

Clinical Commentary/Current Concept Review

"I Feel Like I Have Lost Part Of My Identity" - A Qualitative Study Exploring The Impact Of Chronic Ankle Instability

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Introduction

Lateral ankle sprain is the most common ankle injury and up to 40% of those who sustain a lateral ankle sprain will develop chronic ankle instability (CAI). The aim of this study was to explore the thoughts and expectations of CAI-patients concerning their condition and expectations of care in an orthopedic setting.

Study Design

Qualitative study

Methods

Nine semi-structured one-to-one interviews were conducted with CAI-patients who were referred to an orthopedic setting. Interviews were recorded, transcribed, and analyzed using systematic text condensation with an inductive goal free approach.

Results

Seven themes emerged. The themes were *Injury history and symptoms* (Lateral ankle sprain during sport, pain and instability), *Information from health professional* (conflicting information about management and prognosis), *Management* (mental and physical challenges), *Expectation and hope* (explanation of symptoms, prognosis and imaging to provide clarification of condition), *Activity and participation* (restriction in sport and daily life and feelings of uncertainty), *Support* (support from family/friends) and *Identity* (low ability to participate in sport and social life result in loss of identity).

Conclusion

The impact of CAI exceeds an experience of pain and instability. Patients experienced loss of identity, having to manage uncertainty regarding their diagnosis and prognosis and had hopes of being able to explain their condition.

Level of Evidence

Not applicable

INTRODUCTION

Lateral ankle sprain (LAS) is the most common ankle injury in sports and nearly one in two individuals sustaining LAS will seek medical care.^{1,2} It is estimated that up to 40%

will develop chronic ankle instability (CAI) after a LAS.^{3,4} CAI has been defined as: 1) A history of at least one significant ankle sprain and 2) A history of the previously injured ankle joint "giving way" and/or recurrent sprain and/or "feeling of instability".⁵ Furthermore, CAI has been de-

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Table 1.

Inclusion	Exclusion
A history of at least one significant ankle sprain	
Feeling of looseness and instability* AND/OR Episodes of "giving way" ** AND/OR Repeated (+2) sprains of the same ankle	Foot/ankle fracture within 6 weeks

***Feeling of ankle instability:** "Situations where daily activity and sports activities give the patient a feeling of an unstable ankle and will typically be associated with fear of reinjury of the ligament".

****Giving way:** "Frequent occurrence of uncontrolled and unpredictable episodes of excessive inversion of the ankle, not resulting in an acute lateral ankle sprain".

defined as mechanical and functional instability.⁶ However, in 2019, Hertel and Corbett updated this model. The updated model of CAI consists of eight primary components: (1) primary tissue injury, (2) pathomechanical impairments, (3) sensory-perceptual impairments, (4) motor-behavioral impairments, (5) personal factors, (6) environmental factors, (7) component interactions, and (8) the spectrum of clinical outcomes. This model highlights the multifactorial aspects of CAI.⁷

Management of CAI has traditionally focused on biomechanical and physiological impairments with little focus on psychological aspects of living with this chronic condition.⁸ The evidence for including a psychosocial aspect in the management of CAI is poor and there is a significant gap in the current understanding of this condition.⁷ Previous authors propose that the fear of using the affected ankle can affect individuals with CAI.^{9,10} Patients with CAI may experience a reduced quality of life and limited social participation compared to those who have fully recovered from LAS.¹¹ However, these assertions remain largely anecdotal without supporting data.

Contemporary models of persistent pain have identified the importance of thinking beyond muscles and joints.¹² These findings may in some cases lead to better treatments and improved patients' outcomes.¹³ Therefore, the focal point of this investigation was the patient's experience of how CAI manifests in their lives. The aim of this study was to explore the thoughts and expectations of CAI-patients concerning their condition and expectations of care in an orthopedic setting.

