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# **Hip fracture; an interruption that has consequences four months later. A qualitative study.**

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## **ABSTRACT**

**Background:** Effects following a hip fracture often lead to functional disabilities and increased dependence on others. Although persons sustaining a hip fracture constitute a heterogeneous group in Swedish health care they tend to be treated as a homogenous one.

**Aim:** The aim of this study was to reveal how previously healthy people, aged 65 years and older, described how they had adapted to daily life four months after a hip fracture.

**Method:** The follow-up interviews were performed by the first author four months after the hip fracture. Data were analysed using conventional inductive content analysis.

**Findings:** The results from the interviews highlights that sustaining a hip fracture—even four months later— was seen by the participants as an interruption leading to lasting consequences for everyday life. The recovery process during this period was complex and consisted of both physical and psychological strain. Some were resigned, some strived in order to regain independence and some handled the situation by means of self-confidence and self-efficacy.

**Conclusion:** Previous healthy and independently-living participants described, in different ways that the hip fracture was an interruption that still affected everyday life. The absence of psychological support may be one of the reasons for dependency after four months.

**Keywords:** Content analysis, Healthy individuals, Hip fractures, Patients personal experiences, Recovery of function

## **INTRODUCTION**

Sustaining a hip fracture is a sudden traumatic event, threatening many aspects of the patient's life due to the effects of functional disability. The reduced mobility often causes increased dependence on others (Magaziner et al., 2000; Pasco et al., 2005). Approximately 17 500 adults sustain a hip fracture annually in Sweden. Data from the Swedish hip fracture register show that 37% of these individuals lived an independent life at the time of the fracture (Hommel and Bååth, 2015). Restricted mobility has an impact on everyday activities, which in turn affects the patient's emotional state and often results in a loss of confidence. This puts patients at a high risk of becoming permanently disabled and dependent, even after a successful operation (Pasco et al., 2005). There are few studies on why some individuals and patient subgroups recover after sustaining a hip fracture and others do not (Beaupre et al., 2013; Griffiths et al., 2015).

## **BACKGROUND**

Studies have shown that factors affecting the outcomes of a hip fracture are dominated by a functional restorative focus (Liem et al., 2014; Sherrington et al., 2016). Psychosocial factors have effects on recovery but have not attracted much attention in health care (Healee et al., 2011). Mobility problems and impaired physical function may affect mental well-being after a hip fracture and lead to reduced ability to participate in social activities. This may result in long-lasting consequences for up to one year and beyond the fracture (Beaupre et al., 2013; Pasco et al., 2005; Zidén et al., 2010). Safe mobility without falls and the fear of falling have been identified as the most important factors in coping with personal care and day-to-day activities in the recovery phase following a hip fracture (Griffiths et al., 2015). In a previous study elderly people described the consequences as being more insecure, anxious and afraid of falling, resulting in more limited mobility (Zidén et al., 2010).

This study is the second study of two. The first study was conducted during the acute phase of care in an acute hospital context where patients described a personal transition in the first few days following hip fracture surgery. From being convinced of recovery at admission, there was a change to uncertainty and doubt about their capacity to regain pre-fracture function. Patients described feeling that they were in a new situation, with or without control. They vacillated between fear and hope regarding whether and how they would recover and return to an independent life. This transition occurred as they adapted to the routines in the acute hospital setting and became passive (Gesar et al., 2017). Findings in previous research

show that switching from living an independent life to being dependent on others is a challenge that could be regarded as a life transition (Gabrielsson- Jarhult and Nilsen, 2016). For older people, it may take strenuous effort to cope with and adapt to this life-changing situation, mainly regarding decisions upon which they have limited influence (Janlov et al., 2006). Adapting to health care routines influences a person's sense of identity, autonomy and dignity (Gesar et al., 2017; Janlov et al., 2006). The recovery following hip fracture surgery is complex. Because 37% of previously healthy patients do not recover to their pre-hip fracture function, it is important to integrate the patients' perspective into the healthcare process. Obtaining knowledge about the recovery process is essential for healthcare decision-making. To our knowledge, no previous interview studies have followed up the same participants twice. Therefore, patients interviewed at the acute phase (Gesar et al., 2017) were interviewed again four months later.

