Is being resolute better than being pragmatic when it comes to breastfeeding? Longitudinal qualitative study investigating experiences of women intending to breastfeed using the Theoretical Domains Framework

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Abstract

Background

In the UK, initiating then discontinuing breastfeeding before two weeks post-partum is common. The aim of this longitudinal qualitative study was to explore which psychosocial factors may influence discontinuation.

Methods

A sample of 10 pregnant women intending to breastfeed were recruited. A longitudinal qualitative design was used to capture views prior to and two weeks following birth. Semi-structured interviews were conducted underpinned by the Theoretical Domains Framework to explore a comprehensive list of psychosocial factors.

Results

Four women discontinued breastfeeding at the time of the second interview. Pre partum differences were identified between maintainers and discontinuers; discontinuers appeared to have stronger intentions to breastfeed based on their self-determination, self-confidence and perception of fewer barriers to breastfeeding. Post partum, discontinuers highlighted how they felt physically unable to carry on; their feeding experiences elicited negative emotions and pain. Negative emotions appeared to be exacerbated by original breastfeeding beliefs and advice given by healthcare professionals.

Conclusions

The women in this study who discontinued breastfeeding showed less cognitive flexibility which appeared to exacerbate post partum emotional distress when they encountered difficulties. Women with strong intentions and self-determination might benefit from support in anticipating potential barriers and identifying ways of overcoming them.

Keywords: *breastfeeding, Theoretical Domains Framework, qualitative, longitudinal, pregnant women, interviews*

Introduction

Exclusive breastfeeding until six months is a priority of the WHO global infant feeding strategy[1]. In Scotland, 54% of women initiate breastfeeding at birth which drops to 35% within two weeks[2]. The reasons why women initiate then discontinue breastfeeding are not fully understood.

Breastfeeding research exploring modifiable psychosocial influences of behaviour focused on factors such as motivation,[3,4] intention to breastfeed[5] past experience[5] and attitudes[6]. These factors are important as they are amenable to change through intervention.

The breastfeeding literature consistently identifies self-efficacy as an influence of breastfeeding,[7,8] defined as a mother's confidence in her ability to breastfeed[9]. Dennis[9] found breastfeeding self-efficacy predicted intentions to breastfeed, self-enhancing or self-defeating thought patterns and emotional response to breastfeeding challenges.

In the qualitative literature, factors found to positively influence breastfeeding were determination, resilience and perseverance[10,11] whereas pain and discomfort were identified as influences of discontinuation[12,13]. Hauck and Irurita[12] and Mozingo et al.[14] examined the emotional impact on mothers when they discontinue breastfeeding against their original plans. Both studies revealed women to experience feelings of despair, a sense of failure and contradictory feelings of relief and guilt. However, despite qualitative exploration, we know little about how psychosocial factors identified prior to birth relate to physical experiences and later behaviour since qualitative studies tend to be retrospective.

This study investigates psychosocial factors using the Theoretical Domains Framework[15] (TDF). The TDF provides the basis for exploring a wide range of theoretical explanations of any given behaviour (listed in Tables 3 and 4), each consisting of specific theoretical constructs and can be used qualitatively to deepen understanding of complex behaviours. In line with previous qualitative studies in a variety of behavioural domains the TDF can inform study design and data analysis[16,17], including complex behaviours in female patient populations[18]. Applying the TDF qualitatively is a form of Directed Content Analysis which uses existing theory (i.e. the theoretical domains and associated constructs) as the basis for data collection and coding, thereby applying empirical and theoretical knowledge to a particular area of interest[19].

The specific questions of this study are:

a) Do pregnant women intending to breastfeed, who later discontinue, differ in their breastfeeding perceptions compared to those who continue?

b) Which factors did women report to have influenced their breastfeeding behaviour?

Methods

NHS ethical approval was granted by the National Research Ethics Service (IRAS project ID: 152837, REC reference: 14/NW/0314).

Participant selection

Women were eligible to participate if they were i) over 18, ii) primigravida[20] and iii) had an intention to breastfeed. Recruitment used convenience sampling until ten women had been interviewed before and after birth respectively. Two Maternity Care Assistants invited eligible women to participate during their 28 week feeding talk and passed on contact details of interested women to the researcher.

Data collection

All study details were disclosed to participants verbally and by reading through the participant information sheet with the participant prior to consenting in writing directly before the antenatal interview.

