Patients' Experiences and Preferences for Rehabilitation following an Ankle Fracture

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Rapport udarbejdet af: Lærke Frost Lollesgaard og Peter Kruse Aagaard Nielsen

Vejledere: Michael Skovdal Rathleff, Peter Larsen og Rasmus Elsøe

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Forord

Denne artikel og tilhørende bilag er udført som specialeafhandling som del af kandidatuddannelsen i Muskuloskeletal Fysioterapi ved det Sundhedsvidenskabelige Fakultet, Aalborg Universitet.

Interessen for specialets emne opstod under 3. semesters projektarbejde i efteråret 2020 omhandlende okklusionstræning til patienter med ankelfrakturer i den postoperative immobiliseringsfase. Der drejede ønsket sig om optimering af den tidlige postoperative rehabilitering, hvor under arbejdet med patienterne så potentiale for at forbedre rehabiliteringen i sin helhed for denne målgruppe, hvilket førte til dette speciale.

Artiklen er skrevet på engelsk og tilsigtes at blive publiceret i Journal of Orthopaedic & Sports Physical Therapy (JOSPT). JOSPT er en fagfællebedømmelses journal for fysioterapeuter og andre i sundhedsvæsenet samt forskningsmiljøer, der har til hensigt at fremme muskuloskeletale og sportsrelateret viden for at skabe bedste mulig praksis. JOSPT er valgt af flere grunde. Dels er indholdet det muskuloskeletale og sportsrelaterede område, hvorunder genoptræning efter en ankel fraktur hører. Dels henvender JOSPT sig i stor grad til bl.a. fysioterapeuter, der arbejder med det muskuloskeletale og sportsrelaterede område, hvilket er den målgruppe, som gerne vil nås ud til gennem artiklen.

Da artiklen som form gør det svært i tilstrækkeligt omfang at favne samtlige læringsmål, besvares og uddybes nogle læringsmål i bilaget. Det gælder bl.a. de systematiske litteratursøgninger (bilag 1.1), den fulde metode til interviewet inkl. interviewguiden (bilag 2.0), analyseprocessen (bilag 3.0) og en uddybende diskussion af metodemæssige valg (bilag 4.0). I artiklen henvises løbende til bilag/appendix.

Specialet er udført i samarbejde med Aalborg Universitets Hospital. I denne forbindelse skal lyde en tak til Peter Larsen, fysioterapeut, PhD, Rasmus Elsøe, specialeansvarlig overlæge, PhD. Desuden sendes en tak til vores hovedvejleder Michael Skovdahl Rathleff, fysioterapeut, PhD og professor, for lærerig og engageret vejledning. Slutteligt skal lyde en tak til vores interviewdeltagere for deres tid og lyst til at deltage.

Lærke Frost Lollesgaard Peter Kruse Aagaard Nielsen

Aalborg, juni 2021.

Abstract

Objective: Explore and understand patients' experiences of a physiotherapeutic rehabilitation following an ankle fracture; and explore and understand how a physiotherapeutic rehabilitation following an ankle fracture can be organized based on patients' preferences of form and content.

Design: Qualitative research study.

Methods: Semi-structured interviews were carried out 9-26 weeks after the participants had started their rehabilitation. Participants came from the North Denmark Region and were identified in the Region's medical records system. Interviews followed an interview guide and were conducted and recorded online and then transcribed verbatim. Two researchers used reflexive thematic analysis to generate themes.

Results: Thirteen participants were interviewed, nine of whom were female. The age ranges from 46-69 years with a median of 60 years. Four major themes and four subthemes were generated: Transfer from the hospital to the physiotherapeutic rehabilitation, Structure and content (subthemes: Shared decision making, Goals and monitoring of progress, Termination of the rehabilitation), Information, instruction and communication (subtheme: Change in physiotherapist) and Subgroups. Factors of importance to participants in an optimal rehabilitation included early rehabilitation after removing of plaster/boot, sufficient information and communication, individualized treatment and having the same physiotherapist.

Conclusion: This study shows that participants experienced very different rehabilitation courses. Tasked to design the optimal rehabilitation, participants describe several common themes, but the range within the themes is wide, which emphasizes the need for patient-centred physiotherapy. These results will enable a deeper understanding of factors of importance for the participants in their rehabilitation, helping the clinicians to optimize the rehabilitation following an ankle fracture.

Key words: ankle fracture, physiotherapy, rehabilitation, qualitative research, patient-centred care, patient's experiences, patient's preferences.