The aim of this study was to reveal how previously healthy people, aged 65 years and older, describe how they have adapted to daily life, four months after a hip fracture.

## **METHOD**

### **Design**

The study had an explorative, qualitative, follow up design.

### **Data collection**

#### *Sampling*

Study participants were originally recruited following hip fracture surgery in three Swedish hospitals where the first interview took place (Gesar et al., 2017). They were initially considered eligible for inclusion if they lived an independent life before the fracture, were aged 65 years and older, were previously healthy (none or mild systematic disease), had no cognitive impairment and were able to speak and understand Swedish. Out of these 30 participants, 25 agreed to participate in this follow up study (22 women and three men). Seventeen were aged 80 years and older. At four months after surgery, 14 reported reduced mobility, self-care, reduced activities, dependency and no outdoor activities. Three participants had moved into a nursing home. According to participants' preferences, the interviews were performed in their homes ( $n = 24$ ) and at a café ( $n = 1$ ).

### *Procedure*

The follow-up interviews were performed in Swedish by the first author (BG) four months after the hip fracture, between December 2013 and April 2014. A semi-structured interview guide was used. The participants were contacted by telephone by the first author and agreed to make an appointment for an interview. The interviews took the form of a dialogue including follow-up questions aimed to elicit more detailed responses. They lasted between 38 and 63 minutes and were recorded and transcribed verbatim. The interview guide included the following questions: 'Please tell me something about how you feel today', 'please tell me something about your expectations for the future' and 'please tell me something about what you think about your possibilities to recover and become rehabilitated to everyday life as it was before the hip fracture surgery'. Field notes were written after each interview to develop a complete understanding of the context.

### *Data analysis*

As no pre-existing theory was apparent, data were analysed using conventional inductive content analysis inspired by Hsieh and Shannon (2005). This method is appropriate when existing theory on a phenomenon is limited. Researchers unitised and organised data into categories. Names for the categories should flow from the data and describe findings in a way that makes them explicit (Hsieh & Shannon, 2005). The analysis consisted of the following steps:

- All transcripts were checked for accuracy and read repeatedly to obtain a sense of the whole..
- Each transcript was read (in Swedish) to capture key thoughts and concepts in relation to the aim of the study. Thoughts were written down using the data notes created from the first impression of the interview. An initial analysis highlighted words or statements.
- The texts were broken down into meaningful units related to each other and to the aim of this study.
- Preliminary labels for codes and subcategories were created by the first author (BG) and were organised and grouped, based on similarities and differences, into a hierarchical structure.

- After initial coding of 15 transcripts by the first author (BG), all authors (BG, AH, CB and HH) reviewed and discussed the preliminary labels of codes and categories.
- The remaining transcripts were coded by the first author (BG). When new labels of codes were discovered, they were combined into an existing subcategory. Some of them were renamed because of abstraction. Subcategories were added to the sheet when data did not fit into an existing one. A large number of subcategories were combined and abstracted.
- To address trustworthiness, the whole research group reviewed the labels of codes and subcategories in several meetings. All 25 transcripts were coded, reviewed and cross-examined until no inconsistencies existed in the research group. This procedure was intended to enhance credibility and conformability (Lincoln and Guba, 1985).
- Finally, four subcategories and one category were generated in order to give general descriptions of the content of the written material (Fig.1). Selected quotations, codes, subcategories and the category were translated from Swedish to English before writing the manuscript for submission.

### *Ethical considerations*

All participants were given oral and written information regarding both the interview at hospital and the planned follow-up interview. Written informed consent was obtained at the hospital four months prior to the current study, in connection with the first interview (see Gesar et al., 2017). Four months after the first interview, participants were contacted by telephone. They were again informed of the purpose of the study, that participation was voluntary and that they could withdraw at any time without explanation. Confidentiality was assured. The study was approved by the Regional Ethical Board in Lund, Sweden (dnr 2013/320) and performed in accordance with the Declaration of Helsinki (WMA,2013).

## **FINDINGS**

The overarching category highlights that sustaining a hip fracture—even four months later—was seen by the participants as an interruption leading to lasting consequences for everyday life. The analysis revealed four subcategories describing how people aged 65 years and over adapted to daily life four months after a hip fracture (Fig.1). The category and the four

subcategories are described in the following section. The abstraction describes different personal approaches used to adapt to and cope with life four months after hip fracture surgery. Quotations are used to present and describe the findings.

