

A qualitative study to understand patients' experiences of foot pain and surgical consultation for hallux valgus and/or hallux rigidus.

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Lorelle Dismore,¹ Anna van Wersch,² Rebecca Critchley,¹ An Murty,¹ Katherine Swainston²

¹ Department of Innovation, Research and Development, Northumbria Healthcare NHS Foundation Trust

² School of Social Sciences, Humanities & Law, Teesside University

Abstract

The foot is one of the most complex musculoskeletal systems in the body, playing a pivotal role in gait and posture. Epidemiological studies indicate that a high prevalence of foot problems is associated with a greater burden of pain, disability and decreased health-related quality of life. Disabling foot pain is likely to be multifactorial in origin, however to date there is limited evidence of the psychosocial impact of forefoot problems, as such the associated burden is unknown. The study was qualitative with the use of semi-structured interviews to explore patients' experiences of their foot problem and of undergoing surgical consultation and/or intervention for hallux valgus and/or hallux rigidus. Sixteen patients participated: 14 females and 2 males; mean age of 61 years, SD 7.23 from a National Health Service secondary care hospital within an orthopaedic department, who required surgery for hallux valgus and/or hallux rigidus. Thematic analysis generated three themes; 'the impact of pain', 'the decision-making process' and 'body image, the self and identity'. Forefoot problems present many issues for patients and impact on their physical, social and psychological health. Forefoot problems are multifactorial and patients should be supported using a biopsychosocial approach.

Contribution of the paper

- Forefoot problems are disabling and impact on patients' physical, social and psychological health
- We identified issues pertaining to the impact of forefoot problems on patients' psychological well-being
- We recommend that patients should be supported using a biopsychosocial approach, and interventions may include a multidisciplinary approach with support from allied health professionals.

Keywords

Qualitative research, forefoot surgery, orthopaedics, psychological well-being, biopsychosocial

Introduction

Epidemiology studies indicate that foot problems are highly prevalent in the community and form the most common anatomical sites of pain [1-2]. They account for high utilisation of primary care consultations across all age groups, with a higher proportion of consultations occurring with females (55%), in people aged 45-64 years (36%), and increasing with age [1,3-4]. Patients are most commonly referred to orthopaedic surgeons, physiotherapy and podiatry for management [3]. Hallux valgus (HV) (bunion) and hallux rigidus (HR) (arthritis of the first metatarsal joint)

are amongst the most prevalent forefoot conditions. In England, the prevalence of HV and HR was approximately 40,000 during 2017/18, with approximately 21,000 operations performed [5]. HV is the most common with prevalence increasing with age and is higher in females (20, 989, with a mean age of 58 years) [4-5].

The foot is one of the most complex, yet understudied musculoskeletal systems in the body, playing a pivotal role in gait and posture [6]. The most common symptoms of forefoot problems include pain and discomfort, which can be persistent when walking or resting, and two-thirds of cases experience moderate disability in aspects of daily life [1-2]. Pain causes individuals to walk on the side of their foot resulting in impaired gait patterns, poor balance and increased risk of falls in older adults [4]. Wearing incorrectly fitted footwear can result in pathological changes and pain

Corresponding author:

Lorelle Dismore, Department of Innovation, Research and Development, Northumbria Healthcare NHS Foundation Trust, North Tyneside General Hospital, Rake Lane, North Shields, Tyne and Wear, NE29 8NH

Lorelle.dismore@northumbria-healthcare.nhs.uk

[7]. This causes further difficulty in finding comfortable, wide footwear [8]. Women with foot problems have decreased health-related quality of life (QoL), compared to men [9]. Disabling foot pain is likely to be multifactorial in origin [10]. To date, there is limited evidence of the psychosocial impact of forefoot problems, or the role of psychosocial factors in the development of foot pain [10], making the associated burden unknown. There is a body of literature on the role of psychosocial factors in the experience of pain and disability, and the emotional and behavioural consequences of pain, that influence the development of persistent problems and outcomes of treatment [11-12]. Psychosocial factors and the emotional health of patients have also been examined in relation to moderating surgical outcomes [13-15].