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Introduction

Approximately 80.000 fractures occur every year in Denmark, corresponding to an incidence of 1900-1920 per 100.000 citizens. [1] Ankle fractures are a common fractures occurring for 179,5 per 100.000 citizens. [2] Ankle fractures demonstrate a unimodal distribution among men, mainly representing younger men. Among women a bimodal distribution is represented, mainly composing younger women and women older than 50 years. [2]

Following an ankle fracture many patients experience symptoms and complications in both short and long term. [3–6] Pain, reduced mobility, decreased muscle strength, impaired functioning, reduced quality of life and psychosocial factors are all reported up to two years after the injury. [6–11] Especially the elderly experience limitations in activity.[6] Twenty-four precent report pain a year after surgery and pain is the most frequent cause of reoperations and can affect patients' night sleep and work performance. [8,12] This long lasting complications cause an impact on the economy due to treatment costs, lost ability to work and sick leave. [8,13] [6]

Due to the symptoms and complications in both the short and long term, it is relevant to investigate if the rehabilitation can be optimized. In Denmark it is common practice that patients are offered physiotherapy following an operative treated ankle fracture. However, the literature reports a large variation in how the rehabilitation is conducted. [14] Several randomised control trials have compared treatment options after the immobilization period, such as exercise, self-management, manual therapy and stretching exercise and they all found little difference in outcomes measures. [15–18] Despite this, some evidence suggests rehabilitation should focus on a progressive exercise program. [19] However, these findings could suggest that the content and organization of the exercises are less important and other conditions need consideration in order to create a successful rehabilitation.

Even though physiotherapy is common practice following an ankle fracture, little is known about patients' experiences of physiotherapeutic rehabilitation after an ankle fracture, and how to organize a physiotherapeutic rehabilitation based on patients' preferences of form and content.

Both patients and physiotherapists underline the importance of taking patients' needs, preferences, expectations and motivation into account in patient-centred physiotherapy.[20,21] Incorporating patients' preferences into a shared decision making can improve clinical outcome, motivation and communication such as the patient feeling heard, respected and engaged in their rehabilitation.[22–24] In

spite of its potential benefits, a common criticism of evidence-based healthcare is that it does not incorporate patients' values and preferences[25] and shared decision making is underutilized by physiotherapists.[20,22] A lack of knowledge of patients' preferences leads physiotherapists to organize interventions based on a paternalistic approach, rather than a patient-centred rehabilitation. [20,25–28]

The aims of this qualitative study are to 1) explore and understand patients' experiences of a physiotherapeutic rehabilitation after an ankle fracture, and 2) explore and understand how a physiotherapeutic rehabilitation following an ankle fracture can be organized based on patients' preferences of form and content.

Methods

This study was based on the Standards for Reporting Qualitative Research checklist[29] and informed by a systematic literature search (appendix 1.0).

Study design and methodological approach

A qualitative research using one-to-one semi-structured interview was completed with participants (n=13), who had been operatively treated for an ankle fracture, and subsequently received physiotherapeutic rehabilitation.

Reflexive thematic analysis by Braun and Clarke was used to analyse and interpret the transcriptions. [30,31] The reflective thematic analysis aims to provide a coherent and compelling interpretation closely related to the data. [30,31] This analysis can be used with different theoretical frameworks. [30,31] The theoretical framework used in this study, was inspired by the philosophical hermeneutic approach of Hans-Georg Gadamer.[32] This approach matches the reflective thematic analysis, since they both emphasize the active role of the researcher in the analysis and interpretation of the data, and see the subjectivity as a resource.[30,33] The approach of Gadamer provides a philosophical description of how we understand[32,33], which is in line with the research questions. According to Gadamer, understanding is based on our pre-conception and expectations/understanding of the matter is to be explored.[33] It is neither possible nor the intention to abandon our preconception since it facilitates our understanding on a subject.[32] However, it is necessary to be aware of one's preconceptions and discover how they can contribute to (mis)understanding of the phenomenon, and to be curious and wish to change one's preconception.[32,33]

The researchers' preconceptions

The researchers' preconceptions were marked by their professions as physiotherapists with several years of experience, working in private clinics, and previously handled rehabilitations following ankle fractures. They are currently studying for a masters' degree in Musculoskeletal Physiotherapy at Aalborg University. A few months prior to this interview they completed a study on early rehabilitation after an ankle fracture using blood flow restricted training. As the researchers are familiar with the literature on the field, the Introduction also expresses the researchers' knowledge and preconceptions. No previous relationship between researchers and participants existed. Both researchers had little experience in interviewing.