Semi-structured face-to-face interviews were conducted by one researcher (EJ) between August and December 2014. The interview topic guide explored all twelve TDF domains. Participants were told that the interviews would last between 40 minutes to an hour. Antenatal interviews were carried out as close as possible after the 28 week feeding talk at either the hospital or the participant's home. The postnatal interviews were planned around two weeks postpartum as there is a sizable drop-off in breastfeeding at this time point in Scotland[2].

Data analysis

Data was coded using the online platform Dedoose[21]. The recorded interviews were transcribed verbatim, anonymised and uploaded to the system.

Directed Content Analysis was guided by a structured two-step process[2,2] In step one, coding began by reading the data and identifying salient beliefs relating to breastfeeding barriers and facilitators. Beliefs were then analysed across cases. This comparative method was developed by Glaser and

Strauss (1967)[23] to learn about a theme that makes sense beyond a specific case. The aim of cross-case analysis is to deepen the understanding of various themes[22,24]. This method facilitates capturing an individual's uniqueness whilst understanding a general process occurring across the sample[25].

In step two, the coder mapped predetermined TDF codes onto common influencing beliefs. The TDF domains consist of individual constructs each with an operational definition. The coding of the antenatal interview was conducted blindly so the coder was unaware of the eventual breastfeeding outcome. During coding of interview two, the coder was aware of the breastfeeding outcome.

A second researcher (JMcL) supported analysis by applying codes to transcripts. The Dedoose system randomly selects sections of the transcripts containing 25% of codes used by the first coder and allows the second coder to code these same sections, calculating a Cohen's Kappa statistic to identify inter-rater agreement[26]. Inter-rater agreement was assessed using guidelines for content analysis[27]. Where agreement was <.60, discussions were held to explore differences and reach consensus. The final codes were verified by a third researcher (SD) experienced in applying the TDF to qualitative data.

Once coding was complete an additional code was allocated to the data, an M signified 'maintainer' and D 'discontinuer'. These codes are used in the narrative analysis alongside a participant number to identify which quotations refer to maintainers and discontinuers e.g. P1-D. The domains containing influencing factors for maintainers and discontinuers were then analysed separately, comparing which domains were judged to be influential for maintainers and for discontinuers. Influential domains were coded in three ways; the domain either contained factors that facilitated behaviour, prevented behaviour or was a mixture of both.

Results

1. Descriptives

Nineteen women expressed an interest to take part. Upon contact, four women did not respond, one woman declined and one woman was not eligible as she already had a child. One participant did not attend for interview and another failed to attended the postnatal interview and was therefore excluded from the analysis. Ten participants completed both interviews.

The mean time point at which antenatal and postnatal interviews were conducted was 32 weeks gestation and 4 weeks post partum. The post partum interview took place at the earliest time convenient to participants which was around 2 weeks later than originally planned. The mean length of interviews was 55 minutes. Women were between the ages of 22 and 37 with a mean age of 29 years, white Scottish, university educated, in full-time employment and living with a partner (Table 1). Six women had a vaginal delivery and on average women spent 50 hours in hospital after giving birth.

Six women maintained exclusive breastfeeding at the postnatal interview. Of the four women who stopped, three were exclusively giving formula and one was mixed feeding, predominantly giving formula.

All four women who discontinued had initiated breastfeeding in hospital but soon began to experience physical difficulties, pain and discomfort. Two women were advised by a doctor to start mixed feeding, one by the doctor in hospital and the other by a Doctor on NHS 24 (a non medical emergency helpline) after she had returned home exclusively breastfeeding. Three women left the hospital mixed feeding, switching to formula on day three at home.

2. Inter-rater agreement

Cohen's Kappa statistic was calculated for 25% of codes used in transcript analysis. Table 2 presents inter-rater reliability of data coding. Five out of 15 codes were identified as having poor reliability in the antenatal interview and three out of 12 in the postnatal interview. The research team discussed any coding discrepancies until agreement was reached.

3. Qualitative analysis

The narrative analysis presents data based on selected quotes that represent the dominant views expressed by women to answer the two research questions.

a) Do pregnant mothers intending to breastfeed, who later discontinue, differ in their breastfeeding perceptions compared to those who continue?

Table 3 illustrates differences identified between the perceptions of women who later maintained or discontinued breastfeeding. When women who later discontinued were asked why they had chosen to breastfeed, they said that breastfeeding would give the best start to their baby.

> *"I want the best for my baby... the best thing that I can give him in the first 6 months... [P1-D]"*

> *"'Yeh, for all of the things I can think of as a disadvantage it didn't change the fact that I'm giving such a good thing to my child, so and the baby comes first, that's it. [P3-D]"*

They talked about their self-determination to breastfeed. Three women said that they would persevere in spite of difficulties.