Insert figure 1 about here

### *Hip fracture: an interruption that has consequences for everyday life*

The interruption that has consequences on everyday life refers to participants describing that they felt mixed-up and irresolute. Personal capability to put things in order was significant to the participants. Concerns changed between regarding decreased function as a natural part of the ageing process and acceptance of the situation, or struggling and fighting for future independence. The physical effect of the hip fracture impacted patients psychologically and as a consequence, the psychological effects influenced their physical recovery. This affected personal behaviour and everyday personal life in different ways. Participants described being forced to have patience and striving for independence, or being prepared to accept personal changes and to re-evaluate and adapt to everyday chores.

### *The hip fracture impinges on physical recovery*

Four months after the hip fracture, participants still described physical hindrances as reduced mobility, reduced leg strength and weakness, poor balance and sense of fatigue. These constraints resulted in a less active life, requiring thorough planning prior to physical activities. This need for effort led to less spontaneous activities and more indoor activities:

“...I do not have enough energy. Neither do I rely on my capacity anymore because I feel unsteady. I do not think I can trust this leg yet. I have to take it well balanced, not fast moving. I am not as cocky as before, nothing could stop me then. Now I have to prepare everything very carefully but it seldom turns out as I planned...” (Woman, 96 years)

### *Uncertainty in physical activities has psychological effects*

The long-lasting insecurity about walking properly and the fear of falling again, acting in opposition to the motivation to remain independent, was a real challenge for some



participants. The need to adapt to their impaired mobility was described as having an inhibitory effect. They had to adjust their daily activities to a slower rate due to their insecurity regarding their physical abilities. This resulted in the participants becoming more hesitant in taking initiative to perform physical activities. As a consequence of this immobility, everyday life had become isolated. Their lack of energy caused participants to abstain from inviting people to their home or to visit neighbours and friends. The suppressing, unstable condition, alongside the attempt of fighting to regain independence, threatened their self-determination and thus contributed to loneliness, which became very evident and affected everyday life:

“...Now, I am not as active as I used to be. I am now much more afraid of falling again. I am at zero now and have to push myself. I do not walk outdoors like I used to do. No spontaneous activities because everything has to be carefully prepared ...” (Woman, 89 years).

*Being at a point of decision: to continue fighting for independence or to give up*

Four months after the hip fracture, the participants were aware that recovery would take longer than expected. It had become necessary to have patience and to fight to regain independence in the future. Participants described this period as one of struggling to maintain the feeling that recovery was progressing. It had become important to consider the most essential matters in life. At this stage, everyday chores took time and they wanted to change this. Some participants expressed a lack of strength to take initiative in several areas of life. The hip fracture had affected their life situation as a whole, both in areas of greater and of lesser importance. Concerns about whether to surrender to dependence or to fight for keeping up their mood were crucial for not losing personal control. To not regain independence in the future was experienced as a possible threat. Participants expressed that, four months after the hip fracture, they had lost the ability and inspiration to participate in social activities. A firm conviction was not to trouble next-of-kin. This was certainly one reason why some of them had home health care or were living in a nursing home, even four months after the hip fracture. This boosted their feeling of resignation:

“...The feeling of not being able to keep things up as before suppresses me. I thought it would go faster. I have always tackled myself out of battles

successfully. I am now forced to have patience. I have to put up with some disabilities but I hope gradually to recover. I will not be in a great hurry about it because I am an old person. It is rare, if ever, that I think about the future. If it remains this way...well, there are several people in this situation..." (Man, 83 years).

*To generate a strong driving force and determination is the basis for recovery after an operation*

The current situation was expressed as contrasting to the past. Some participants had adjusted their daily activities to a slower rate. They described that the essentials for regaining self-esteem and self-confidence included managing everyday chores by themselves at a time chosen by them. Different psychological strategies were used for recovering and for coping with the long recovery time. Some participants planned both for the immediate future as well as with a longer perspective. Some had already participated in activities that had been planned before the hip fracture. Being able to fulfil these activities or to travel as previously planned strengthened their self-esteem. Plans usually involved next-of-kin to whom they felt responsibilities. Some participants expressed maintained self-esteem, either with or without social support. They were motivated to perform physical activities by taking small steps towards their goals. Success in regaining previous function was expressed as a task that was completely up to them:

"...I have internal power to become as I was before. I am a realist and I am healthy, without comorbidities that could have made it more complicated. Neither am I confused. What matters is to have the ability to put things in order. I have an independent nature and decide on everyday tasks on my own. I am persistent, goal-oriented. Now I use just one crutch. I am so grateful things have gone so well..." (Woman, 83 years).