Participants and sampling strategy

This study used purposive sampling based on an epidemiological study of 9767 patients with ankle fractures in the North Denmark Region.[2] The participants were randomly selected from different private clinics and municipal training centres in the North Denmark Region. In order to increase the transferability, a well-defined group of participants was sampled. Due to the bimodal distribution, we sampled from the later state resulting in a predominance of women and an age ranging from 45-70 years old due to **TABLE 1**.[2]

TABLE 1. Inclusion and exclusion criteria for participation.

Inclusion	Exclusion
Age: 45-70 years.	Mental illness, dementia.
Ankle fracture managed operatively.	Ankle fracture secondary to known metastatic disease.
Have participated in a usual physiotherapeutic rehabilitation for at least 4 weeks.	Does not have a serious illness such as cancer, neurological disease.
Abilities to participate in an online interview.	Started their rehabilitation more than 40 weeks ago.

Recruitment and consent

Participants were identified in the North Denmark Region's medical records system by the diagnostic code DS828*. The researchers phoned the patients to inform them about the study. During the phone call patients had the opportunity to ask any questions. If patients consented to participate, a date for the online interview was arranged, and all patients were sent a written information sheet about the study. At the beginning of each interview the participant had to give an oral consent for their data to be used in this study.

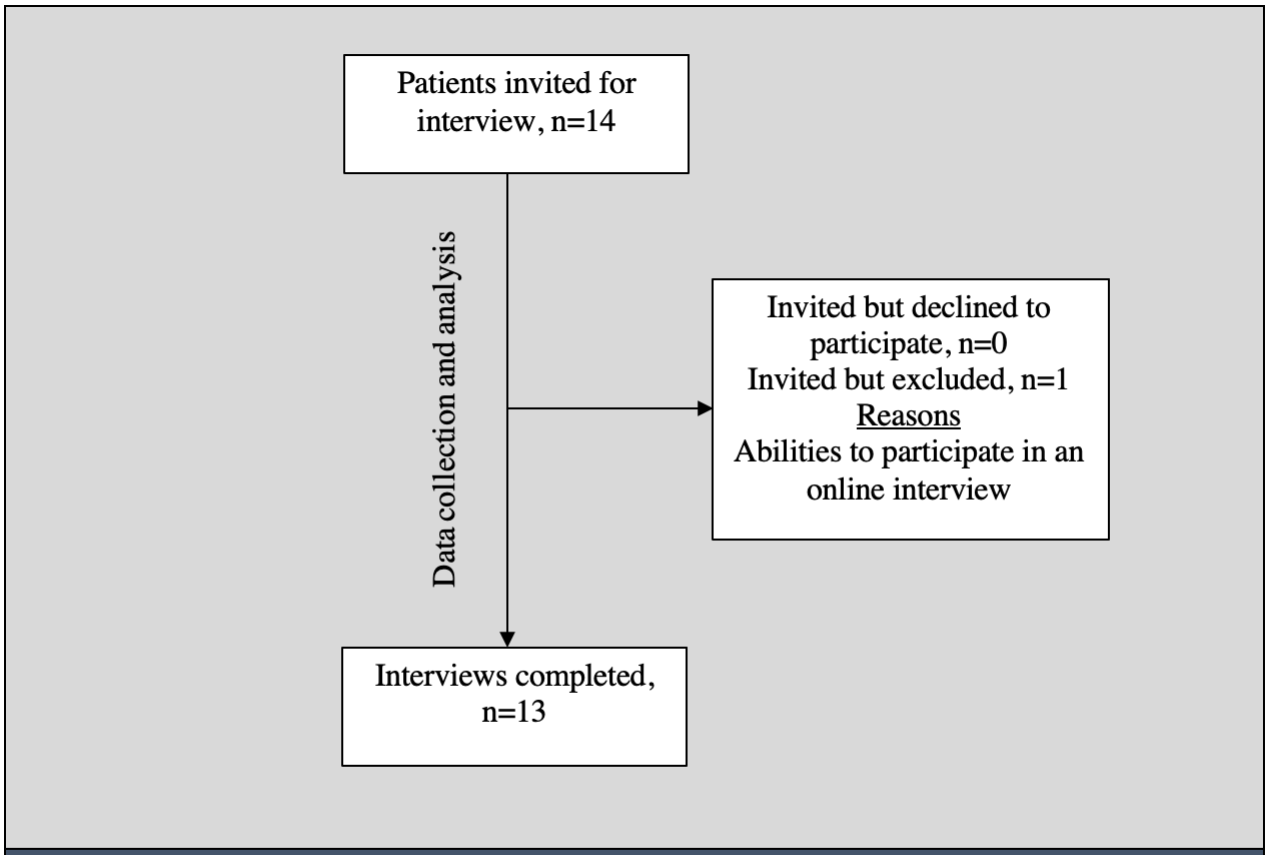

FIGURE 1. Flow chart of participant recruitment.

