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Author(s): Jäppinen, Anna-Maija; Muñoz, Minna; Kettunen, Tarja; Piirainen, Arja

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RESEARCH ARTICLE

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Patients' narratives of patient education in physiotherapy after total hip arthroplasty

Anna-Maija Jäppinen^{1,2} | Minna Muñoz^{1,4} | Tarja Kettunen^{1,3} | Arja Piirainen¹¹Faculty of Sport and Health Sciences, University of Jyväskylä, Jyväskylä, Finland²Department of Internal Medicine and Rehabilitation, Helsinki University Hospital, Helsinki, Finland³Unit of Primary Health Care, Central Finland Health Care District, Jyväskylä, Finland⁴Validia Rehabilitation, Helsinki, Finland**Correspondence**Anna-Maija Jäppinen, Faculty of Sport and Health Sciences, University of Jyväskylä, Jyväskylä, Finland, Department of Internal Medicine and Rehabilitation, Helsinki University Hospital, Helsinki, Finland
Email: anna-maija.jappinen@welho.com**Abstract****Objective:** The aim of this study was to explore patients' narratives of patient education in physiotherapy after a total hip arthroplasty (THA).**Method:** The data was collected via open thematic interviews from ten patients who had had a primary THA. The interviews were analysed using a qualitative, narrative method.**Results:** Three story models of patient education in physiotherapy were identified: Supportive patient education in physiotherapy, Co-operative patient education in physiotherapy and Contradictory patient education in physiotherapy. The emphasis of narration in the first story model was on the trust in the guidance, functioning interaction in the second and insufficient patient education in physiotherapy in the third story model.**Discussion:** According to the results of this study, patients with THA experience functioning interaction and trust in the patient education in physiotherapy as enhancing the rehabilitation process. Conversely insufficient patient education about exercising and follow-up physiotherapy made the patients feel insecure and according to them might have slowed down the rehabilitation process. These findings can be utilized in planning and improving patient education in physiotherapy after THA.**KEYWORDS**

patients' narratives, postoperative patient education in physiotherapy, total hip arthroplasty

1 | INTRODUCTION

Osteoarthritis is a common joint disease and it has been estimated that 10% of men and 18% of women aged over 60 years have symptomatic osteoarthritis (World Health Organization, 2019). Age is the strongest predictor of the development of osteoarthritis (The Organisation for Economic Co-operation and Development/The European Union, 2016) and as the population of the world grows older and medical advances lengthen life expectancy, osteoarthritis will become a larger health problem (Ehrlich, 2003). Total hip arthroplasty (THA) is

a widely accepted treatment for osteoarthritis, aiming to reduce pain, facilitate moving (Tsukagoshi, Tateuchi, Fukumoto, Okumura, & Ichihashi, 2012) and enhance functional ability and quality of life (Di Monaco, Vallerio, Tappero, & Cavanna, 2009). In Finland, over 9,000 primary hip arthroplasties and over 1,500 reoperations are performed every year (Tilastoraportti 2/2018/Statistical report 2/2018 [2019]). The length of stay in hospital (LOS) has decreased over time (Cram et al., 2011; Pamilo et al., 2013) and multidisciplinary fast-track protocols can even more shorten hospital stay (Raphael, Jaeger, & van Vlymen, 2011; Stambough, Nunley, Curry, Steger-May, & Clohisy,

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2015). The short hospital stay challenges patient education in physiotherapy.

Patient education is a part of effective physiotherapy practice offering professional knowledge and helping patients to apply information in daily living (Falvo, 2011; Frerichs, Kaltenbacher, van de Leur, & Dean, 2012; Reynolds, 2005; Trede, 2000). The goal of patient education in physiotherapy is to enhance the recovery process: to stimulate the patient's physical functioning, activities and level of participation (Vogels et al., 2003). The education content should be useful for patients and focused on their problems and situation (Kidd, Bond, & Bell, 2010). Coping at home is a part of the recovery process. Coping is defined as constantly changing efforts to manage specific external and/or internal demands that are appraised as exceeding the resources of the person (Lazarus & Folkman, 1984, p. 141). Patients should be actively helped in developing coping strategies (Lazarus & Folkman, 1984, p. 141), for example, in patient education situations in physiotherapy. Patients with osteoarthritis have to manage with the changing movement ability, joint stiffness and pain. In coping, patients used different ways to minimize symptoms; relief movements and positions, awareness of own abilities and restrictions, for example. After THA, a key coping method was finding balance between activity and rest. Patients' attitudes, especially a sense of humour played an important role, as well as setting one's own small goals in recovery. (Strickland et al., 2018)