> "*But I will keep trying, it's not like something I will do one time and will stop ..." [P1-D]*

Two women showed confidence in their beliefs about being able to breastfeed.

> *"I am able to do it, I know that I'm able to do it, as soon as you turn around and say you can't do something, then you instantly- you're not gonna do it" [P3-D]*

> *"I've just got this thing in my head that before formula and before bottles, it was the only option, that's how it was" [P7-D]*

Two women described it is as their role as a mother.

> *"I think it's part of being a mother, I've always seen that" [P1-D]*

> *"It's that kind... my little person, and it's not him being dependent on me but I'm continuing to help it grow" [P7-D]*

In comparison four women who later maintained breastfeeding talked about potential barriers that might prevent them from breastfeeding. One woman discussed her approach to breastfeeding.

"*... I think I will learn as I go and see if things are right for me. I'm hoping it will work for me but if it doesn't then that's ok as I know everybody is different..." [P2-M]*

One solution to overcome difficulties, identified by three women who later maintained breastfeeding was to find an alternative.

"*Well it is important but we know if I can't do it there are other options... So if it's too hard we can do something different" [P2-M]*

This option was not discussed with any of the women who later discontinued although one women did say how she would feel if she had to give formula to her baby.

"The realisation that I have to go onto bottles and formula, I think at that point I'll feel like I've failed" [P7-D]

Table 3 illustrates differences between the beliefs of women who later maintained or discontinued breastfeeding. Women who later discontinued breastfeeding perceived there to be fewer barriers to breastfeeding in comparison to maintainers.

b) Which factors did women report to have influenced their breastfeeding behaviour?

Four domains from the TDF were identified that contained barriers for discontinuers; *Beliefs about capabilities, Beliefs about consequences, Social influences and Emotion*. Table 4 presents the domains influencing maintainers and discontinuers. Each domain is presented below in a narrative analysis.

Three women who discontinued described their **beliefs about capabilities**, in particular physiological factors immediately after birth that prevented them from being able to breastfeed, one woman described extreme nipple pain.

"In the beginning maybe with the drugs and everything it wasn't as painful but when the drugs started to disappear, the pain started to increase. It was the second or third day I just couldn't. And every time it was worse and worse" [P1-D]

All six women who maintained breastfeeding discussed their **beliefs about the consequences** of breastfeeding; they saw their baby start to grow and gain weight.

"I feel quite confident now and he's latching on brilliantly, his nappies are always wet. That's what I've been told to look out for" [P8-M]

In contrast two women who discontinued talked about their babies losing weight

> *"I had to stay in hospital for four days but because I couldn't breastfeed him he was losing too much weight and I had to stay one more day" [P1-D]*

Social influences appeared to be both barriers and facilitators of behaviour. Women who maintained and discontinued breastfeeding spoke highly of the skills and techniques they were taught by midwives.

> *"they were brilliant, they were up at every feed giving us tips and like stand there at night and just talk to you and say let's try this or let's try this position... that really helped" [P2-M]*

Women highlighted how useful they found practical support postpartum. However, they also highlighted inconsistencies in support. For two women who stopped, at the point they started experiencing difficulties, they recalled being given differing advice.

> *"... Because when it went wrong ... everybody had different advice" [P3-D]*

Two discontinuers described healthcare professionals making them feel as though their situation was irregular which led to feeling disconcerted.

> *"It's the panic of, you know we're trying to get food into him here, where I think if I had been exposed to that as quite regular and routine and sometimes we resort to things like that then it wouldn't have felt such an issue" [P7-D]*

They went on to talk about their antenatal expectations. One woman expressed her confusion surrounding antenatal advice and her post partum experience.

> "I *think that the expectation and the reality, everything that you read and everything that you, and all the support that is given, is about you doing it and it working... You get it reinforced that it works... " [P7-D]*

Women who discontinued talked about their **emotions**; they described experiences as distressing and this was emphasised by the visible emotions present during the second interview. One woman explained what happened.

> *"He definitely hit a point where he just wouldn't settle... he was getting really worked up and really upset and we couldn't settle him and he was screaming ... he got re-assessed by the paediatrician ... they were then concerned about his weight loss, what they say is if they lose over 10% of their body weight erm they would intervene and do something [P7-D])*.

She goes on to discuss how the situation affected her emotions.

> *"...It was more just a little bit of a sadness of things not going as I had wanted to..." [P7-D]*

All of the women who discontinued expressed a cognitive dissonance between giving what they believed to be the best start to their baby's life and finding a way of feeding their baby.