Contexts

The interview was conducted and recorded online through Zoom (version: 5.4.7). Both researchers and participants stayed in a setting of their choice during the interview.

Data collection methods

The interview was carried out 9-26 weeks after the participants had started their rehabilitation.

A semi-structured interview guide was prepared to ensure that the interviews were concerning the research questions as well as some degree of consistency between the interviews (appendix 2.2). The semi-structured approach allows the researcher to ask elaborating questions to the participant's answers, ask follow-up questions, summarize and get the participant's confirmation that the content is correctly understood (**FIGURE 2** and appendix 2.2).[33,34]

FIGURE 2. Examples of questions asked.

Examples of open-ended questions to facilitate dialogue:[35]

How did you experience the start of your physiotherapeutic rehabilitation?
Could you tell me about how you experienced the transition from the 6 weeks control at the hospital to the physiotherapeutic rehabilitation?
Is there anything you wish would have been different?
Could you explain how you were involved in your rehabilitation?

Example of specific questions to ensure coverage of the research questions:[34]
If you broke your ankle again and were to start your rehabilitation tomorrow, what should your rehabilitation look like based on your wishes?

At the end of the interview, each participant was asked to rate their satisfaction with their rehabilitation on a likert scale (appendix 2.2). The purpose of the likert scale was to create an overview of their experience with regard to satisfaction and helping the researcher not to over-interpret the participants' overall experience. Pilot interviews were performed to adjust potential falls such as ensuring comprehensibility and order of questions.

Data analysis

The interviews were transcribed verbatim by the interviewer shortly after the interviews, to aid the researcher to capture the emotional and social aspects of the interview.[34] Interview transcripts were

saved safely on AAU Onedrive server with double safety clearance. All identifiable information was removed to ensure participants' anonymity, and participants were given a unique ID number. A guide for the transcriptions were made to enhance consistency between the two researchers' transcriptions (appendix 2.3.1). The transcriptions were sent to the informants to ensure agreement.

The researchers used reflexive thematic analysis to analyse the data (appendix 2.3). Every transcription was analysed independently by both interviewers. Subsequently, themes were discussed between the researchers to facilitate and enhance a mutual understanding. The hermeneutic approach about understanding embraces three key concepts, supporting the analysis: 'hermeneutic circle' and 'fusion of horizons' and the above mentioned 'preconception' (appendix 2.1).[33,36,37] On this basis, the analysis was seen as a circular process where new knowledge and understanding from one participant were used to infuse the whole data with a new and deeper perspective. This process should ideally result in a fusion of horizons between the researchers' preconceptions and the data (appendix 2.1).[33,36,37] The analysis was performed concurrently with the data collection and continued until no new major themes were generated.

Results

A total of 14 participants were invited to take part in the interview. According to **FIGURE 1**, 13 participants were interviewed, and all interviews were included in the analysis. The age range was 46–69 years with a median of 60 years. Data saturation was considered after 13 participants, with no new themes identified in the final two interviews. Participant demographics, rehabilitation information and the reply to the likert scale are shown in **TABLE 2**.

Generally, the participants were satisfied with the rehabilitation. During analysis four major themes and four subthemes were generated from the data responding to both research questions (appendix 3.3). The themes were: Transfer from the hospital to the physiotherapeutic rehabilitation, Structure and content (subthemes: Shared decision making, Goals and monitoring of progress, Termination of the rehabilitation), Information, instruction and communication (subtheme: Change in physiotherapist) and Subgroups. Example quotes for each theme were selected to represent the respective theme and the diversity of the participants' experiences and preferences.

TABLE 2. Demographic and rehabilitation information.