According to the earlier studies, patients with THA gave importance in patient education in physiotherapy to gain knowledge about the rehabilitation process, functional recovery, recommended and prohibited physical activity, and follow-up rehabilitation (Heine, Koch, & Goldien, 2004; Johansson, Hupli, & Salanterä, 2002; Soever et al., 2010). Receiving consistent information had a strong impact on the feeling of security and safety (Heine et al., 2004). Patients had difficulties arranging physiotherapy after hospital discharge (Webster et al., 2014), or they were unsure of whether they would be able to have follow-up physiotherapy (Soever et al., 2010). Arranged follow-up rehabilitation during the hospital stay provided patients with a sense of security and safety (Heine et al., 2004). However, patient education in physiotherapy after THA, aiming to teach and prepare the patient for self-directed home exercises, had similar effects as individual physiotherapy or group physiotherapy after discharge (Austin et al., 2017; Coulter, Perriman, Neeman, Smith, & Scarvell, 2016; Galea et al., 2008). According to those results, follow-up physiotherapy in group, or individual, is not a necessity to everybody.

From the patient's perspective, good communication skills are one of the main qualities of a good physiotherapist (Dreeben, 2010; Grotle et al., 2010; Hills & Kitchen, 2007; May, 2001; Potter, Gordon, & Hamer, 2003). Even though physiotherapists had good communication skills and patients with THA received written information at an appropriate time, restricted patient education opportunities limited their knowledge and understanding of recovery (Fielden, Scott, & Horne, 2003). Some patients do not recover as expected, and pain and functional problems may exist (Bertocci et al., 2004; Frost, 2004). According to patients' experiences, patients were disappointed at the length of recovery period after THA and they had difficulties to

perform some daily activities (McHugh & Luker, 2012). The authors stated that patients were not adequately informed about the recovery period and some of the patients had unrealistic expectations.

However, little consideration has been given to understanding patients' perspective on patient education in physiotherapy after THA. It is an important issue, because there is a variation in opportunity for patient education in physiotherapy, and post-operative physiotherapy after the hospital phase was not common practice in the area, where this study took place. And previous studies have found out that patient education have similar effects than physiotherapy after discharge (Austin et al., 2017; Coulter et al., 2016; Galea et al., 2008). The aim of this study was to explore patient education in physiotherapy after THA from patients' perspective at two timepoints and how experiences change? What were patients' story models of patient education in physiotherapy after THA?

2 | STUDY DESIGN AND METHOD

This study is a part of a wider research project, which explores patient education in physiotherapy. Patients had pre-operative education visit before operation, and after THA, individual physiotherapy and education were completed at least once a week during the hospital period. The aim of discharge was on the third post-operative day, and the follow-up for physiotherapy was not arranged and patients were supposed to practise by themselves. Post-operative control with the orthopaedist was after 2 months. Patient education in total hip arthroplasty is the issue in this case, and this sub-study explored the post-operative part of patients' pathway. Other sub-studies have explored pre-operative and perioperative parts (Jäppinen, Hämäläinen, Kettunen, & Piirainen, 2015, 2017).

The research method of this study is a qualitative narrative approach. This method was chosen because it emphasizes an interest in people's lived experiences in the process and how they change over time (Elliot, 2005, p. 6). In this case, how patients' experiences in hospital changed when they were at home. The narrative method can be understood as constructing a story of the world (Hyvärinen, 2008; Lieblich, Tuval-Mashiach, & Zilber, 1988, p. 7, 26). Narrative research focuses on the way in which people give meaning to things through their stories. The attention is on people's authentic stories (Lieblich et al., 1988, p. 7, 26), keeping in mind that narrative represents experience (Bold, 2013, p. 18).