This involved a thorough examination of the thoughts, experiences, and emotions that arise as a direct consequence of their life with CAI in hopes of addressing this knowledge gap by generating new insights and achieving a more profound understanding of the intricate psychosocial facets of CAI, which have thus far been inadequately explored.

METHOD

DESIGN

A qualitative method was used to explore the psychological and social impact of CAI identifying themes within patients' expectations and thoughts about care concerning their condition. The study utilized semi-structured one-to-

one interviews with nine patients who had been screened and diagnosed with CAI. The thematic analysis of the data followed Malterud's guidelines,¹⁴ employing systematic text condensation. This method is a descriptive and exploratory approach for conducting thematic cross-case analysis on various forms of qualitative data. Furthermore, the study adhered to the reporting guidelines outlined in the COREQ checklist,¹⁵ which is designed to enhance the transparency and quality of reporting in qualitative research.

This study set out to improve the understanding of those living with CAI. Interviews were conducted with inspiration from a phenomenological approach. A phenomenological approach enables the exploration of individual motivation and meaning, as it is grounded in the epistemological position that emphasizes the interconnectedness of meaning, lived experience, and language.^{16,17} The interviews in the project were conducted by five members of the project group (AM, HL, SZR, TS, AEJ).

RECRUITMENT

After being diagnosed with CAI, nine patients referred to conservative treatment were recruited through a secondary care orthopedic setting at Aalborg University Hospital from September 2021 – October 2021. Based on previous qualitative studies in other musculoskeletal conditions, it was estimated that a sample size of 8-10 participants would be sufficient.^{18,19} The goal was to enroll enough patients to attain data saturation, which was defined as the point in the data analysis where no new themes emerged. The study used purposive sampling to intentionally select patients diagnosed with CAI.²⁰ Initially, the patients were seen for preliminary examination and subsequently referred to a physiotherapist (KBS) according to the inclusion and exclusion criteria in [Table 1](#). KBS works as an extended scope practitioner with extensive experience in managing patients with ankle conditions at Aalborg University Hospital. The inclusion and exclusion criteria were derived from DeLahunt et al. 2010, which is the selected criteria from the international ankle consortium in research in CAI.²¹

INTERVIEW DESIGN

The Foot and Ankle Outcome Score (FAOS) has been utilized as a self-reported measure of disability.²² This served

as a guide in structuring "Main part 1" of the interviews, which covered themes related to "Symptoms," "Pain," "Function in daily life," "Function, free time, and sport," and "Quality of life."²² Additionally, "Main part 2" of the interview guide included themes such as "Injury history," "Expectations," and "Thoughts," with the aim of incorporating psychosocial aspects into the interview discussions.²³ Throughout the interviews, efforts were made to maintain consistency and uniformity, and to facilitate this, the researchers employed the interview guide (Appendix 1) as a reference for structuring the conversations. The interview guide was designed by the researchers and pilot tested on fellow researchers. Each patient was interviewed individually, and a second researcher assisted the interviewer in a comprehensive coverage of the interview guide. Prior to the interviews, all patients were provided written consent and verbal consent was also obtained before interviewing began.

DATA COLLECTION

All interviews were conducted in October 2021 by researchers AM, HL, SZR, TS, and AEJ. To ensure a comprehensive exploration of the participants' experiences, semi-structured interviews were chosen, allowing for specific topics to be covered while also providing patients with the opportunity to introduce new themes.²⁴ The interviewers employed open-ended and in-depth questions, summarizing the patients' responses to ensure valid interpretations of their statements.²⁴ All interviews were recorded to ensure thorough transcriptions for analysis.