Participation code	Gender	Age	Weeks participation in rehabilitation	Time since operation	Satisfaction with the rehabilitation
P1	Female	64	8-9 weeks	13-14 weeks	Neither
P2	Female	55	8-9 weeks	29 weeks	Very satisfied
P3	Female	68	8 weeks	28 weeks	Very satisfied
P4	Male	60	9 weeks	22 weeks	Satisfied
P5	Female	66	6 weeks	27 weeks	Satisfied
P6	Female	66	10 weeks	18 weeks	Dissatisfied
P7	Male	51	16 weeks	26 weeks	Satisfied
P8	Male	67	10 weeks	20 weeks	Very satisfied
P9	Female	52	10 weeks	35 weeks	Satisfied
P10	Female	69	13 weeks	24 weeks	Very satisfied
P11	Female	52	8 weeks in and still going	15 weeks	Satisfied
P12	Female	46	12 weeks in and still going	18 weeks	Very satisfied
P13	Male	51	17 weeks	28 weeks	Satisfied

Transfer from the hospital to the physiotherapeutic rehabilitation

The participants started the rehabilitation 2 to 14 days after removal of the plaster/boot. The participants were impatient to start their rehabilitation, and for some the transfer was a difficult time due to fear of weight bearing, feeling of vulnerability and being left on their own. The preference for the shortest possible transfer between the sectors was a strong theme.

Participants experienced insufficient information about prognosis at the hospital. The participants expressed that breaking an ankle was a hard and challenging experience involving a feeling of insecurity. Therefore, they had a need for more knowledge about prognosis, expectations for the future and how to behave until the physiotherapeutic rehabilitation began. All participants were informed that they could fully weight bear, however those who were insecure about weight bearing would prefer more concrete guidance and instruction in this at the hospital.

> P2: "That there will not be that slip between the one and the other. But They are pretty quick to say, now you have the cast removed and it feels absolutely wildly weird and you cannot support it, but it would be good if you do such and such and such until the rehabilitation starts. In that way you don't just get left on your own for a week and a half or so. Because it's actually a LONG TIME where you are just at home and thinking… Well but you have to try to support on it, but actually you cannot really do it. "

> P11: "It was really only a few days. When I had to take my boot off, I was sure I was healing faster than everyone else (smiling) so I could walk away from there. But you cannot. Then I actually got a little whiny. How sad it looked. I felt vulnerable as I walked away. But I also knew that in four days I was going down to the physiotherapist and it gave me some peace. So the shorter time from the boot is off to you to see the physiotherapist. I think that's super good. It would do no harm to get something from the hospital either. Some good advice or."

Information, instruction and communication

A strong theme among participants was communication including sufficient time to receive information and an ongoing dialogue. Most participants experienced a good dialogue with the physiotherapist with the opportunity to ask questions. The information received was experienced as useful and easy to understand, yet almost half of the participants found the amount of information insufficient. Often it was up to the participants to ask for information, which could create frustration.

The amount of information provided as well as the need for information varied greatly. Knowing that their symptoms, progress and recovery were considered normal, felt reassuring. Further an explanation of the underlying reasons for the symptoms and recovery rate, entailed a perception of understanding and abilities to better handle their symptoms. However, this was experienced to a little degree and the general lack of information created uncertainty.

> P2:" I was a little surprised by how long it took, but it's probably because I do not know how long these things take. They have always said, also the physiotherapists, that it is completely normal that it takes a long time and that it hurts. And they have also, in a way, being good at saying that it's okay that it hurts. And that it is normal that it hurts. And it will keep on hurting. (...) I also needed a health-related explanation for the reason why the FOOT hurts, when it is the ankle I have broken - it was a little strange."

Early in the rehabilitation most participants were stunned by their functional limitations. Fear of weight bearing and re-fracture was of strong presence. The participants appreciated and felt reassurance when the physiotherapist addressed these topics during the first consultations, and vice versa in the absence of it. Some participants mentioned the importance of a kind and competent physiotherapist, as it created a more open and friendly environment forming the basis for a good and secure relationship and dialog with the physiotherapist.

> P12: "I was afraid of not being able to walk normally again. She was actually very reassuring. 'Yes it will come nice and easy, in the beginning you will experience great progress and then there will be a period where it will go slowly'. She prepared me a little for the process we were going through."

> P13: "Yes. YES, you lacked some guidance… I have always wanted to know when I was over this, there is no one who has really been able to give me an answer (…) Actually, it was not until my final conversation she said, the level I reach after one year, that's where I would be. I probably needed to know that from the beginning."

In relation to both research questions, a strong theme was thorough instruction including a clear dose and explanation for the purpose of the exercise. Likewise, the participants preferred and experienced it positive when the physiotherapist corrected the participants' performance. Most experienced these

themes to be handled sufficient, but few described a lack of it, which created insecurity, demotivation for the exercises or a feeling of being overlooked and left to one's own devices.

