 weeks post-surgery. Recorded and transcribed. Also recorded memos on body language.

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Table 3: Key themes of study data

Author	Themes	Sub-theme	Category	Key Phrases (quotes by patients / participants)
Shiller <i>et al</i> (2015)	Support  Engaging in physical activity Maintaining a positive perspective	Seek support  Mobility/function  Preserve perspective	Ask others for help Ask key questions Identify peer support  Move more Engage in physiotherapy Be patient Be positive	People are very reluctant to say what they really need  Move as much as you can, when you can  Keep believing you can do it.
Sims-Gould <i>et al</i> (2017)	Support  Engaging in physical activity  Maintaining a positive perspective	Manage expectations  Staying active  Life after hip fracture	Not knowing what to expect  Ceasing exercise Disengagement in exercise Exercise important part of recovery  Return to pre-fracture life	The doctor said in 3 weeks I will be feeling fine, and I'm not. It's a bit depressing. When I don't do exercises, my hip hurts and I say to myself it serves you right, you're not doing your exercises  Because I wanted to – I was determined I would
McMillan <i>et al</i> (2012)	Support  Maintaining a positive perspective	Taking control	Going under  Keeping afloat  Gaining ground	I don't want to be totally dependant I don't want them (carers) – I will manage  First and foremost is to get my independence back – that's what I look forward to.
Griffiths <i>et al</i> (2015)	Engaging in physical activity  Support	Restrictions of mobility Walking more	Mobility Pain Leg shortening  Valued day to day activities Fear of falling Self-care Mental well-being	I just miss getting up and getting out.  The thing that is frustrating is I can't get outside

Young and Resnick (2009)	Support	Facilitators of recovery  System recommendations to facilitate recovery Peer advice to facilitate recovery	Professional care Social support and spirituality Determination Lifestyle factors and environment Identification of goals  More care/better care Spirituality/social support  Participate and listen to healthcare providers Be careful Relieve pain and work through pain	The help and support I got from my family and friends was essential  None within article identified  Keep on trying and never give up  Do your physical therapy even though it may hurt
	Engaging in physical activity  Maintaining a positive perspective	Factors that hinder recovery  Factors that facilitate recovery	Medical complications/co-morbidities Unpleasant sensations Engaging in regular exercise  Environment can facilitate physical activity  Determination and a positive attitude	Non within article identified  Be positive
Ziden <i>et al</i> (2008)	Support  Maintaining a positive perspective	In relation to body and self In relation to others In relation to life situations  Experience of ageing after hip fracture	Lost confidence Dependant on others Respect self and own needs Secluded and trapped Treated in friendly way Uncertain about the future Old and close to death Humble and grateful	I've got a perspective on life – I have learned to be grateful  I want to manage on my own, I don't like being dependant  I've reached that age now so I should watch out!

Taylor <i>et al</i> (2010)	Engaging in physical activity  Maintaining a positive perspective  Support	Reduced walking and mobility  Psychological factors	Walking reduced in community Walking reduced in home Physical – Pain, balance and weakness Attitudes Social & environmental – Reliance on daughter	I wouldn't even attempt walking outside, I feel a bit like a prisoner  My daughter – she has taken over the shopping, the works!
Ziden <i>et al</i> (2010)	Engaging in physical activity  Support  Maintaining a positive perspective		Limited ability to move Consequences of hip fracture  Isolated life More secure and afraid  Life had changed Satisfied with situation	I've learnt to be careful  I'm more housebound, I've become more of a recluse I suppose.  I'm just grateful if everything goes the way it should, then I can be content.
Gorman <i>et al</i> (2013)	Maintaining a positive perspective  Engaging in physical activity	Intrinsic factors  Recovery of function Good health	Determination Seeing improvements  Making activity daily routine Return of function Complete daily activities	I need to be able to walk alone  I want to be able to walk to church and see my friends.
Toscan <i>et al</i> (2013)		Missing crucial conversations Who's who – role of healthcare professionals Ready or not – what to expect Playing by the rules, policies that hinder		I think one of the biggest problems right now is that there is pressure to have people discharged quickly. There may not be always services available for them when they go home.