2.1 | Ethical issues

Ethical approval (Dnumber 323/13/03/02/2009) for the study was acquired from the Ethical Committee, and the Department of Surgery approved this study. Participants provided informed written consent and participation was voluntary. Before the surgery, the participants were informed about the aims and the meaning of the study, both orally and in writing. Participants knew they could withdraw from the study at any point. The anonymity of the participants was ensured.

Good ethical principles (World Medical Association, 2008) were applied in this study.

2.2 | Participants

The clinical team contacted patients whose hip arthroplasty was on the weekly operation list via telephone. The number of participants ($n = 10$) was decided beforehand by the research team to analyse qualitative data. Participants were selected according to the following criteria: (a) Age between ≥ 60 and ≤ 80 years; (b) Finnish-speaking; (c) undergoing a first THA in a Southern Finnish hospital. The first 15 people on the list were contacted and 10 of them agreed to

participate in the study. Participants' demographic data are described in Table 1.

2.3 | Data collection

The data were collected via individual interviews in 2010. Patients, in this sub-study, were interviewed in the hospital on the third post-operative day and at their homes, 3–5 weeks after THA. In the hospital, interviews took place in a quiet room, and at home, patients were alone or with their spouses. The research team was responsible for the study design and guided interviews. Higher education students ($n = 5$) conducted the interviews. There were 2–3 interviewers in the place, one interviewed and the others set supplementary questions in the end, if needed. The key interview themes were patient education in physiotherapy, interaction, coping at home and the rehabilitation process. Nineteen interviews were conducted (one patient was interviewed only at home, because of unexpected early discharge). Interviews were tape-recorded, duration varied from 14 to 23 min in the hospital, and 21–58 min at home. The data amounted to 8 hr 46 min, transcribed verbatim into 122 pages.

TABLE 1 Participants' demographic data

Patient (sex f/m)	Age (years)	Current situation
A (f)	65	Retired, lives with her spouse
B (f)	63	Works outside home, lives with her spouse
C (f)	79	Works as a caregiver and lives with her spouse.
D (m)	67	Retired, lives with his spouse.
E (f)	70	Retired, lives alone.
F (f)	72	Retired, lives with her spouse.
G (f)	66	Works as a caregiver and lives with her spouse
H (f)	74	Retired, lives with her spouse.
I (m)	70	Retired, lives with her spouse.
J (f)	71	Retired, lives alone.

2.4 | Data analysis

In narrative analysis, the interest lies in the content of the story: the meaning of the story, what happened, who participated; and in its form: the structure of the story and the choice of words (Lieblich et al., 1988, p. 7, 26). The emphasis in this analysis was on the

