

# Exploring women's perceptions of pain when breastfeeding using online methods

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## Research article

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# Abstract

Background: Despite benefits, many mothers stop breastfeeding soon after birth. A common reason for this is the experience of pain or discomfort. One resource which women use to share their breastfeeding challenges and seek support are online forums. This study aimed to collect data from online forums to explore 1) usage of forums as social support for breastfeeding related pain; 2) experiences of breastfeeding related pain; 3) perceptions and strategies to deal with breastfeeding related pain; and 4) the impact of pain on breastfeeding duration.

Methods : This secondary analysis of data involved searches of online forums: Netmums, What to Expect and Mumsnet using key terms including 'painful breastfeeding' and 'sore breastfeeding' . Data included 123 posts and 193 replies, which were analysed using thematic analysis.

Results: The first theme identified was 'variation in types of pain', highlighting the variety of painful experiences and their descriptions. Secondly, 'perceived causes and explanations for pain' revealed pain ascribed being due to a recognised condition or behavioural cause. The third theme 'cessation of breastfeeding related to pain' identified both physical and psychological struggles related to breastfeeding and cessation. Finally, 'shared experiences and support' identified practical or emotional support to deal with pain.

Conclusion: Pain was a key reason for breastfeeding cessation, commonly associated with strong feelings of guilt. The online forums provide a unique form of social support for breastfeeding women to find ways to cope with the pain, while highlighting the urgent need for more appropriate antenatal education on realistic expectation surrounding breastfeeding.

## Background

It is well recognised that breastfeeding is beneficial for infants as well as mothers. Compared to being formula fed, babies who receive breastmilk have better immune protection, nutrition, regulation of growth development and reduced risks of future obesity and respiratory infections [1,2]. Furthermore, mothers who breastfeed their babies are at reduced risks of breast cancer, ovarian cancer and type 2 diabetes [3]. Despite the benefits of breastfeeding, literature from many European countries, including the UK, indicates low breastfeeding initiation and duration rates which often do not adhere to the World Health Organisation recommendations which includes exclusive breastfeeding for the first six months of an infant's life [4,5]. For example, in Scotland it is estimated that 53% of mothers are exclusively breastfeeding at hospital discharge and only 37% are exclusively breastfeeding at 6 weeks after birth. When considering any breastfeeding (exclusive and mixed feeding) 69% of women are providing breastmilk to their babies on discharge from hospital, 55% are providing some breastmilk at 6 weeks after birth and 43% are providing some breastmilk at 6 months after birth [6]. Hence, there is a noticeable decline in provision of breastmilk over the first 6 months of an infant's life, with the steepest decline in exclusive breastfeeding within the first 6 weeks of life. There are many hypothesised reasons for the

decline in breastfeeding duration rates, however, one predominant barrier to breastfeeding duration, which women commonly cite, is nipple and breast pain [7, 8, 9].

The experience of pain associated with breastfeeding can differ between individuals, with some women reporting intolerable pain and others reporting mild discomfort [10,11]. However, this unappealing feeling, no matter how extreme, can be highly detrimental to the breastfeeding experience. Experiences of pain or discomfort have been strongly linked with breastfeeding cessation and this pain-associated cessation is associated with feelings of guilt, dissatisfaction, upset and increased risk of post-natal depression [11]. Even in the most determined mothers who have a strong intention to breastfeed, pain is often cited as a key reason for cessation [12].

Whilst it is confirmed that pain and/or discomfort is a common factor experienced during early days of establishing breastfeeding, the underlying reasons for these experiences of pain and how women manage this experience, are varied [13], and not well understood [14]. There is conflicting literature surrounding reasons for pain or discomfort associated with breastfeeding. Often, nipple-pain is attributed to the incorrect positioning of the baby [15], however, there is evidence which refutes this link. Blair et al. (2003) concluded that neither head position nor body position was more related to the level of pain experienced by the mother, suggesting that there may be other physiological or psychological reasons why women commonly experience nipple pain [16]. Furthermore, research has mostly focused on the experience of nipple pain, with little known about the specific type or range of pain women experience when breastfeeding.