DATA ANALYSIS

Systemic text condensation was used as it allows for the creation of themes and codes inductively, capturing meaning and content without predetermined preconceptions, thus providing flexibility to generate a comprehensive and detailed account of the data.¹⁴ Audio files were listened to several times to check for accuracy, and transcriptions were read and re-read several times. All recordings underwent transcription using the slightly modified verbatim transcription method¹⁴ in Microsoft Word. To ensure a credible transcription, only wordings like "ah" and "ehm," were corrected or removed as well as repetitions and mispronunciations. Anonymity of the patients was achieved by referring to them as "P". Furthermore, place names were omitted or replaced. The transcription style was used to ensure readability and reproduce the interview reliably.^{14,25}

To process the transcribed interviews, Malterud's systematic four-step analysis method was used.¹⁴ The data analysis had an inductive approach as the text condensation was prepared without the aim of identification of any specific themes.²⁶ Data coding then identified and coded pertinent features of the data giving equal priority over the dataset. Each interview was processed individually, after which the material from all interviews was recontextualized and summarized in the fourth step. These steps were independently conducted by three researchers (AM, HL and SZR) who met to compare codes and develop agree-

Table 2. Patient demographics

Patients (N=9)	Frequency (%)
Gender	
Female	7 (77,8)
Male	2 (22,2)
Age (years)	
10-19	2 (22,2)
20-29	5 (55,6)
30-39	0 (0)
40-49	1 (11,1)
50-59	1 (11,1)
Ankle	
Right	7 (77,8)
Left	2 (22,2)
Primary ankle distortion	
12 months	3 (33,3)
12-24 months	4 (44,4)
24 months +	2 (22,2)

ment on the grouping of codes into themes. The generated themes were reviewed and refined, ensuring they explained the identified themes in relation to the coded data and the dataset. After nine interviews, it was determined by the researchers that data saturation had occurred as no new themes or concepts were generated.

RESULTS

Patients' ages ranged from 15-51 years of age with a duration of CAI from five months to five years. Table 2 presents patient demographics and characteristics. The interview duration ranged from 23 minutes to 42 minutes.

Seven major themes emerged from the data were: "Injury history and symptoms", "Information from health professional", "Management", "Expectation and hope", "Activity and participation", "Identity" and "Support". The seven themes were subdivided into 14 subthemes (Table 3).

THEME 1: INJURY HISTORY AND SYMPTOMS

INJURY HISTORY

Participants reported that their primary injury was sports-related, including non-contact or contact injuries, often resulting from running, stopping, changing direction, landing, tackles, feints, or stumbling while walking on uneven ground. Among the participants, most injuries occurred during soccer or handball. Non-contact related injuries often happened on uneven terrain or were related to a lack of attention. Contact injuries were often linked to the intensity of the game. Many participants frequently experienced delayed pain from the sprain.

PI: "The first time I twisted my ankle it was during a feint and the second time I just ran straight out. No one was touching me or anything. I just twisted my ankle because I lack stability in my ankle."

Table 3. Themes and sub-themes identified during data analysis

Themes	Sub-themes
Injury history and symptoms	Symptoms
	Injury history
Information from health professional	Rehabilitation and treatment
	Patient understanding and information from healthcare professionals
Management	Mentally
	Physically
Expectation and hope	Examination, information, and treatment
	Free of symptoms
	Image diagnostics
Activity and participation	Limitations
	Uncertainty
Identity	Identity
	Exclusion
	Fear
Support	Support

SYMPTOMS

The participants experienced varying symptoms including stiffness, locking, looseness, instability, pain with or without loading. Uneven ground, stairs, and normal walking were challenging for many patients. Additionally, most individuals also noted the presence of swelling and discoloration. For some, even ordinary walking could be quite taxing, underscoring the significant impact of the ankle injury on their daily quality of life.

P2: "There is pain in certain situations, such as climbing stairs and running. Sometimes it comes if I walk too far."

THEME 2: INFORMATION FROM HEALTH PROFESSIONAL

REHABILITATION AND TREATMENT

The treatments varied and included brochures, sports websites with rehabilitation instructions, and supervised exercise with a physiotherapist. Exercise on a balance board was common, and some received individualized rehabilitation while others received generalized training or "standard exercise programs" they felt did not suit their situation giving a sensation of receiving the same 'standard exercises' without any individualized creativity. Some patients lost motivation in rehabilitation and stopped or prioritized other activities. Many were informed to quit their sport or find a new sport.