It has been recommended that research is required to evaluate the factors that influence consultation for foot problems and strategies used to manage forefoot conditions [1]. In a cross-sectional postal survey with a random community sample of 3417 individuals, only one third with disabling foot pain received professional foot treatment in the six months preceding the survey [10]. This represents the potential for an unmet need for foot treatment. A greater understanding is needed regarding the extent and type of this unmet need, and on how patients presenting with symptoms of disabling foot pain can be optimally managed [10].

The aim of this study was to explore patients' experiences of their foot problem and of undergoing surgical consultation and/or intervention for HV and/or HR. An assessment of patients' experiences of their forefoot problem will be invaluable to establish an understanding of the psychosocial issues that they may experience and how this influences their psychological well-being. A qualitative methodology with the use of semi-structured interviews, analysed using a thematic-analysis inductive approach, was utilised.

Methods

Procedure

Ethical approval was granted by NRES Committee South Central and Oxford and local R&D approvals prior to data collection in a National Health Service (NHS) secondary care, orthopaedic outpatients department. The orthopaedics outpatient's department received 401 referrals with a primary diagnosis of HV or HR in 2019. This qualitative study was part of an observational study to explore whether pain catastrophizing influences surgical outcomes in patients requiring forefoot surgery for HV or HR.

Patients who attended an appointment with an orthopaedic practitioner who were recommended surgery and opted to be contacted about the additional qualitative sub-study were recruited. Seventeen patients were telephoned by the researcher (LD) to confirm that they were happy to be mailed a copy of the information leaflets about the study. The researcher provided further information about the study and provided the participants with an opportunity to ask questions. Participants were telephoned 7-10 days after posting the information to allow them time to consider their participation. The researcher (LD) arranged the face-to-face interview with a date and time convenient for the interviewee. Fifteen patients were interviewed at home and one patient was interviewed in hospital. Written informed consent was obtained prior to the commencement of the semi-structured interview by the interviewer. Interview schedules using open ended questions were utilised (appendix 1). The interviews lasted between 30 minutes to one hour, were audio-recorded and deleted once transcribed verbatim by (LD). All patients were allocated a pseudonym and anonymised accordingly.

Participants

In total sixteen interviews were conducted with fourteen females and two males aged between 45 and 73 (mean age of 61 years, SD 7.23). All participants were White Caucasian. The two males both had a diagnosis of HR. Of the fourteen females recruited three had a diagnosis of HR, nine had a diagnosis of HV and two had a diagnosis of both HR and HV. All data were handled anonymously, stored within the R&D department on a security-protected NHS computer server with data encrypted and automatically backed-up.

Authors' Philosophical Positioning

The choice of methodology should be governed by the philosophical underpinning of the research. An interpretivist paradigm with a subjective ontology was applied. The participants were viewed as people in order to make sense of their reality and reality being constructed in the context. An interpretivist epistemology enabled the use of qualitative methods to capture patients' experiences and perceptions of their forefoot condition. Interviews facilitated exploration of the research questions to gain a deeper understanding of the phenomenon in the context of health. The researcher (LD) was a female, health psychologist and the project was part of a PhD thesis.

The researcher received supervision (KS) to examine the researcher's role.

Data analysis

Interview transcripts were analysed following the six steps outlined by Braun and Clarke's (2006) thematic analysis approach [16]. Thematic analysis offers an accessible and theoretically-flexible approach, providing a rich and detailed, yet complex account of data. An inductive approach was chosen with emergent themes being grounded within the data. The steps involved reading and re-reading the data to ensure familiarisation. Whilst reading over the transcripts, initial codes were generated through identifying interesting aspects of the data. This involved highlighting text (words and short segments of the data) throughout the data corpus, coding for as many potential codes and themes as possible, that were identified to represent meaning and patterns within the data. Codes were reviewed and refined and connections identified and clustered together. Writing notes supported this process and once codes were established they were organised into potential themes with supporting quotations. The relevant quotations were reviewed and the final themes were defined. Two researchers (LD and KS) analysed the data, discussing the theme content and theme names to reach a consensus. All authors reviewed and agreed the final themes. Saturation of the interviews was subjective as meaning was generated through interpretation of the data [17].