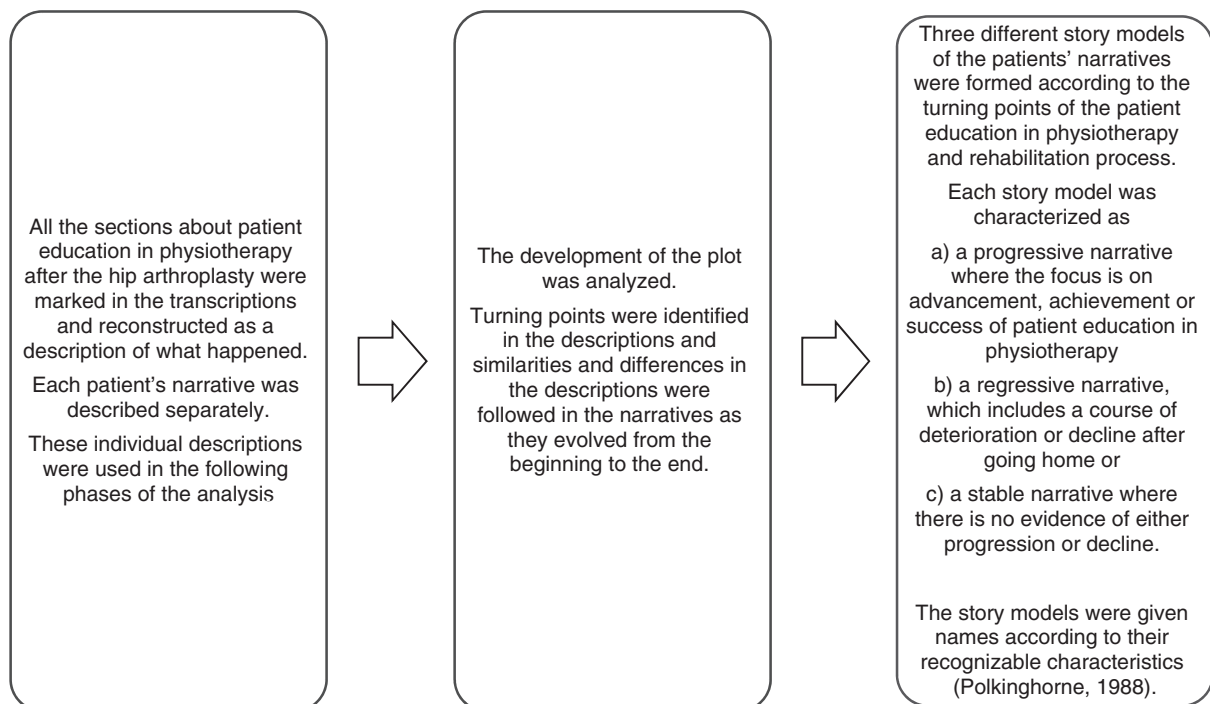


FIGURE 1 The process of narrative data analysis of patient education in physiotherapy

content; the focus, therefore, was on what was spoken about physiotherapy. The content was analysed in a holistic manner; participants' contexts and the changes over time were considered and each participant's story was described separately.

The analysis of the narratives consisted of three stages (Chase, 2008). Firstly, a general view and descriptions of the stories were made (Chase, 2008; Hyvärinen, 2008). Secondly, the development of the plot was analysed (Lieblich et al., 1988, p. 7, 26) and the turning points were identified using the structural model of Labov and Waletzky (Elliot, 2005, p. 6), and differences and similarities in the descriptions were identified (Elliot, 2005, p. 6; Chase, 2008). Thirdly, three different story models of patients' narratives were formed (Elliot, 2005, p. 6; Lieblich et al., 1988, p. 7, 26). These three stages are described in Figure 1.

3 | RESULTS

3.1 | Story models of patient education in physiotherapy

As a result of the three stages of the analysis, three different types of story models were identified in the narratives of the patients: *supportive* patient education in physiotherapy, *cooperative* patient education in physiotherapy, and *contradictory* patient education in physiotherapy. The emphasis of the narration in the first story model was on trust in the guidance, functioning interaction in the second story model and insufficient patient education in the third story model. In this paper, we used patients' alphabetic (A–J) after quotations.

3.1.1 | Supportive patient education in physiotherapy

In this story model, the narratives were progressive/future-oriented. Patient education in physiotherapy was focused on giving information on moving at home and was supporting the rehabilitation process of the patients. Patients expressed their trust in the given guidance and were satisfied with the instructions. Physiotherapeutic education gave them knowledge of how to move the right way and reassured them that they would cope at home. Knowledge reduced their fear of going home and constructed their self-efficacy to manage at home. For patients, the view of the future was meaningful beforehand.

"...It was important...I was really waiting...this meeting to come before I leave. I wouldn't have gone home before this, because there we saw that this leg moves as it should move at this point. There wasn't anything like that, oh, you can't do something. That would mean you would fear to go home but no, everything looked like I can make it at home. I have nothing to complain and nothing to change, everything has gone just as they have told me.."

They have taken good care of me and they have told me what is going to happen next." (A)

In the hospital phase, patients sometimes hoped for more difficult exercises. They also wanted to know when they could start doing different things, such as walking without crutches. They did not get exact answers and they were told to trust their own feelings. Physiotherapists emphasized individual feelings and patients' own decision-making during their education.

"...I was asking when I can stop using crutches and when I can do this and that. But the answer was always that it all depends on how you are feeling and you can decide yourself what to do. There wasn't any clear goal that in one week you must be able to do this and in one month this...I would like to know later when these exercises are too easy, what can I do then...That if there are any harder exercises that I could do then. But I cannot hear that from anywhere." (A)

At home, patients trusted in the education they received in physiotherapy in the hospital. They were exercising and doing daily living activities, for example, going to the shower, according to the given instructions. The rehabilitation process was progressing, so they would have needed more comprehensive exercises; this, however, was their only complaint regarding the patient education in physiotherapy.