## **DISCUSSION**

This follow-up study revealed that hip fractures still had consequences for everyday life four months after the fracture. Patients' expectations during this period of four months changed. Initially, in the acute hospital, they were convinced to regain previous functions and everyday life (Gesar et al., 2017). Four months later the accident had affected personal ego in physical,

psychological and social aspects. Still, they were well aware that maintaining a strong driving force and determination was important for recovery. To deal with this was completely their own responsibility.

These previously healthy people found the recovery process during this four months period complex and it consisted of both physical and psychological strain. The changes observed over time reveal that an absence of psychological support may be one of the reasons for dependency after four months. Findings in this study are consistent with previous studies conducted on groups, consisting of not only healthy individuals, dealing with the interdependency between physical functions and emotional health and their effects on everyday life (Snowden et al., 2014; Taylor et al., 2010; Zidén et al., 2010) The negative consequences of a hip fracture can be long-lasting (Dyer et al., 2016; Taylor et al., 2010; Zidén et al., 2010). One year after the hip fracture, insecurity remained that resulted in a more restricted and isolated everyday life compared to before the fracture. Participants' optimism during inpatient rehabilitation changed to pessimism after returning home (Taylor et al., 2010). Impaired mobility, health, quality of life and self-rated independence after a hip fracture could last for two years when compared to age-matched controls. The bulk of functional recovery occurred within 6 months after the hip fracture (Dyer et al., 2016)).

The participants' uncertainty of regaining pre-fracture function in the acute phase (Gesar et al., 2017) had been tackled in different ways four months later. Those who had adopted passive strategies made no decisions of their own and did not plan for the future. Home care aides and next-of-kin decided what the participant was capable of and the time for certain activities. Thus, affected by impaired mobility and psychological restraints, their life situation had changed. The life transition that had occurred within a period of four months had caused previously healthy people to consider surrendering. Others struggled with efforts to regain independence. Some participants were fully convinced about their ability to regain pre-fracture functions. Even for this previously healthy population, the recovery process was a challenge. In several previous studies, people with hip fractures are generalised as frail, disabled and comorbid. This is seen as a reason for being sensitive to complications, comorbidities and declined function and mortality after the hip fracture (Johnell and Kanis, 2006; Crotty et al., 2010; Liem et al., 2014). Although the individuals examined in this study were all previously healthy, the group was still heterogeneous.

Concerns about being forced into a life transition were expressed by some participants. The functional decline four months after the hip fracture seemed to threaten previously healthy people's independence and could potentially force them into a life transition. If

function were to decline further, dependence may also increase. Some participants described that the declined function was a result of ageing and could not be changed. Those participants who vacillated may have been at a crucial time that could incorporate gradual disengagement from old behaviours. Transition is a concept that involves reorientation and adaptive activities to manage changes over time that may affect self-identity (Kralik et al., 2006). Self-identity and transition seem to be closely linked. Understanding the threat of the transition process could support people to move through their temporarily decreased function. It seems they need to be coached to strengthen their dignity, self-confidence, self-esteem, self-determination and perceived control.

Participants in this study, who had the potential to recover, described the hip fracture as an accident. The hip fracture is a temporary condition, which differs to a chronic disease for which there is no cure. Consistent with another study, participants expressed that strong determination was required for having good potential for recovery (Zidén et al., 2010). They had developed a strategy using self-determined sub-targets. Four months after the hip fracture, some of them had participated in activities that were planned before the hip fracture, such as visiting friends and travelling by car or by air. This strengthened their self-esteem and self-efficacy. These people emphasised that self-determination, a positive attitude and social support played significant roles in their ability to initiate and maintain physical activity. Self-efficacy is a central psychological construct in social cognitive theory, described as the personal belief in one's ability to carry out a specific behaviour (Bandura, 1997). Personal emphasis factors were described as their own determination to walk again, mental attitude, willingness to learn and improve and determination never to give up. Goals also facilitated recovery, such as moving back home, regaining independence and being able to walk again. Challenges and unpleasant sensations such as pain or medical complications hindered recovery (Young and Resnick, 2009).