Beyond understanding the reasons for and range of pain experiences, it is important to consider how women can be supported to manage or cope with pain whilst breastfeeding. Qualitative research indicates that women express a mismatch between their general expectations and realities of breastfeeding [17] as well as a lack of support for emotional needs related to breastfeeding [18]. Yet many women prefer social support over healthcare professional support and they recognise that other people such as family and friends can strongly influence their breastfeeding expectations and experiences, both in a positive and negative manner [19, 20, 21]. Although some studies highlight how peer counselling increases breastfeeding initiation, none of the antenatal breastfeeding education programme evaluated in a recent Cochrane review could be recommend due to substantial methodological limitations [22]. Additionally, there is little exploration of what women expect in relation to pain during breastfeeding or exactly how others help or hinder coping with breastfeeding pain [23].

Although online methods are now recognised as a key source of health information and social support for both parents and health professionals [24], this remains an untapped source to advance our understanding of breastfeeding pain experiences and support needs. Specifically, pregnant and postnatal women often seek health information and peer support from online groups and social media [21, 25). A range of studies have specifically explored the use of online social media and social networking as a tool for parenting or breastfeeding peer support. The literature indicates that women actively use online social media and social networking to source breastfeeding information as well as emotional and practical

support [26, 27]. Hence, these social media platforms provide a sense of community to these women, who are sharing similar experiences.

The aim of the current research is utilise online chat forums to explore 1) women's use of online forum for seeking social support regarding pain or discomfort associated with breastfeeding 2) women's experiences of pain or discomfort associated with breastfeeding; 3) women's perceptions and strategies for dealing with pain or discomfort; and 4) how pain or discomfort may influence women's decision to (dis)continue breastfeeding.

## Methods

### Study Design

A secondary analysis of online data from discussion forums was conducted. Ethical approval was sought and granted from the General University Ethics Panel, University of Stirling.

### Selection of Website Discussion Forums

Google was used to search for websites which contain discussion forums in which individuals can freely post any comments related to breastfeeding. Websites were found using the following search terms: 'parents online forums', 'parenting forums similar to Netmums' and 'most popular parenting forums'. Three websites with discussion forums were selected and used for data collection. Two were UK based; Netmums [28] and Mumsnet [29] and one was USA based; What to Expect [30]. The three websites were chosen based on their diversity (UK and USA based) and popularity (each website had a range of forums with a high quantity of relevant posts). On all included website discussion forums, any individual can join and make a post which is visible to anyone accessing the forum. All three website administration/customer service teams were contacted via email in order to seek permission to anonymise and analyse the data available on the chat and discussion pages.

### Identifying Relevant Posts from Discussion Forums

Word searches were conducted on each of the website discussion forums using the keywords '*Pain*', '*Breastfeeding*', '*Painful Breastfeeding*' and '*Sore Breastfeeding*'. These searches resulted in the identification of posts which contained the keyword searched for. Word searches of discussion forums were conducted in July 2018 in Stirling, Scotland by one researcher (KA).

### Post Selection

Each post identified from the word searches were read in the order they were displayed. Inclusion criteria for a post to be included in analysis was (1) written in English, (2) focuses on challenges related to

painful breastfeeding and (3) written by the individual explaining their experience. All identified posts were read thoroughly to ensure they met these criteria. All replies to the post were read and included in analysis.

A total of 123 posts were identified from the word searches, which were made between 2012 and 2018. All 123 posts were eligible for inclusion and analysis. A total 193 reply comments accompanied those post, resulting in a total of 316 data extracts included in the analysis. This included 146 data extracts from What to Expect, 89 from Mumsnet and 81 from Netmums.

## Data Extraction

One research assistant (KA) conducted the data extraction of the final list of data extracts in July 2018. The information extracted included 1) the link for the post on the website, 2) whether a post was original or a reply, 3) the date of which the post was submitted to the forum, 4) full text of the post. As no pre-existing framework on breastfeeding pain is available, the stages of inductive thematic analysis were followed to analyse all selected posts to answer the research questions. Firstly, in order to familiarise with the data, the researcher read through all posts in detail numerous times, at this stage no interpretations were made. Secondly, to generate a better understanding of the data, the RA generated 25 codes to represent the data. Thirdly, both the senior authors (SC and LC) and the researcher analysed the codes and produced four main themes. Fourthly, the researcher reviewed all the data extracts using the four identified themes to ensure that the themes were fully representative of the data. Fifthly, after generating a thematic map of the data, both senior authors and the researcher defined and named the themes and finally key quotes were selected to best represent each theme.

## Results

The inductive thematic analyses resulted into four themes and a range of sub-themes (see Table 1).