P7: "I feel like I am told the same thing every time. 'Do some more exercises and it will get better'. 2-3 months pass and then I come back and get some new exercises."

PATIENT UNDERSTANDING AND INFORMATION FROM HEALTHCARE PROFESSIONALS

Participants experienced conflicting information from healthcare professionals, leading to confusion and frustration. Several were told that LAS take a few weeks to heal, but they experienced a much longer process. Many found comfort in receiving a specific diagnosis, plan, prognosis, and explanation, but others lacked answers and investigation. The patients emphasized the importance of word choice in their perception of the process, with terms like "looseness", "hypermobile", and "weak ankles" affecting their understanding. Some were told to live with the symptoms, while others were given support splints or surgery referrals.

P3: " I was told in the emergency room by the physiotherapist: 'Normally this type of injury will go away within a few weeks'."

THEME 3: MANAGEMENT

MENTALLY

Some participants managed their ankle problems by adopting a positive mindset and shifting their focus. Participants described how it became easier for them to remain positive after some time had passed. Furthermore, several participants highlighted how their previous injury experiences influenced how they decided to manage their current problem. Dwelling on negative limitations negatively affected mood and prevented meaningful activities for some patients.

P6: "Yes, my ankle affects my mood. If I'm in pain, I get mad and irritated and sad. Whereas if it doesn't hurt, I kind of forget about it and then I'm just happy."

PHYSICALLY

Some managed their ankle problems by recognizing limitations and finding alternative activities. They adjusted their daily routines to participate in social life and work. Coping strategies included rest and ankle elevation, as well as avoiding aggravating situations. Few used pain medications. Conflicting information from healthcare professionals often led to exercise avoidance. Patients preferred rehabilitation that was accessible and easy to incorporate into their daily routines.

P3: "When I sit at home, I always sit with my legs up and sometimes I have to take some painkillers for it, but that's not what I want, so sometimes I just ignore the pain."

THEME 4: EXPECTATION AND HOPE

EXAMINATION, INFORMATION, AND TREATMENT

Some hoped that the ankle was broken because they expected that would result in an easier detection and faster healing, while others had no expectations due to the self-resolving nature of sprains. Nonetheless, patients shared a common expectation for a comprehensive examination, clear explanation, and rehabilitation. Some patients desired targeted ankle exercises, while others hoped for supervised training to avoid errors. Overall, patients hoped that something could be done for them to return to normal life and sought prompt referral, investigation, and treatment from their doctor.

P6: "I just came with an expectation and a hope that I could get an answer to what I can and can't do. What will happen and answers to what it is and all that."

FREE OF SYMPTOMS

Patients generally hoped and expected to improve following their injury. Some aimed for higher function than their current state, while others aimed to return to their pre-injury level. Those with prior experience of self-resolving symptoms were more optimistic. Symptoms impacted patients differently, with some seeking pain relief and others seeking increased stability to prevent further injury. Patients understood that additional sprains would damage ankle ligaments and require restarting rehabilitation.

P2: "I hope I can participate in everything I usually do - matches and training without it being overloaded. I expect and hope that at least."

IMAGE DIAGNOSTICS

Patients expected that diagnostic imaging would clarify their symptoms. X-rays were deemed insufficient for sprains, and an MRI was preferred. Some patients received an X-ray or MRI and desired follow-up scans to monitor progress. Frustration arose from discrepancies between persistent symptoms despite rehabilitation and the absence of pathology on images.

P7: "... when you are told that they cannot see anything on the scans, you think it must be positive - but why am I still in pain? ... even after following rehabilitation programs."

THEME 5: ACTIVITY AND PARTICIPATION

LIMITATIONS

Patients experienced limitations in their sports, physical activities and social life preventing them from following their dreams. Many felt limitations when comparing to their peers and pain led to avoiding exposure. Some continued gym training but avoided leg exercises. Simple activities like walking were limited and required more concentration.