Results

Three themes were generated; The Impact of Pain, The Decision-Making Process and Body Image, The-Self and Identity.

Theme 1; the Impact of Pain

The patients' expressed thoughts and feelings about their forefoot pain describing it as a debilitating symptom, and causing issues with mobility including an inability to walk 'normally' because of pain. Patients' described experiencing pain in other areas of their body as a result of a forefoot condition. Experiencing pain and pathological changes of the forefoot led to footwear issues further impeding on their ability to walk:

"I've had surgery there...so now I'm putting extra weight on that, so that aches, my knee there is swollen because I'm sort of limping and putting weight on there and I'm just not confident in walking...it's

worse when I'm trying to move around...I've got to walk totally on the outside of my foot. If I try to walk normally...well I can't...it feels like grinding and...it just hurts...I walk on the side of my foot which puts weight on there...this morning I could hardly walk" (Jamie)

"So painful I couldn't wear my shoes and...I've found walking difficult. I'm all right in the house but walking outside with shoes. I have one pair of shoes that I've been able to wear. Then just before Christmas I had to cut a hole in my trainers and...I bought some size nine shoes but...I can only wear them for a very short time and I can't walk very far" (Maria)

Patients described how experiencing a forefoot problem had affected their lives. They were unable to exercise, take part in social and recreational activities and some patients had to give up work. Pain was described as taking the joy out of normal day to day activities:

"I actually gave up work because I just couldn't. I was a trainer and I could only train standing up so I had to give up a job I loved and it was all wrapped around pain" (Melissa)

"I don't want to use the word depression because I understand depression is much more serious but it saddened me, it just takes the edge, it was like you would be enjoying something but you can't enjoy it fully. The grandchildren would come around and I can't play on the floor and I can't do this... So, it was taking the top off the nice things because it was always there...I would think...can I do that? It was always part of the thought process. How can I avoid it, how can I minimise it? Will this make it worse?" (Melissa)

Due to experiencing pain, patients expressed psychological impacts, including low mood, depression, personality changes and sleep problems:

"I'm agitated all the time and I don't need to be, it's like it's not me doing it. It's somebody else and this why I can't sleep because I know it's had such an effect...it's my personality definitely...somebody at work said one day we want the old [name] back and it kind of upset me, I thought you know...you don't know how I feel. I want the old [name] back as well" (Victoria)

Theme 2; the Decision-Making Process

The decision to have surgery was influenced by the impact of pain. Patients expressed an expectation of being able to return back to a normal life post-surgery, a readiness to engage in activities of daily living and to increase their exercise. Minimising pain and discomfort was described as a hopeful outcome of surgery:

“Well I think relieved because...I want to do my gardening and I want to be able to get around a bit better...well I hope I get rid of the pain, I realise I won’t be able to wear heeled shoes or anything but that doesn’t bother me. I just want to be able to get around properly, walk, not for miles but walk for the newspaper or do something like that” (Maria)

Patients described that their pain perceptions were negatively influenced by others’ descriptions of forefoot surgery, with peers describing the procedure as extremely painful. Listening to others’ descriptions of the forefoot surgical procedure led to anxiety over the decision-making process for surgery:

“Oh, I’m having my foot done, oh you’re not? I said I am, oh my friend had that...the needle it’s like putting it through your gum and I’m looking at them right and thinking, don’t know if I have done the right thing here” (Claire)

“Oh that was the other thing, because when I stopped playing football and I had pain in it, I met this guy who had, had, a similar operation and he says...honestly don’t do it, he says its...agony...So, I have put it off in the past having it done because I remember him saying...don’t have it done and when I’ve been to see specialists and all that they’ve said well it might work it, might not work” (Jamie)

Listening to others’ apprehension had an influence over the decision-making process by causing uncertainties in the patients’ decision to undergo surgery. This caused one patient to decline surgery.