### Variation in types of pain

The first theme generated from the data was 'variation in types of pain'. This theme represents the large variety of different types of pain women explain and experience at different stages throughout their breastfeeding journey. Furthermore, the various ways in which women describe these pain experiences highlights how women differ in the way they describe pain, ranging from descriptions focussed on the pain location, to the sensory or emotional characteristics of pain to the physical process the pain is associated with. Across these three types of descriptions, a total of seven distinct types of pain women experience in relation to breastfeeding could be identified.

With respect to descriptions focussed on pain location, a large number of posts mentioned the experience of painful nipples, with some post referring to the general feeling of sensitive or sore nipples while others

refer to the more specific experience of cracked nipples:

*'My nipples have been blistered, I've been using cream and when not using that using nipple healing cups. One nipple is still really sore but seems to be healing and the other is still a bit sore' (P1 Mumsnet, post).*

*'I am cracked, bleeding, blistered and even wet myself yesterday with the pain of it. I am alternating between biting a towel stamping my feet and making moaning noises' (P2 Netmums, post).*

However, for a substantial number of women the experience of pain is not limited to the nipples and encompasses the entire breast, even without any specific nipple damage.

*'for almost a week now I've had really sore breasts, particularly in the evening to the point! There is no damage to my nipples, the pain is in my actual breasts. They are hot and the pain is like a burning pain' (P3 Netmums, post).*

In terms of the sensory aspects of the pain associated with breastfeeding, women often described the experience as 'sharp shooting pain' that could be felt in the breast but also the larger area around the breast, including the shoulders. For some women, this description also had an emotional layer as they experienced the pain occurring randomly and unexpected, especially when the pain occurred months after they have been breastfeeding. Such an unexpected occurrence of pain could be induced by unrealistic expectations women posit around breastfeeding.

*'sharp shooting pain in my shoulder blade behind the breast the is baby feeding on' (P4 Netmums, post).*

*'So I have been breastfeeding for 8 months and randomly (when I'm not nursing) I get a shooting sharp pain in my breast... any clue what it could be??' (P5 What to Expect, post).*

Lastly, women also described their pain in terms of the physical process it was related to, with the two most common processes being 'let down' and 'latch'. Let down pain relates to a type of pain that occurs when milk is beginning to flow and typically occurs in the first few weeks of breastfeeding.

*'Just wondering if you had let down pain when breastfeeding and if so for how long, my son is 3 weeks old today and the pain at initial latch on is excruciating' (P6 Netmums, post).*

A painful latch is pain related to how the baby latches on to the nipple and occurs when the baby does not properly latch onto the mother's breast.

*'Sometimes, (mostly on the 'bad' side) it can be absolutely excruciating for the whole feed' (P7 Mumsnet, post).'*

## **Perceived causes and explanations for pain**

The second theme focuses on women's interpretations and perceptions of pain during breastfeeding as well as the interpretations and perceptions given by other users who are replying to the original post. In line with the commonly observed application of the biopsychosocial model of pain which primarily focusses on biological and psychological causes of pain experiences and largely ignoring the contribution of social factors (Craig, 2018), the perceived causes and explanations for breastfeeding pain experiences can be divided into 'recognised conditions' (i.e. biological explanation) and 'behavioural explanations' (i.e. psychological explanation).

As a first sub-theme, recognised conditions include conditions such as mastitis, thrush, raynauds syndrome or tongue tie, which are all known to be associated with pain. Many women spoke of their familiarity with these recognised conditions, where they commented on their personal experience:

*'Recently we have had mastitis, it is painful and I came very close to stopping feeding him as I was just in tears everytime I fed him'. (P8 Netmums, reply).*

The posts went beyond providing suggestions on the causes, with some women also giving advice on how they dealt with the condition they were faced with:

*'It could be thrush! I took her to the doctor and he saw some hidden patches behind her gums. I rub a gel in her mouth and on my nipples twice a day and it seems to be helping' (P9 What to Expect, reply).*

This type of feedback from others on the discussion forum allows the women who are suffering these problems to feel that they are not alone in what they are experiencing and that these types of conditions throughout breastfeeding are common.