> P6: "... he says, 'this and that you should do and this and that'. That's it. And then I have to go home and try it again. And then I don't know if I am doing it right, instead of just showing me it a little more, or see if I am doing it right or in the way he showed me it."

> P9: "... Well, you can't train people without telling them why they should do what they do. (…) otherwise, it makes no sense. You need to know the reason why this exercise is good for exactly your injury or whatever the issue is."

Tasked to design a new rehabilitation, participants mainly requested more knowledge and further dialogue about the cause of symptoms, prognosis, fear of weight bearing, explanations of exercises and expectations for the rehabilitation. The preference for the medium of information was individual.

> P1: "I would like to know more. More knowledge about how the foot works. And not just drawing lines around what I should do. More about what has broken and why it will not just be the same as before. And about the symptoms (...) and why the foot behaves like it does and why it is so stiff. Is it something that goes over? Is it something that you should expect to be fairly okay? Or should I accept that this is the way it is?"

Change in physiotherapists

It varied how many physiotherapists each participant had affiliated during the rehabilitation. A potential shift in physiotherapist was experienced to interfere with the continuity of the rehabilitation, by affecting the communication and relationship between the participant and the physiotherapist. The participants would prefer to be followed solely by one physiotherapist, since they found it tiresome to retell and explain their status.

> P2: "Well, it's because every time they do not know exactly, how you are feeling, even though they take a look at the kind of rehabilitation that is started. Then they almost have to read the whole journal to see what the matter is (...) Or you have to relate every

time. And it's just getting a little annoying. Well. Actually, it would be very nice just to be followed by the same person.”

Form and content

The form and content of the rehabilitation varied from team training, home training to individual training at the rehabilitation centre with or without supervision. Likewise, participants' preferences for the training modality varied and changed during the rehabilitation due to altering needs. Number of individual consultations ranged from 1-19. Good facilities, fixed scheduling of training to ensure accomplishment in a busy everyday life and the social aspect of meeting others in a similar situation were mentioned as reasons to prefer team training. Flexibility according to when the exercises are performed and saving time on transport were mentioned as reasons to prefer home training.

> P4: “I forgot to do exercises at home as often as I had to. At the physiotherapist's place it wasn't a problem (...) Then I started going there three times a week and then I accomplished a little more."

> P1: “I would have liked to show up more at their place. Have a bit of alternating team training and private.”

Passive treatment such as massage or apparatus treatment was appreciated and experienced to improve pain and mobility. Those who did not receive passive treatment missed it. Tasked to design a new rehabilitation, more participants would prefer passive treatment in parallel to the training.

> P1:“... Then I would have liked some massage and some physical help along with some exercises (…) I experienced that she wanted to help me with my ankle. But then it stops: 'We are not getting paid for this and that' (...) Okay the municipality paid but I would have liked to buy some extra help."

Distribution of roles and decision-making

In most cases the structure was determined solely by the physiotherapist, and the participants were under the assumption that the structure and content of the rehabilitation was fixed either from the

place itself or from the municipality. Few experienced the planning of the rehabilitation as a shared decision.

Generally, the participants were satisfied with the rehabilitation, yet retrospectively many wanted influence on the design and would prefer the practical framework to be different. The wish for influence originated in their experience of too little individualization and the feeling of not being seen and heard enough.

> P11:“Yes, I mentioned it in my first conversation. That I thought it would be more individual. But ‘that's how the municipality chooses it’, they say.”

> P7: “Well, the last couple of years I have swum a couple of times or three a week, and I would have preferred that, because I had partners to swim with. So, I would rather do that (...) It might have been optimal, if not only to help me mentally, right ...".

Supervision of the training including confirmation in the performance of the exercises created a valuable feeling of security and safety. An experience of lack of individualization and a too passive physiotherapist frustrated the participants, as they did not feel that their exercises progressed fast enough, causing inefficiency of the rehabilitation with a fear of extension of the period of decreased physical function. Tasked to design the optimal rehabilitation, the participants wanted to be followed more closely either with more individual consultations in parallel to the training or more frequently team training with a leading physiotherapist to manage the training and take initiative for progression:

> P12: “Well, it was not just op to me, to assess how things are going. I wanted it to be looked at from a different point of view (...) I'm looking for someone to correct me if I am not doing it right. Because I also do not want to harm other things in the body. ‘You must tell me if you see something that is wrong or if I am doing the exercises wrong’".