"...I got really good instructions from the physiotherapist of the department. They are small, small movements. And they are going well, but then the next phase, what should I do next?" (H)

3.1.2 | Cooperative patient education in physiotherapy

This story model presented a stable narrative. The patients were satisfied with the physiotherapeutic education in the hospital, and they had no complaints regarding the patient education in physiotherapy at home either, the narrative continued in a stable way.

From the patients' perspective, communication between the physiotherapist and the patients reflected a mutual understanding. There was no sense of hurry and the physiotherapist's attention was focused on the patient. Patients felt that they themselves and their needs were taken into consideration and that their questions were answered. They were working tightly together with a common body.

"...We understood each other easily. She understood what I wasn't able to do or what was my problem and I understood what she wanted to say..In what way she was guiding...This person (the physiotherapist) was like...we didn't have any problem, we had a really good relationship." (C)

Patients had no complaints concerning the patient education in physiotherapy. They commented particularly on good instructions, which they had followed at home. However, the patients were uncertain whether any follow-up physiotherapy would be available, but they did not express concern about it.

"...The instructions that were given, were about what is prohibited and what is recommended, that was emphasized. I cannot say that anything would have been missing." (E)

In this story model, the emphasis of the narration was on the cooperation and the communication between the physiotherapist and the patients. Patients felt the physiotherapist was focused on them and they were operating together to enhance the rehabilitation process. They were satisfied with the patient education in physiotherapy received in the hospital, which they expressed in the hospital and at home.

3.1.3 | Contradictory patient education in physiotherapy

This story model was a regressive narrative in nature. In the hospital, the patients believed that patient education in physiotherapy had been appropriate and necessary. They had received clear instructions. They had enough time with the physiotherapist and were happy with the interaction between the physiotherapist and themselves.

"I am satisfied with the guidance before and after operation ... physiotherapist explained so it was easy to understand ... we had a good relationship, like we were mates" (G)

However, at home, the received instructions did not seem as clear as they were in the hospital. Patients felt uncertain of what they could do and what was restricted. Uncertainty appeared about how to perform certain exercises, and they did not know whether it was normal to experience pain. For example, a patient was unsure if she/he can put weight on her/his leg, which made her/him uncertain of doing certain exercises. The patients thought they had to decide by themselves about what to do and when. They spoke about pain and uncomfortable, individual findings of rehabilitation.

"Why is my hip aching?...Am I in the wrong position, have I done something wrong, have I broken this hip? I should know if other patients have pain as well...When I'm moving...this leg moves in a strange way, so is it harmful? That is what I am afraid of...I should get to speak about this more than this system allows." (B)

The patients were doing the exercises they believed they could do. They felt they had not received enough guidance for coping at

home. They were hoping for more difficult exercises as well as follow-up rehabilitation. Sometimes patients were also hoping to be able to attend a peer group.

"It would be good to have some kind of group activity. We could meet with a group of people, let's say every two or one and a half weeks and do these exercises and then speak about our feelings." (B)

In this story model, the emphasis of the narration was on insufficient patient education in physiotherapy for coping at home. At hospital, patients did not feel they needed more patient education, but at home they realized they would have needed knowledge about the rehabilitation process, exercising and follow-up physiotherapy. The focus was on the system, which did not offer more patient education afterwards.

3.2 | Summary of the story models of patient education in physiotherapy

In the story models, there were three essential educational themes that patients spoke about, which were highlighted differently in each model. Trust in the guidance was emphasized in the Supportive-story model. Functioning interaction was emphasized in the Cooperative-story model, and insufficient patient education in physiotherapy was emphasized in the Contradictory-story model. Story models and the essential themes are described in Table 2.

In the story model of Supportive patient education in physiotherapy, the patients trusted in the guided exercises and believed exercises would assist in their recovery. The guidance gave patients knowledge, especially of how to move the right way and would support them in physical coping at home. At home, the patients continued to speak about the importance of the written and oral instructions, and they were doing the guided exercises. In this story model, the narratives were progressive.