Theme 3; Body Image, The-Self and Identity

Women’s body image was influenced through experiencing pain, in part due to gaining weight due to being inactive because of pain and discomfort. Patients described being limited to the type of footwear they could use due to pain and the pathological changes of their foot. Limiting their footwear and gaining weight affected the type of clothing they could wear. This negatively influenced body-image and identity, with

some of the women describing themselves as feeling old:

“I am very fashion conscious and I don’t feel smart anymore it does make me feel quite old and frumpy, and I think it just it eventually slowly drags you down... thoughts of feeling very fed up...very frustrated. I feel like an old lady, I feel I’m more in my eighties than seventies, I think I’m a pretty young seventy, and I start thinking is this me for the rest of my life and I get very angry and frustrated” (Hannah)

“Footwear for work became a problem...I was conscious if I wore a dress or a suit for meetings or something like that of the shoes that I had to wear” (Jemma).

Body image issues affected their emotions, such as low self-esteem and loss of confidence:

“I hate having my feet fastened up in trainers all the time for comfort and like I say I’m getting older so it’s not about the fashion but I like to look nice like anybody else and people said but you do, you always look nice, you have your nails done, your hair done and your makeup, you’re lovely... yeah but if you only knew I how I feel” (Victoria)

Some of the patients reported an issue with the use of being prescribed therapeutic footwear, due to the appearance of the shoe and the impact on body-image and identity:

“She says right prosthetic shoes...and looked at her and said I’m not wearing them prosthetic shoes... I’m sick of hearing that word prosthetic shoes, god I’m only 57 and I said I’m not wearing them and that was it and she clicked down and said right we will put you down...but I think they might have put prosthetic shoes on us had I not pushed it and I am not wearing prosthetic shoes” (Claire)

Discussion

The aim of this study was to explore patient’s experiences of their forefoot problem. Pain impacted on patients’ lives, including their physical, social and psychological health. They experienced issues with walking, exercise and a diminished ability to take part in social activities. Patients described low mood, depression, personality changes and sleep problems. The decision-making process for surgery was influenced by the impact of pain and patients expressed a desire to regain normality post-surgery.

Anxiety over the decision-making process for surgery was influenced by listening to others' descriptions of the surgical procedure and pain. The women reported an altered body image as a result of inactivity, weight gain and being limited in their footwear and clothing choice. This affected their emotions and they reported low self-esteem and loss of confidence.

Our findings confirm previous research informing our understandings as to the potentially disabling nature of foot pain, causing difficulties in walking [4, 10], work related disability and loss of paid work [18-19], reduced quality of life [20] and pain in other parts of the body (shoulder, axial skeleton, hip, upper leg and knee) along with other poor general health indicators [10]. Foot pain has an impact on psychological functioning including a higher prevalence of anxiety and depression and is associated with neuroticism [21]. Foot pain alters mood, leading to a loss of enjoyment and negative interactions during spending time with family and affects sleep [19]. Sleep is an important determinant of health status affecting mood, emotional and physical well-being [22-23] and is an important behaviour risk factor for worsening pain, depression, anxiety, chronic conditions and poor health outcomes [24].

Seeking health information is a key coping strategy for psychosocial adjustment to illness and is often desirable and central to health and illness behaviours [25]. The decision to have surgery was discussed with patient's support systems or peers, and the receipt of information caused uncertainties around the decision-making process for surgery, strongly influencing patients' perceptions of the surgical procedure and pain. Specialist support to help ease patient's anxiety and provide factual information regarding the surgical procedure is therefore needed to manage patients' expectations.

The development of HV results in the foot becoming broad and thereby causing difficulties in finding comfortable wide footwear [8]. The women were limited in their choice of footwear and clothing and described an altered body-image. The impact of footwear and clothing choice is supported in patients with arthritic conditions [19, 26] demonstrating the powerful role fashion exerts over body image [18]. Body image has a psychological meaning, choice of clothing is an important means by which women construct and present feminine identity [26-27]. Negative thoughts and distortions about body image leads to an individual feeling dissatisfied and body