P6: "I wouldn't dare to join in if my friends are out playing paddle-tennis, or something else where my foot would be more in the risk zone."

UNCERTAINTY

Some experienced high levels of uncertainty regarding prognosis, diagnosis, and guidelines. Some felt frustrated by their inability to provide employers and coaches a timeframe for return, which for some led to feelings of exclusion. The uncertainty surrounding diagnosis and guidelines caused confusion and fear of doing something wrong, leading to abstaining from activity. Conflicting information further contributed to confusion and uncertainty.

P6: "The physiotherapist said that I could train, but I had just been told that I could not train, so I was just a bit uncertain about what I could and could not do. So, I just listened to myself and it felt like I shouldn't do anything because of pain."

THEME 6: IDENTITY

IDENTITY

Most of the patients found it mentally tough and unfair to be in their situation. Sports-active patients felt limited by having to stop or reduce their sport, which was part of their identity. Some experienced a sense of personal weakness and frustration from not being able to become who they desired to be. Stopping the sport, you've dedicated your entire life to was experienced as particularly challenging, as it felt like losing a part of yourself.

P1: "The thing about when you usually do as much sport as I do, you feel a bit like you're losing a part of yourself, as you can't participate like you usually do."

EXCLUSION

Not participating in activities was experienced as a feeling of exclusion from their community, causing them to miss out on social interactions with friends and teammates. Sports-active patients experienced being left out during matches and had to exclude themselves from the sports they loved.

P1: "We had a party the other day. All the others walked to the party, which was approximately 3 km. I had to say that I could not go that far, and instead was driven by my parents. Sometimes you miss out on common things you want."

FEAR

Many feared re-spraining their ankle during activities and making the injury worse or permanent. This fear led to avoidance of certain activities. There were doubts about the adequacy of their medical examination, because of ongoing problems which resulted in a fear of serious pathology. For some, this fear created negative thoughts about the future.

P2: "I'm afraid there is something there that shouldn't be, something that might not have been discovered."

THEME 7: SUPPORT

SUPPORT

Patients experienced practical and emotional support from their family and friends. Some patients found hope for recovery through their social network, which facilitated a sense of normality despite their injury. Friends and family served as a motivation for patients to stay active. However, some patients found it challenging to communicate their situation to their social circle, and it often took time for them to understand the severity of the issue.

P2: "I think people think that you are being dramatic at first, but then they find out that it is serious when you stop participating."

DISCUSSION

MAIN FINDINGS

This is the first qualitative inquiry to investigate the experience of individuals with CAI. Interviews and subsequent analysis explored participants thoughts about their current condition as well as expectations for their consultations in a secondary care orthopedic setting.

FEAR

Several of the patients expressed fear of re-spraining the ankle and making their condition worse. This fear meant less use of the ankle daily as well as during training. These findings can provide a deeper understanding about why previous research has found that a high degree of avoidance behavior is seen in patients with CAI.^{9,10,27} It was discovered that the interpretation of given information is heavily influenced by the way it is delivered. Patients experienced that the information leaflet given to patients with LAS illustrate that walking on uneven ground must be avoided to avoid chronic damage and pain after LAS. This may lead to a fear of using the symptomatic ankle as well as thoughts of disaster for the future if later sprain should occur. This suggests a need to adjust communication approaches with

patients, placing emphasis on presenting information in a non-threatening manner when appropriate.

INFORMATION

Information from healthcare professionals also seemed to be important in terms of explaining the condition and prognosis. Several of the patients experienced frustration from not being able to give a timeframe for return to work or sport. In patients with CAI, it can be difficult to give a specific prognosis, as it varies greatly from patient to patient.²⁸ One way of rectifying this could be by setting sport or work specific sub-goals, which must be met before the patient can return to the main goal.^{29,30} This way the patient has something specific to give to the employer or coach.