Components of person-centred, holistic nursing care may have a mediating role in long-term functional outcomes. During the four months of recovery, participants in this study seemed to lack psychological support. Fundamentals of care include the physical, psychosocial and relational dimensions, which should be embedded in the way of thinking, reflecting and estimating by nurses (Kitson et al., 2014). Patients cared for in trauma units expect and understand that care focuses on physical tasks rather than psychological care (Elmqvist et al., 2012), which may lead to a lack of psychological support (Nyström, 2002). Such support could be undertaken when patients are discharged from hospital by incorporating follow-up calls. Establishing a trusting relationship between the individual and

the nursing team in the hospital would ensure consistency to support mutual goals in self-care assessment (Kitson et al., 2014).

Fundamentals of care between nurses and participants in this study could strengthen personal dignity (Baillie, 2009), self-confidence, self-esteem, self-determination (Taylor et al., 2010) and perceived control (Bandura, 1997; Shaw et al., 2003). This could be due to the fact that hip fracture care includes the entire continuum of care (Hommel and Bååth, 2015). Findings in this study raise concerns regarding the preparation of nurses and participants to deal with psychological care issues. Successful collaboration between nurses, physicians and physiotherapists, through a holistic perspective, may optimise patients' abilities to recover to pre-fracture functions.

The professional purpose of recovery is to restore patients to their previous physical, mental and social capabilities after a hip fracture. Findings in this study reveal both physical and psychological challenges in optimising the recovery process after a hip fracture. When demands overwhelm an individual's subjective perception of their resources, they will be less eager to act. Further research on whether physical and psychosocial interactions affect recovery after a hip fracture may contribute important findings to the optimisation of the recovery process. This may provide a framework for person-centred care by establishing and maintaining relationships with the purpose of strengthening self-efficacy. Person-centredness describes a standard of care that places people at the centre by moving away from fragmented, medically-dominated care towards care that is relationship-focused, holistic and collaborative (McCance et al., 2011).

### **Strengths and limitations**

The trustworthiness of studies with a qualitative design can be debated, in terms of their dependability, conformability, credibility and transferability (Lincoln and Guba, 1985). In order to ensure dependability, all interviews were conducted by the first author. This can be seen both as strength and a limitation. Conformability refers to the objectivity of the researcher. The participants knew the interviewer from the first round of interviews, which may have increased their confidence in the situation. The same questions were used in each interview in order to ensure that they covered the same areas. Despite using the convenience sampling procedure (Gesar et al., 2017), saturation was reached as no new subcategories reflecting the study aim could be developed from the texts. Conformability and credibility was enhanced through the data analysis conducted by investigator triangulation, independent

coding and analysis by all the researchers. By providing a clear description of the context, selection and characteristics of the participants, the authors have helped the readers to appraise this study's transferability to similar contexts (Hsieh and Shannon, 2005; Polit and Beck, 2014).

## **Conclusion**

This follow-up study highlights that the recovery phase after a hip fracture is multifactorial. Previously healthy and independently-living participants described, in different ways, that the hip fracture was an interruption that still affected everyday life. It was described that physical impairments had psychological effects, and that psychological factors had physical impacts. Some of these previously healthy people had given up, some fought for independence and some handled the situation by means of self-esteem and power. Generating a strong driving force and determination was seen as important for recovery.

Psychological and psychosocial support is of utmost importance from the time of the hip fracture throughout the rehabilitation period in order to regain pre-fracture function and independence. Findings in this study are of clinical importance since the perspectives of the individuals may complement standardised health professional evaluation. Nursing care and person-centred care may have a mediating role in long-term functional outcomes in hip fracture recovery. This study shows that person-related factors may fill a gap in this field.

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Sub Categories	Category
The hip fracture impinges on physical recovery	Hip Fracture, an interruption that has consequences for everyday life.
Uncertainty in physical activities has psychological effects	
Being at a point of decision: to continue fighting for independence or to give up	
To generate a strong driving force and determination is the basis for recovery after an operation	

**Figure 1.** Subcategories and the category revealed during the analysis