In the story model of Cooperative patient education in physiotherapy, the patients saw that interaction between themselves and the physiotherapist as functioning. Descriptions of communication represented understanding with regard to the guided exercises and instructions. There prevailed a mutual understanding between the physiotherapist and the patient. The patients expressed that they had been heard during the patient education in physiotherapy. In this story model, the narratives continued in the same way without any turns.

Insufficient patient education played an important role in the story model of Contradictory patient education in physiotherapy. At hospital stage, patients' patient education in physiotherapy had been appropriate and necessary and instructions were clear. However, at home, patients were uncertain of what they could do and what was restricted. They did not know what kind of pain was normal at the rehabilitation stage. Their recovery required more difficult exercises and patients hoped for some follow-up physiotherapy. This was not a

TABLE 2 Patient' story models of patient education in physiotherapy

Story model	Themes	Acute phase in the hospital	Recovery phase at home	Plot progression
Supportive patient education in physiotherapy	Trust in the guidance	Importance of written and oral instruction Guiding aids coping at home Knowledge of how to move	Importance of written and oral instruction Doing the guided exercises	Progressive narrative. There is a turn for the better at home
Cooperative patient education in physiotherapy	Functioning interaction	Being heard Mutual understanding Receiving answers	Being heard	Stable narrative. The story continues in the same way, there are no turns
Contradictory patient education in physiotherapy	Insufficient counselling	Clear instructions and interaction	Uncertainty Lack of more difficult exercises Lack of follow-up physiotherapy	Regressive narrative. There is a turn for the worse at home

normal option because of local health care system. In this story model, the narratives were regressive.

3.3 | Discussion

This study explored patients' narratives of patient education in physiotherapy after THA. Three story models: supportive patient education in physiotherapy, co-operative patient education in physiotherapy, and contradictory patient education in physiotherapy were identified. All three models included narration of the same themes with varying emphasis. Story models point out that some patients did not have a clear understanding of what to do at home, indicating that we need tools to recognize the knowledge level and how different patients learn.

Previous studies have recognized that patient education after THA has similar effects than physiotherapy after discharge (Austin et al., 2017; Coulter et al., 2016; Galea et al., 2008). Still, patients' narratives in our study showed the need for more education after THA, which could possibly have been fulfilled if digital services had been available. These services have been developed after the data for this study were collected. Interactive tele technology has been developed so that it can nowadays fill the educational gaps that short hospital periods omit (Vesterby et al., 2017).

In the story model, cooperative patient education in physiotherapy patients expressed satisfaction with the interaction in the patient education in physiotherapy. Other studies have shown that interaction with health care professionals influences patient satisfaction after hip or knee arthroplasty (Lane, Hamilton, MacDonald, Ellis, & Howie, 2016) and the interaction between physiotherapist and patient has been found to relate to satisfaction with patient education in physiotherapy (Hills & Kitchen, 2007; May, 2001). The patients described that the interaction between the physiotherapist and themselves had functioned. Earlier studies have demonstrated that interaction to relate to patients' satisfaction with physiotherapy (Oliveira et al., 2012) is a part of patient-centeredness (Kidd et al., 2010; Potter et al., 2003; Wijma et al., 2017).

Even if a physiotherapist possesses the most up-to-date and complete professional knowledge, it does not guarantee that it will be transmitted to the patients in a meaningful manner (Trede, 2000). Bidstrup, Morthorst, Laursen, Jørgensen, and Høybye (2018) studied patients with spinal surgery using ethnographic observation and interviews. They found out that patients reject or adopt information based on experience, expectations and confidence in their own ability. So, knowledge is not a linear outcome of information; it is an interaction process between professionals and patients (Bidstrup et al., 2018). The unfamiliarity of the hospital environment and perioperative medication can difficult patients' learning, and patients might be over-optimistic about how much they have understood (Reynolds, 2005), which could have occurred in this study. In turn, physiotherapists might need to improve their educational skills and accommodate educational content to help patients' ability to copy at home. Communication is one of the central competences in patient education in physiotherapy (Forbes, Mandrusiak, Smith, & Russell, 2017).

Patients in this study received written instructions, which helped them in the supportive physiotherapy story model to remember the restricted movements and how to exercise when they returned home. In the contradictory story model, patients said that the instructions were unspecific, "more like common instructions." For example, a patient said that the spoken and written instructions concerning weight-bearing were contradictory, so she/he did not know whether he could put weight on her/his leg. Written instructions may help patients to remember instructions after they return home, but verbal and written communications should complement each other in all instances (Falvo, 2011). The use of handouts can be impersonal (Reynolds, 2005), which was also mentioned in the data of this study.