> *"... I've spent the last 9 months reading up on all the goodness of breastfeeding, and then instantly because we're struggling with breastfeeding people try to turn that and say oh but it's alright your okay to bottle feed, and you go well no you're not, you've been telling me for months that that's the best way ..." [P7-D]*

One woman described having the baby blues.

> *"So I had the baby blues and I had so many expectations of breastfeeding that when I couldn't I almost got depressed" [P1-D]*

She finally reached a point where she felt unable to continue breastfeeding.

Discussion

Main findings of this study

We found that women who discontinued breastfeeding appeared to have strong and resolute intentions to breastfeed before birth, whereas women who later maintained breastfeeding appeared to be more pragmatic and acknowledged potential barriers and solutions to overcome them.

The women who discontinued breastfeeding did so at different times under different circumstances. They reported that they experienced physiological difficulties which caused pain, discomfort and anxiety. All experienced a period of uncertainty in the preliminary days after birth where they were either struggling to breastfeed and/or advised to give formula. During this period a number of factors were identified that appeared to influence women's experiences.

One factor identified was the perceived influence of healthcare professional communication. Women who discontinued identified two negative influences; being given inconsistent advice and the sense of confusion this elicited. Women's interview responses suggested a discord between breastfeeding beliefs formed in the antenatal period and later advice that was given when they experienced difficulties. When postnatal influences were considered concurrently with women's

perceptions from the antenatal interview, they appeared to be exacerbated by original beliefs and expectations.

What is already known on this topic

Findings from quantitative research showed that self-efficacy, influences breastfeeding initiation and maintenance[7,8]. A meta-synthesis of qualitative studies showed that higher degrees of self-determination, resilience and perseverance increased breastfeeding initiation and maintenance[10,11]. Furthermore, when women discontinued against their original plans, they experienced feelings of despair, failure and guilt[12,14].

What this study adds

Findings from this study provide a preliminary step towards understanding how psychosocial factors might relate to behaviour and are of particular importance to healthcare professionals who support pregnant women. The women who discontinued breastfeeding showed less cognitive flexibility in their approach to breastfeeding which appeared to exacerbate emotional distress when they encountered difficult experiences. This indicates the importance of understanding women's beliefs surrounding breastfeeding before birth to manage expectations and minimise potential distress that could impact on well-being later on. Women with strong intentions and self-determination might benefit from support in anticipation of potential barriers and ways of overcoming them. Furthermore, the study highlights the need for consistent feeding support to be delivered to women from first point of contact through to the postnatal period. In particular, when women later encounter difficult experiences they need consistent support that takes into account their individual beliefs.

Limitations of this study

The findings reflect the experiences of ten women, four of whom discontinued exclusive breastfeeding. Although these are a small number of women they might provide insights into the experiences of other breastfeeding women. Further investigation is needed to ascertain whether similar experiences are found in different samples.

The study design used convenience sampling by recruiting participants in an NHS setting. Although this method is subjective to selection bias, measures were used to reduce bias such as inviting all women intending to breastfeed to participate with minimal additional inclusion criteria.

The effect of researcher bias, for example in data coding, was addressed by having three researchers conduct data analysis. Despite the limitations identified, this study is the first attempt to look at these issues longitudinally and has generated new learning and insights.

Authors' contributions

E.J. and S.D. designed the study and wrote the study protocol. E.J. carried out the qualitative interviews and data transcription. E.J. and J.McL. analysed the date. E.J. and S.D. drafted the paper and approved the final submitted version.

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References

1 World Health Organisation. [2003]. Global Strategy for Infant and Young Children Feeding. [online]. Available: http://www.who.int/nutrition/topics/global_strategy_iycf/en/ [2016, Feb 25].

2 Information Services Division [2013]. Breastfeeding Statistics. [online]. Available: https://www.isdscotland.org/Health-Topics/Child-Health/Publications/2013-10-29/2013-10-29-Breastfeeding-Report.pdf?31373232604 [2014, Feb 2].

3 Myers H. H. & Siegel P. S. The motivation to breastfeed: a fit to the opponent-process theory? *Journal of Personality and Social Psychology*. 49(1):188, 1985 Jul.

4 Racine E. F., Frick K. D., Strobino D., Carpenter L. M., Milligan R., Pugh L. C. How motivation influences breastfeeding duration among low-income women. *Journal of Human Lactation: Official Journal of International Lactation Consultant Association.* 25(2): 173-181, 2009 May.