The second sub-theme reflects the behavioural explanations defined as any behavioural cause, reason or solution given for pain during breastfeeding. Examples include, the latch position of the baby and various ways to clear blocked ducts (which can cause pain). Most of the suggestions for behavioural causes came from other users replying to original comments made by mothers looking for help and advice about certain types of pain. Similar to the post providing a recognised condition as an explanation for the pain, these posts often went beyond describing the cause and also provided potential ways of coping with the pain:

*'Sounds like a clogged duct. Use a hot compression before you feed or pump. Apply coconut oil and massage the area while baby nurses or you pump. Push on area that feels hard/hot and push towards nipple. When you shower use the hottest water you can and massage some more.' (P10 What to Expect, reply).*

*'the attachment and positioning will most probably be the problem for the pain when latching on. Def ask hv to watch you when you feed. I always tell mums to remember: Tummy to Mummy, (babies) Nose to Nipple and keep the head and body in a straight line'. (P11 Netmums, reply).*

This type of advice allows the mothers who are experiencing difficulties to self-help, where they can try out new techniques themselves before having to make an appointment to see other health professionals.

## Cessation of breastfeeding related to pain

The third theme, 'cessation of breastfeeding related to pain' encompasses the pain related reasons, struggles and psychological consequences women mention in relation to stopping, or considering stopping, breastfeeding. Similar to the second theme, the identified struggles women report on pain-related breastfeeding cessation can be divided into physical and psychological aspects.

Physical reasons and struggles mainly referred to the how the breastfeeding experience is extremely painful in the first few weeks due to breasts and nipples adapting to feeding, again indicating there may be some unrealistic expectations regarding the breastfeeding experience. Women replying to cessation-related comments within original posts made by others often provided comfort to other women by reassuring that the pain they are experiencing may not necessarily be caused by something they are doing wrong, or any medical conditions but instead just because their body is adapting to the change it is facing.

*'Your nipples are tender at first so, imagine going from not having anything touching your nipples, to having a baby latched on every two hours for 30 minutes or more at a time WHILE your nipples are already tender and hurting from the hormones of having a baby'. (P12 What to expect, reply).*

A common, recurring theme across all forums reflected the psychological struggles or consequences women experience when considering breastfeeding cessation, with a considerable number of women reporting feeling guilty:

*'I feel a total failure on this, and I don't want to give up, but it's being so hard and painful. I also feel guilty because I find myself wishing it to end soon, I mean wishing the time going faster until the point that she's 2 years and I can stop breastfeeding and I feel like such a terrible mom'. (P13 What to Expect, post).*

The psychological side of breastfeeding indicates how difficult it can be for mothers to cope with the pain they are facing and how they experience feelings of guilt or sadness about possibly quitting breastfeeding earlier than recommend, as they know it is beneficial for their baby. A commonly reported strategy to overcome feelings of guilt while managing the pain was the use of breast pumps. Indeed, many women reported making use of breast pumps as a compromise to reduce the pain and continue providing the baby with breast milk without having to endure the pain of breastfeeding, which helps them to not feel guilty about providing their child with breast milk:

*'If you are in pain, you can pump or hand express to relieve the pressure'. (P14 Mumsnet, reply).*

## Shared experiences and support

The final theme 'shared experiences and support' represents the range of support and knowledge exchange that women offer throughout the forums. The sub-themes include sharing experiences; practical support and experience and; support from health professionals.

Many mothers offer, through the replies, their own experiences of breastfeeding in order to help other women and provide emotional support:

*'Most importantly is your well being—healthy Mum = healthy baby no matter how she is fed, it makes no difference, you can't look at a room of adults and tell who was BFd and who wasn't. Please seek help if you wish, or continue with formula and relax and enjoy this precious gift of a child without guilt. Sending unmunsnety hugs. Also remember you're under massive hormonal influences at the moment and so everything will be feeling magnified'. (P15 Mumsnet, reply).*

From the data, it is evident that many women who post an original post are not looking for specific reasons of why they are experiencing pain but instead they are looking for emotional support and to know that other women have faced similar experiences to them.