dissatisfaction is associated with reduced quality of life, mental health outcomes and psychosocial functioning [28]. Body image contributes to overall happiness in women across the lifespan, affecting their body-esteem [29]. Body-esteem is how an individual feels about their physical appearance, forming a person's self-identity [30] and physical disability is a contributing factor towards low body-esteem [31]. The women's representations of their self-identity had changed as a result of their altered body image and had negatively affected their emotions. Ability to wear conventional shoes without problems are important expectations following HV surgery, along with improved walking ability and reduced pain [32-34]. Expectations vary according to age and gender and are weighed differently in terms of their level of importance [33]. Women value the ability to wear shoes of their choice as most important compared to improvements in walking agility in men [34]. Understanding patients' preoperative expectations are crucial in helping patients achieve satisfaction, and should be considered when planning an appropriate operation [34]. Therapeutic footwear was another contributing factor affecting body image. Patients may be prescribed therapeutic footwear, with an intention to 'use' rather than an item that is 'worn' becoming part of an individual's body image. This results in the control to wear an item automatically being taken away from the patient since their existing choice of retail footwear has been deemed unsuitable for their foot health needs [35].

In the context of the forefoot, patients experience a multitude of factors that influence their health outcomes and psychological well-being. The findings of our study can be interpreted within the biopsychosocial model. This model is considered to be more holistic as it recognises how biological, psychological and social factors interact to influence the development and outcomes of health and illness [36]. This is important in the surgical management of patients as research shows that biopsychosocial variables and poor emotional health of the patient can predict suboptimal outcomes in a variety of orthopaedic specialities [15]. However, despite research findings demonstrating the role of biopsychosocial factors in the experience of pain and disability and moderating surgical outcomes [11-12] orthopaedic care is framed within a medical model [15]. The importance of addressing the emotional health of the patient prior to undergoing a surgical procedure has been undervalued, yet this is important and surgeons must start to recognise that the

emotional health of the patient influences post-operative recovery [15].

Strength and Limitations

Many of the issues highlighted by the interviewees would not have been fully captured by the use of patient reported outcome measures (PROMs). The Manchester Oxford Foot and Ankle Questionnaire (MOxFQ) [37] assesses outcome following foot and/or ankle corrective surgery and measures three domains including walking/standing, pain and social interaction. The MOxFQ may be utilised in clinical practice with the EQ-5D-3L measuring health-related quality of life including mobility, self-care, usual activities, pain/discomfort and anxiety/depression. The strengths of the study include the use of a qualitative methodology to explore patients' experiences of their forefoot problem that would otherwise not have been captured with the use of PROMs. Outcome measures force responses as they assume that all possible responses to a question are included in the available answers [38]. Member checking of the themes were performed by an interviewee, thereby increasing credibility in trustworthiness of the results. A limitation is the sample were predominantly female (87.5%) and therefore findings are not indicative for the male population and further research is needed to explore their views in greater detail.

Conclusion

This study adds to the literature by providing a qualitative understanding of the impact of forefoot problems on patients' physical and psychosocial health. Experiencing a forefoot problem impacted on patients' lives, including their ability to exercise and limited social activities and work. Not being able to wear desired footwear and clothing altered women's body image, with negative effects on their psychological well-being. A forefoot condition is multifaceted and behaviour change interventions are needed that take account a holistic approach to care and treatment. The findings have highlighted the importance of a biopsychosocial approach in the management of forefoot problems. Targeted interventions could be used in surgical care to improve the psychological well-being of patients, and may require an individualised personal approach to care and treatment. Discussions could take place around providing patients with adequate information on the surgical procedure to manage their expectations. Interventions may include a multidisciplinary approach with support from allied health professionals.

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Conflict of interest

The author(s) declare that there is no conflict of interest with respect to the research, authorship and/or publication of this article.

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| Appendix 1: Interview Questions |
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| <ol style="list-style-type: none"> 1) Can you begin by telling me a little bit about yourself? 2) Can you describe your occupation including the roles and responsibilities you have? 3) How does your foot problem affect this? 4) Can you describe your experience of your foot problem before seeking medical advice? 5) How did your foot problem affect you? 6) Can you describe your experience of seeking medical advice? 7) Can you describe the pain/discomfort that you may feel regarding your foot problem? 8) How does this make you feel? 9) How does your foot problem affect you on a day to day basis? 10) Can you talk me through your decision to have surgery? 11) What thoughts and feelings are you experiencing regarding having to have surgery? 12) What do you expect to happen after surgery? 13) Overall, how satisfied are you with the decisions made so far? 14) How do you feel about your foot problem and the future, what does the future hold for you? |
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