5 DiGirolamo A., Thompson N., Martorell R., Fein S., Grummer-Strawn L. Intention or experience? predictors of continued breastfeeding. *Health Education & Behavior: The Official Publication of the Society for Public Health Education.* 32(2): 208-226, 2005 Apr.

6 Scott J. A., Shaker I., Reid M. Parental attitudes toward breastfeeding: Their association with feeding outcome at hospital discharge. *Birth.* 31(2): 125-131, 2004 Jun.

7 de Jager E., Skouteris H., Broadbent J., Amir L., Mellor K. Psychosocial correlates of exclusive breastfeeding: A systematic review. *Midwifery.* 29(5): 506-518, 2013 May.

8 Meedya S., Fahy K., Kable A. Factors that positively influence breastfeeding duration to 6 months: A literature review. *Women and Birth.* 23(4): 135-145, 2010 Dec.

9 Dennis C. L. Theoretical Underpinnings of Breastfeeding Confidence: A Self-Efficacy Framework. *Journal of Human Lactation*. 15: 195-202, 1999 Sep.

10 Johnsen C. R. A qualitative study of resilience in WIC breastfeeding mothers [dissertation]. *North Miami Beach (FL): Union Institute and University Graduate College.* 2002.

11 Hauck Y., Langton D., Coyle K. The path of determination: Exploring the lived experience of breastfeeding difficulties. *Breastfeeding Review*. 10: 5-12, 2002 Jul.

12 Mozingo J. N., Davis M. W., Droppleman P. G., Merideth A. “It wasn’t working” women’s experiences with short-term breastfeeding. *Maternity Children’s Nursing*. 25:120–6, 2000 May.

13 Trado M. G. & Hughes R. B. Phenomenological study of breastfeeding WIC recipients in South Carolina. *Advanced Practice Nursing*. 2:31–41, 1995 Dec.

14 Hauck Y. L. & Irurita V. F. Constructing compatibility: managing breast-feeding and weaning from the mother’s perspective. *Qualitative Health Research.* 12:897–914, 2002 Sep.

15 Michie S., Johnston M., Abraham C. et al. Making psychological theory useful for implementing evidence based practice: A consensus approach. *Quality & Safety in Health Care.* 14(1): 26-33, 2005 Feb.

16 Penn L., Dombrowski S. U., Sniehotta F. F., & White M. Participants’ perspectives on making and maintaining behavioural changes in a lifestyle intervention for type 2 diabetes prevention: a qualitative study using the theory domain framework. *BMJ open*, 3(6): e002949, 2013 Jun.

17 McSherry L. A., Dombrowski S. U., Francis J. J., Murphy J., Martin C. M., O’Leary J. J., & Sharp, L. ‘It’s a can of worms’: understanding primary care practitioners’ behaviours in relation to HPV using the theoretical domains framework. *Implementation Science*, 7(1): 73, 2012 Aug.

18 Cahir C., Dombrowski S. U., Kelly C. M., Kennedy M. J., Bennett K., Sharp L. Women’s experiences of hormonal therapy for breast cancer: exploring influences on medication-taking behaviour. Supportive Care in Cancer, 23(11), 3115-3130, 2015 Nov.

19 Potter W.J. & Levine-Donnerstein D. Rethinking validity and reliability in content analysis. *Journal of Applied Communication Research*. 27(3): 258-284, 1999 May.

20 Creinin M. D. & Simhan H. N. Can we communicate gravidity and parity better? *Obstetric Gynaecology*. 113(3):709-11, 2009 Mar.

21 Dedoose [n.d]. [online]. Available: http://www.dedoose.com/ [2014, Feb 2]

22 Hardcastle S. & Taylor A. H. Finding an exercise identity in an older body: “It’s redefining yourself and working out who you are”. *Psychology of Sport and Exercise*, 6(2): 173-188, 2005 Mar.

23 Glaser B. S. & Strauss A. A. The Discovery of Grounded Theory. New York. 1967.

24 Miles M.B. & Huberman A. M. Qualitative data analysis: An expanded sourcebook. Sage. 1994.

25 Silverstein A. An Aristotelian resolution of the ideographic versus nomothetic tension. American Psychologist, 43: 425–430. 1998 Jun.

26 Cohen J. A coefficient of agreement for nominal scales. *Educational and psychological measurement*. 20(1): 37-46, 1960 Apr.

27 Shapiro G. & Markoff J. *'A Matter of Definition' in C.W. Roberts (Ed.). Text Analysis for the Social Sciences: Methods for Drawing Statistical Inferences from Texts and Transcripts*. Mahwah, NJ: Lawrence Erlbaum Associates. 1997