In addition to emotional support, many women also offer each other practical support for reducing pain. This includes recommending a range of medications or creams or offering advice on different latching techniques, this support is shown in the following quotation:

*'Aim you nipple to the back of babies mouth (in most cases this is enough to get enough in for a good latch, as the pink area will go in also 2). If you still have pain, take baby off by using your little finger next to your nipple so baby looses grip.. and try again until you have minimum of pain( I cant say completely no pain right now, as you nipples are sore), but the pain you will very minimum, if nothing at all, and if it is correct, no pain at all within a few days'. (P16 Netmums, reply).*

Finally, this theme covers the mothers' perceptions of health professionals and their ability to deal with pain during breastfeeding and offering guidance and support to women. Many women have different opinions on health professional's ability to deal with the problem. For example, some women felt that midwives and other professionals offer false hope in saying breastfeeding should be a pain-free experience:

*'I am baffled by the unrealistic advice given to pregnant women about breastfeeding by health professionals- If it hurts you are doing it wrong. 99% of women can successfully breastfeed. I understand their role is to encourage women to do it but surely being honest about the difficulties of starting that many women encounter would be more helpful. Mothers who then have difficulty are left feeling they've failed when they are trying to pick up the pieces. Likewise problems may not get as bad if we were honest to women about it'. (P17 Mumsnet, post).*

On the other hand, some women reported positive experiences with different health professionals who helped with advice and support through their difficult time of breastfeeding, for example one user had a positive experience with their midwives:

*'Have been seeing midwives everyday for extra support which is fab and have now been referred to the breast feeding expert and also GET THIS been referred to see the TONGUE TIE consultant!' (P18 Netmums, reply).*

Both of these quotations reflect the different experiences that mothers can have with different health professionals, highlighting the importance of having good training in place for these professionals to be able to recognise and deal with, different types of medical conditions or behaviours that can cause mothers to have a bad experience with breastfeeding.

## Discussion

Using thematic analysis to gain an insight in the pain women experience during breastfeeding and how online forums are being used to share experiences, four main themes were identified: variation in types of pain, perceived causes and explanations for pain, cessation of breastfeeding related to pain; and shared experiences and support. These findings closely match to and extend the findings for a recent qualitative study by on early breastfeeding cessation [18]. Using semi-structure interviews in 15 first-time mothers, these authors identified that pain was the main reason for early cessation, associated with ambivalent feelings of physical and psychological causes and consequences. Similar to the stories from the online forums, these women [18] reported varying experiences of support from healthcare professionals, with most receiving inadequate information. Our findings expand on this knowledge by providing a more detailed insight in the various experiences of pain and associated perceived causes, as well as how many women seek and receive social support for these experiences on online forums.

With respect to the types of pain, our findings align with previous results revealing the considerable prevalence of pain experiences during breastfeeding, with nipple pain being commonly reported [10, 11, 27]. However, our findings reveal a large variety of pain experiences women struggle with during breastfeeding. It was particularly noteworthy how detailed the women on the forums described their pain experiences, which allows for an understanding of exactly what they are facing and how common it is to experience certain types of pain. A better understanding of the various types of pain experienced during breastfeeding is critical in designing appropriate interventions to manage the pain experience. Intervention development has so far mainly focused on the experience of nipple pain [27], which might not be appropriate for other common pain experiences, such as the sharp shooting in the breast, painful latch or let down pain. Such detailed understanding might not have been established using more traditional research methods, which face the challenge of selection bias in whom participates as well as bias in self-report and not providing an accurate reflections of the ways people communicate in daily life [31]. In contrast, online discussion forums have the ability to reach a larger number and variety of people and lack the steering by the researcher's interests/orientation, thereby allowing forum users to drive the focus of discussions. For instance, within the second theme comes an interesting understanding of individual's perceptions of pain, from both the user who publishes an original post but also users who are replying to these posts. While we cannot be sure that the perceptions of cause for the pain overlap with the actual cause, these findings do contribute to further our understanding that both behavioural and

biological reasons can be evident [10, 32]. Consequently, online forums have the potential for users to share and attain real-life experiences and, therefore, set realistic expectation about the potential pain, and underlying cause, that can be experienced during breastfeeding. Indeed, throughout this research, and apparent from previous findings, online forums and social media have become an intrinsic method of communication and social connection for our current generation of parents. Whereby, it is easily accessible at any point of the day, and provides a realistic insight, a sense of community and a way of making new contacts [26]. However, not much research has been conducted concerning ungoverned online forums, therefore, further investigations will be needed to evaluate the potential impact for helping users to cope with pain and breastfeeding continuation.