> P5: “Yes, perhaps push me a little more. Try a little outside of that schedule. For example with the stairs and getting on the bike and such. Some things that are not so scheduled. Come up with some input for those things.”

> P7: "... It's because I think he has been professional and (…) well he has given me the exercises that were necessary and that I could stick to… yes he does not get a "very satisfied" because he let me take the initiative instead of being the one who took charge and pushed me a little bit."

Goals and monitoring of progress

Most participants were asked about their rehabilitation goals and those who were not, missed it. Monitoring their progress in the exercises and physical function was crucial to retain motivation. Therefor several participants measured their own progress through activities such as biking and walking as they found it lacking in the rehabilitation. Some would prefer that the rehabilitation was more clearly structured as a visible plan around measurable sub-goals, allowing the patients to follow their progress.

> P2: "I think, maybe it would have been nice if they had said from the start that you should set a GOAL. Because I could feel that as soon as I said, well, usually I walk - I had a walk for a little more than five kilometres every other day, and I simply am unable to do it now. 'Oh' he said then, and then I could see that something was happening - and then thick, thick, thick - then it was suddenly like he established an end goal for me and what direction to take."

Termination of the rehabilitation

The participants had contrasting views on their termination of the rehabilitation. Some felt ready to terminate, as they did not feel the rehabilitation was beneficial anymore, since the exercises had become too easy and could be performed at home instead. Therefor a few participants took the initiative to end the rehabilitation. Other courses were terminated by the physiotherapist and in some cases it was a mutual decision between the physiotherapist and the participant.

Due to continuous symptoms, not all participants felt ready to end their rehabilitation and would prefer the physiotherapist to manage their rehabilitation. Several rehabilitations were ended at a team training session while others were terminated at an individual consultation. None of the participants received a long-term follow-up. Tasked to design the optimal rehabilitation, the participants wanted an individual concluding consultation including evaluation of the rehabilitation, dialog about prognosis and a plan for future management of symptoms. They also had a strong preference for an

additional follow-up 1-3 months after the last consultation including the abovementioned topics.

> P9: “Well, it is like, once you have been paid for ten weeks or so by the municipality, then it ends. And that's really what determines it."

> P5: “I came on my own and said now it was time to quit. I guess I could not learn anymore there. And that was fine. He also said that it was fine and it seemed like things were going well. My gait was getting more normal again. So we quit and I was told I could contact if there was anything. But I would have liked some follow-up on that. Some months after, two or three months after. I would have liked to refresh it a bit. And get some exercises for now because I'm still struggling with my foot… ”

Subgroups

Following the injury and immobilization, two participants reported pain from other body regions than the ankle. These symptoms generated significant limitations for their rehabilitation in terms of functional performance, reaching their goals and returning to a normal everyday life which impaired their experience of the rehabilitation. Therefore, they would have preferred a more holistic body approach from the physiotherapist.

> P12: “Then there was the point where I was begging a little ‘does anyone bother to look at my knee? Does anyone mind?’ (laughs)”.

Discussion

Explanation of main findings

The results of this qualitative study show that participants’ experiences of a physiotherapeutic rehabilitation following an ankle fracture vary widely. This indicates that the physiotherapist offers patients very different rehabilitation courses following this injury. An explanation may be the fact that there are no detailed clinical guidelines for rehabilitation following an ankle fracture.

A strong theme emerges as participants experienced a lack of information and communication entailing a wish for more of this when asked to design their optimal rehabilitation. The importance of information is not surprising. In recent years, information and communication has gained more

attention as an essential part of patient education in modern physiotherapy. [21,38–40] Despite agreement of the importance, the literature shows lacking consensus on what patient education should include and how to communicate it successfully. The participants' experience of insufficient information and communication could possibly be attributed to the physiotherapists' lacking ability to communicate the information in an easily understandable way or it could be mistakenly assumed that the information delivered is also understood.[41] Another possible explanation could be that physiotherapists underestimate the importance of information, perhaps because of a tendency to overestimate patients' understanding, especially regarding anatomical topics.[42]

The rehabilitation was rarely organized around participants' preferences, despite their retrospectively wish for influence on the practical framework. Possible explanations could be the absence of time or that they simply do not consider it sufficiently important for the certain treatment.[42] Another suggestion is that the physiotherapist may not necessarily have the competencies to implement patients' preferences into rehabilitation.[43,44]