Patients did not receive information about follow-up rehabilitation. In the story model of cooperative patient education in physiotherapy, patients did not express a need for follow-up rehabilitation or more difficult exercises, as opposed to the story models of "Supportive patient education in physiotherapy" and "Contradictory patient education in physiotherapy," where the need was expressed. Similar results were in Cott's (2004) study about perceptions of rehabilitation of adult clients with long-term physical disabilities. The

major theme was the need for better transitions between the rehabilitation program and the community (Cott, 2004).

In this study, in the contradictory physiotherapy story model, patients expressed uncertainty towards the continuation of the rehabilitation process. It is relevant to recognize that patients' activity level may not improve despite the functional and pain relief and patients should be encouraged to be more physically active after THA (Withers, Lister, Sackley, Clark, & Smith, 2017). And life activities are a wider phenomenon related to social-cultural factors (Webster et al., 2015). Some patients were hoping for a peer group to exercise and talk about experiences together. Having the outpatient rehabilitation arranged before leaving the hospital would have given the patients a sense of security, which was also a result in the study of Heine et al. (2004). Outpatient physiotherapy would offer patients an opportunity to ask about unclear issues and their exercise program could be updated—even though some previous studies did not support this view (Austin et al., 2017; Coulter et al., 2016). Only one patient in this study had arranged for follow-up physiotherapy while the others merely pointed out that it was missing or hoped that it would somehow be arranged.

3.4 | Trustworthiness of the results

The qualitative, narrative approach is a good way of exploring patients' experiences of patient education in physiotherapy over a period. In the narrative approach, there is no exact way to analyse the data, meaning that the researcher must create a way that is suitable to answer the research question (Hyvärinen, 2008). The advantage of the analysis is that the unique meanings of the participants are revealed as a result of the analysis (Hyvärinen, 2008; Polkinghorne, 1988).

When trustworthiness of a narrative research is discussed, issues of verisimilitude and utility should be taken into consideration (Loh, 2013). We tried to describe the analytic process in a detailed manner, which makes it transparent for the readers. The results of this study are examined in relation to earlier studies regarding patient education in physiotherapy from the patient's perspective. Utility of the study means that it must help readers to comprehend the situation and highlight, and explain, directions that must be considered (Loh, 2013).

3.5 | Limitations

This study has its limitations. The findings of this study are related to specific regional and national contexts of the Finnish health care. The data collections took place almost 10 years ago, so health care has improved after that. Malterud, Siersma, and Guassora (2016) proposed the concept of "information power" to guide sample size. "Information power indicates that the more information the sample holds, relevant for the actual study, the lower amount of participants is needed." It depends on the aim of the study, sample specificity, use of theory, quality of dialogue and analysis strategy (Malterud et al., 2016). In this case, the aim of the study was not so broad, and the sample was

specific. The students' inexperience of interviewing could have affected the quality of dialogue. The patients were interviewed twice, and they may have been able to express themselves more freely at their homes than in the hospital. Two interviews gave the advantage of hearing patients' narratives in two different contexts.

3.6 | Conclusions

Three story models of patient education in physiotherapy were identified in this study: Supportive patient education in physiotherapy, Cooperative patient education in physiotherapy and Contradictory patient education in physiotherapy. In this study, the interaction between the physiotherapist and the patient was functioning and patients trusted in the guidance, which enhanced the rehabilitation process. In the contradictory story model, patients had a feeling of insecurity that could have slowed down the rehabilitation process. Patients who had gone through THA needed more knowledge on how to exercise and move the right way, as well as information on how follow-up physiotherapy will be arranged, although previous studies do not support follow-up physiotherapy generally. According to the results of this study, some patients would need more patient education in physiotherapy after THA. These findings can be used when planning and improving patient education in physiotherapy after THA. For example, there is a need to assess patients, who need more information and education and how this could be conducted.

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CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

ORCID

Anna-Maija Jäppinen  <https://orcid.org/0000-0003-3312-159X>

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