The remaining two themes point to the two common aspects within the user's experiences that deserve more attention: the role of peer support and setting realistic expectations on the experiences of pain during breastfeeding. These findings link in well with existing qualitative work [21], where authors evaluated the experiences of women attending Baby Café Breastfeeding support groups. Their finding identifies the need for realistic, not idealistic, expectations and preparations antenatally on breastfeeding and how social support groups, delivered in combination with guidance from healthcare professionals, could contribute to such normalisation of mixed experiences with breastfeeding [21]. However, not all women might feel confident enough to attend face to face support groups, a barrier that is less prominent on anonymous online forums. Indeed, all of the forums were extremely interactive, with users being very open about posting their pain experience and receiving various suggestions from others on what the cause could be or how to deal with the pain, based on their own lived experiences. Such support by someone who has dealt with a similar experience can be comforting for the individual and provide them with the confidence to resolve their issue (either by themselves or by seeking formal help) [33]. Indeed, the content of the fourth theme revealed that receiving emotional support from other users is commonly observed. This emotional support is linked highly to the psychological side of breastfeeding struggles, for example feelings of guilt as reflected in the third theme, where many users just want to know that someone else has been through a similar situation to them and that they made it through that difficult time. As found in previous research [18, 21, 34], it is very common for women to feel guilty for wanting to quit as they knew how beneficial breastfeeding was for their baby, so it made them feel like a failure by preventing their baby from being provided with these benefits. This strong prevalence of the guilt feeling highlights how women are aware of the and convinced by the benefits of breastfeeding, which may suggest that information provision surrounding the benefits of breastfeeding may not actually be an effective strategy to support breastfeeding continuation. These findings further support the recent research [34], which highlights how appropriate support for these guilt feelings is crucial in preventing mental health difficulties in women such as prolonged breastfeeding grief and advocates for a re-evaluation of how breastfeeding is being promoted.

Consequently, the findings indicate that psychological support, such as peer support, is crucial in overcoming the psychological impact of pain experiences during breastfeeding in order to facilitate breastfeeding continuation. An important aspect of this peer support observed in our data was aimed at providing reassurance on how it is okay to use breast pumps to provide their child with the benefits from

breast milk while giving mother's the opportunity to cope with the pain. The availability of peer support can be crucial for mothers to keep a healthy mind while looking after their child(ren). It allows them to speak to one another and provide comfort to each other. This is a unique type of support that women can give each other that goes beyond the care and support received within a formal healthcare setting [33] and strongly reduces the feelings of isolation (I am not the only one feeling this!). Although it needs to be acknowledged that the support provided by peers might not always be accurate and credibility of the sources needs to be considered carefully [35], the availability of such peer support outside the context of the healthcare system could reduce the reliance on healthcare professionals from postnatal women due to the signposting from other women before deciding if formal help from healthcare professionals needs to be sought [36]. One study exploring the impact of peer support for breastfeeding [33], found that a telephone-based peer support programme for breastfeeding resulted in retaining high numbers of exclusive breastfeeding practices 3 months postpartum, which was also associated with higher satisfaction with the infant feeding experience. While further research is needed to establish this impact of peer support in the context of breastfeeding pain [22], the beneficial impact of peer support on individual's self-management confidence and ability as well as reduced distress due to pain has been well established within the context of chronic pain experiences [37].

With respect to setting realistic expectations, our findings indicate how many users were unaware that the experience of pain during breastfeeding is quite common. Many users on the forum who replied to original posts advised that it does in fact take a short while (i.e. a few weeks) for your breasts to adapt to breastfeeding, as it is a new experience for both the mother and baby. The widespread sharing of just how common pain experiences are in the first six weeks can have a strong normalising effect for women and can provide a sense of comfort and relief to other users who are thinking of quitting breastfeeding in the first few days. Consequently, such normalisation allows them to feel that things will get better over time, which might be enough to encourage them to continue breastfeeding. In line with the benefits of including realistic expectation setting within antenatal interventions to reduce anxiety and depression in new mothers, [38], setting realistic expectations around pain symptoms during breastfeeding may be beneficial for both antenatal and postnatal women.