Tasked to design the optimal rehabilitation several common themes are described. However, the needs and preferences range widely within the themes, which on a general level can be explained by the participants' shared wish for more patient-centred rehabilitation including individualization as a key word.[21] The unsatisfactory experiences are often characterized by a mismatch between the participant's expectations or needs and their experiences. This once again emphasizes the importance of patient-centeredness in physiotherapy.[21] Therefore the themes in this study can serve as a guide for probably important key areas to consider in rehabilitation following an ankle fracture. However, communication is crucial to clarify the patients' individual needs and preferences within the respective themes.[45]

Comparisons to previous findings

Compared to a review by Blackburn et al exploring patients' perceptions of rehabilitation following a hip fracture one theme varied greatly from this study. According to our study, participants experienced the most difficulties in terms of mood, during the immobilization phase and the early rehabilitation which varied from Blackburn et al who created a theme about staying positive further on in the rehabilitation.[46] Similar to our study, another qualitative study found that patients following a hip fracture experienced a lack of knowledge and information, which created a feeling of being ill-equipped about the expected rate of recovery.[47] Therefore they suggested a "recovery map"

highlighting where they should be at the various stages during their recovery, which is similar to wishes from participants in our study.[47]

According to our study the physiotherapist decided how the practical framework and content were designed, which is comparable to other studies.[20,44] However, some studies suggest that patients have a preference for shared decision making or at least to want their opinion heard in regard to the treatment [20,48]. This deviate from our study as the participants prefer only a small degree of influence on the content, and mainly wanted influence in regard to the physical framework. Our findings are supported by another study finding that even though most patients would prefer to be informed about treatment options they also prefer to trust and leave the final decision to the healthcare professionals.[49]

Information sharing about best evidence is a prerequisite for shared decision making[21,25,50–52] and both patients and physiotherapists have to take steps to participate in the process.[50] Our participants' request for more knowledge could indicate that the participants may not have the optimal preconditions to participate in shared decision making. Likewise, the participants experienced absence of alignment of expectations between them and the physiotherapist which can be considered essential to deliberate and discuss preferences for treatment options.[50,51]

Improvement opportunities of form and content

Most of our participants still had symptoms or complications following their fracture, which are consistent to previous findings.[6] In relation to the long-term complications, it is understandable that participants would prefer a long term follow-up consultation, and this may be favourable and easy to implement. Likewise, the long term complications may emphasize the importance of supporting patients autonomy through information, communication and shared decision making in order to make the patients confident to manage their rehabilitation after termination of the rehabilitation.[53]

The results from this study suggest that the rehabilitation process can be optimized by increasing the amount of information at the 6 weeks control at the hospital. Furthermore, the feeling of vulnerability and fear of weight bearing could be eased by having a physiotherapist to supervise the patients during weight bearing after removing the plaster/boot in addition to individual tailored information. This might be a relatively inexpensive and easily implementable improvement.

Limitations

The participants were interviewed 9-26 weeks after the start of their rehabilitation and two participants were not terminated yet. Therefore, they have different prerequisites for their answers, since some reflected retrospectively and others in the present. For someone it may create recall bias, but on the other hand an opportunity for longer time for reflection.

The results of this study are considered to be transferable to a similar population, however, the transferability of the results to another age group or geographical location as well as another degree of satisfaction is uncertain. The transferability to people without access to similar healthcare services is uncertain too. It cannot be ruled out that a larger sample could have changed or added themes. Since the defined themes were consistent among most of the participants, saturation is assumed to be achieved.

To support and complement the researchers' development of the interview guide and possibly contributed to different questions and phrasings, a focus group interview could have been conducted. This may have created another interview guide resulting in different answers from the patients.

The likert scale intends to explore how the participants had experienced their rehabilitation. However, it is unclear how the participants understood the question, as several answers were based on how they had performed or how well they had recovered and made progress during their rehabilitation. Others' satisfaction was based on an assumption that the structure of the rehabilitation was fixed by the municipality. Knowing that this is not true it can be assumed that the participants would have been less satisfied. Different replies to the likert scale could affect the preconception in the analysis and interpretation.

Finally, the interviews were undertaken over a period of COVID-19 restrictions. This may have affected the rehabilitation and therefore the participants' experiences and preferences.

Conclusion

The results from this study show that the participants have very different experiences during their rehabilitation. Likewise, they have different preferences for how the optimal rehabilitation can be organized which emphasizes the importance of patient-centeredness. This study helps to provide an in-depth understanding of participants' experiences and preferences during physiotherapeutic

rehabilitation following an ankle fracture. Whether the results from this study are transferable to other target groups, future studies must show.

Other

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