IMPORTANCE

The hopes and expectations for improvement are related to pain, function, and specific goals. An alignment of expectations between the patient and the healthcare professional early on seems to be important, to avoid discrepancy between the effects of the treatment and the expectations.³¹ It is important to involve the patient in setting realistic goals.³² Several patients experienced being told that they had to learn to live with their symptoms without further explanation. If an explanation of symptoms and a realistic alignment of expectations is given to the patient at the start of the process, it may be possible to avoid misunderstanding.³³

IDENTITY

Patients with CAI have a reduced quality of life compared to healthy individuals,¹¹ which is consistent with several patients' statements. An experience of losing a part of their identity due to the lack of physical activity was described. This has also been seen in patients with anterior cruciate ligament injuries.^{29,34} Patients experience a feeling of being excluded from the community due to low participation in their sport or social contexts. These statements could possibly be a main reason the low quality of life and an should be an important focus area for the healthcare profession. The aim is to keep the patient in important activities and relationships, as this may lead to a sense of normality and preservation of identity.³⁵ A large proportion of the participants in this study were young individuals, and the impact of being unable to engage in sports may be more significant among them due to the significant role social activities play in sports participation.

BIO-PSYCHOSOCIAL

Several patients expressed a high degree of frustration and uncertainty based on symptoms lasting longer than they had been told. They expressed that imaging (e.g., MRI) could make them more aware of their symptoms, which can enhance a biomedical understanding. In addition, some patients reported that they were afraid of whether their injury had been adequately investigated, as they were still in pain.

Within musculoskeletal problems, it is generally important for patients to understand their symptoms.³⁶ Healthcare professionals may need to focus on returning the patient to meaningful activities through sub-goals and also assist in changing the patient's view of their condition. This is supported by the fact that a connection is not necessarily seen between the initial trauma and the development of CAI, which highlights the importance of other factors.³⁷

STUDY LIMITATIONS AND STRENGTHS

Three authors coded all transcripts, and this study employed a clear, transparent, and reproducible methodological approach to data analysis. The authors all have clinical and research backgrounds firmly rooted in the biopsychosocial framework, which could have influenced the manner in which the interviews were conducted. However, the authors maintain the belief that adhering transparently and rigorously to the described methods has limited impact on the findings.

The main limitation of this study is that for pragmatic reasons, a convenience sampling technique was used. It is possible that this sample may differ from other samples within Denmark (or elsewhere in the world), and how representative these findings are to the greater population of individuals with CAI is unknown. The patients included in this study were all referred to a specialized hospital unit that managed foot and ankle issues. They may not represent the average CAI patients managed in primary care. A purposive sampling technique may have better represented sociodemographic groups or targeted identifiable subgroups. It is worth noting however, that the interview guide was prepared with utilizing the themes of FAOS and psychological factors. This was done to ensure that themes would be uncovered which have previously been shown to be relevant for this patient group. The challenge was, however, that the interviews risked being too narrow, limiting the emergence of new themes.

Another potential limitation of the study is the variance in interviewing styles among the five interviewers who conducted the interviews. Efforts were made to standardize the

process through collaborative development of the interview guide and pilot interviews. However, individual interviewer styles may have uncovered the complex phenomenon from various angles.

CONCLUSION

These findings offer an insight into the experience of individuals living with CAI that far exceed mechanical and functional issues related to the ankle. Patients experienced a loss of identity, having to manage uncertainty regarding their diagnosis and prognosis, and had hopes of being able to explain their condition. Furthermore, individuals may experience a loss of physical and functional abilities, confusion related to pain, and difficulty in making sense of their pain, accompanied by pain-related fear. The current findings suggest that future research is warranted into biopsychosocial targeted interventions to understand the impact and interpretation of medical terminology in patients with CAI.

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CONFLICTS OF INTEREST

The authors report no conflicts of interest.

DATA SHARING STATEMENT

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SUPPLEMENTARY MATERIALS

Appendix

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