The relevance to set realistic expectations for breastfeeding and potential pain experience also came to light in users' sharing of their personal opinions of health care professionals. In accordance with previous qualitative evidence [18], the forum posts revealed mixed views on the helpfulness of the health professionals and their ability to provide relevant care. Some users felt they did not focus enough on breastfeeding being painful, so it came as a surprise when it was painful and subsequently increased the worry for the women and their likelihood of quitting. In line with our suggestion above for setting realistic expectations during pregnancy, many users indicated the need to pay more attention to the fact that breastfeeding can be painful, but this pain can be seen as a normal process where the body is adapting to certain changes. Due to the lack of awareness that it is common for breastfeeding to be painful in the first few weeks, many users felt that they were doing something wrong if they felt pain during breastfeeding, or that there was something medically wrong with them because they were experiencing pain. On the other hand, several users did comment on their positive experiences with health

professionals, giving them credit for being supportive and getting to the bottom of their issue. Raising awareness of breastfeeding pain requires optimal communication skills and hence these mixed experiences with healthcare professional highlight the need to provide healthcare professionals with appropriate support on how to convey the normal experience of pain during breastfeeding without scaring mothers and thereby jeopardizing either the start or continuation of breastfeeding.

Our findings need to be considered in light of some limitations. Although online forums provide a rich and varied amount of lived experience, there is no information available on the demographics of the forum users. While selection bias might be less of an issue compared to more traditional research methods, research on online forum users highlighted inequalities amongst users. Indeed, previous literature [23] illustrates that there are substantial differences in those who use online parenting forums due to gender, age and socio-economic status. Consequently, mothers who use online forum might not be representative of the entire population. Furthermore, while the posts typically provided detailed descriptions of women's experiences, this medium does not allow for exploration of relevant aspects of the experiences in further detail (for example, how did the replies influence their emotions and behaviour). Consequently, further research is needed to explore the impact of online forums on women's experiences and breastfeeding continuation as well as the underlying mechanisms of such benefit.

## Conclusion

Despite the limitations, our findings have relevant clinical implications. In order to increase the number of women choosing to breastfeed or increase the length of time women breastfeed for, interventions should set realistic expectations on the common types of pain experienced. These interventions should bring a focus to the different types and causes for pain such as thrush, or mastitis and what self-management techniques can be implemented to reduce the pain, such as hot compressions or specific creams to reduce pain. Furthermore, raising awareness of when to seek professional help for pain experiences, is also crucial. In line with interventions for other types of acute pain (for example, vaccinations or injury), it is important to address the psychological struggles within interventions aimed at managing breastfeeding pain. In particular, the findings reveal that it is important to make women aware of the psychological impacts of pain (i.e. guilt feelings) and are provided with coping mechanisms to overcome these feelings (for example, cognitive restructuring). Health professionals should begin to integrate realistic expectations of breastfeeding pain in their appointments, however, should provide means of how you resolve the common health problems that the expecting mother may face. This could help to reduce the worry if or when the women experience any of these common types of pain. Our findings provide preliminary, but promising, evidence for the potential role of (online) peer support to encourage sharing breastfeeding struggles and the emotional impact and provide a normalisation, to women who are struggling to keep going.

## Declarations

*Ethical approval:* Ethical approval was granted from the General University Ethics Panel, University of Stirling.

*Consent for publication:* Not Applicable

*Availability of data and materials:* The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

*Competing interests:* The authors declare that they have no competing interests.

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*Author's contributions:* KA gathered, analysed and interpreted the forum posts and replies. LC and SC analysed the codes generated by KA and produced four main themes, in collaboration with KA. All authors contributed to writing the manuscript, with each author taking responsibility of a section and LC being responsible for the integration of all sections. All authors read and approved the final manuscript.

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## Tables

Table 1. Themes, sub-themes and descriptions of the data extracted

Theme	Description	Sub-themes
Variation in types of pain	Different types of pain that women experienced and referred to throughout their experience of breastfeeding	<ul style="list-style-type: none"> <li>- Pain location</li> <li>- Sensory and emotional aspect of pain</li> <li>- Physical process associated with the</li> </ul>
Perceived causes and explanations for pain	Interpretations and reasons why women may be experiencing different types of pain	<ul style="list-style-type: none"> <li>- Recognised condition</li> <li>- Behavioural explanations</li> </ul>
Cessation of breastfeeding related to pain	Reasons and struggles, related to pain, why women consider stopping breastfeeding	<ul style="list-style-type: none"> <li>- Physical aspects</li> <li>- Psychological aspects</li> </ul>
Shared experiences and support	Types of support, experiences and knowledge that women provide to support other women on their breastfeeding journey	<ul style="list-style-type: none"> <li>- Sharing experiences</li> <li>- Practical support</li> <li>- Experience and support from health professionals</li> </ul>