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Original Article

Infant feeding choices: experience, self-identity and lifestyle

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Abstract

In England, 78% of mothers initiate breastfeeding and, in the UK, less than 1% exclusively breastfeed until 6 months, despite World Health Organization (WHO) recommendations to do so. This study investigated women's infant feeding choices using in-depth interviews with 12 mothers of infants aged 7–18 weeks. Using content analysis, four themes emerged: (1) information, knowledge and decision making, (2) physical capability, (3) family and social influences, (4) lifestyle, independence and self-identity. While women were aware of the 'Breast is Best' message, some expressed distrust in this information if they had not been breastfed themselves. Women felt their own infant feeding choice was influenced by the perceived norm among family and friends. Women described how breastfeeding hindered their ability to retain their self-identities beyond motherhood as it limited their independence. Several second-time mothers felt they lacked support from health professionals when breastfeeding their second baby, even if they had previously encountered breastfeeding difficulties. The study indicates that experience of breastfeeding and belief in the health benefits associated with it are important factors for initiation of breastfeeding, while decreased independence and self-identity may influence duration of breastfeeding. Intervention and support schemes should tackle all mothers, not just first-time mothers.

Keywords: breastfeeding duration, breastfeeding initiation, infant feeding behaviour, infant feeding decisions, qualitative methods, social factors.

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Introduction

Evidence shows that breastfeeding has a positive impact on children's health throughout infancy and into adolescence. Studies have found that breastfeeding protects babies from gastrointestinal, respiratory, ear and urinary tract infections in their first 3 years (Marild *et al.* 1990; Pisacane *et al.* 1992; Wilson *et al.* 1998; Kramer *et al.* 2003; Chantry *et al.* 2006, respectively). Breastfeeding has been associated with reduced risk of asthma and obesity in childhood and lowered systolic blood pressure, reduced risk of type 1 diabetes and reduced atopic and allergic respiratory diseases up to age 17 (Saarinen & Kajosaari 1995; Wilson *et al.* 1998; Oddy *et al.* 1999; Von Kries *et al.* 1999; Sadauskaite-Kuehne *et al.* 2004, respectively). Some benefits for the mother have been identified including greater weight loss and protection from some cancers (Dewey *et al.* 1993; Newcomb *et al.* 1994; Beral 2002).

These studies are limited, however, as they rely on statistical control of confounding variables (e.g.

socioeconomic status) because randomized controlled trials of the outcomes of breastfeeding would be both unfeasible and unethical. Moreover, studies are prone to methodological weaknesses such as higher attrition of infants who were formula-fed (e.g. Wilson *et al.* 1998) and reliance on accurate parental recall, after long periods of time, of illnesses such as respiratory infections, (e.g. Chantry *et al.* 2006). Not all studies show positive results either; Kramer *et al.* (2007) conducted a cluster randomized trial of an intervention to promote exclusive breastfeeding. In the experimental group there was a large increase in exclusive breastfeeding at 6 months but this was associated with higher rates of allergy in infants. Owen *et al.* (2003) conducted a meta-analysis of studies investigating the effect of infant feeding on blood pressure. They found that group differences were smallest in the larger studies, and suggest that selective publication of small studies with positive findings may have exaggerated claims that breastfeeding is protective against hypertension.

A review of the evidence for and against breastfeeding, conducted for the World Health Organization (WHO), concluded that the optimal duration for exclusive breastfeeding is 6 months with continued breastfeeding for 1 year or beyond (Kramer & Kakuma 2002). The UK Department of Health (DoH), therefore, advises mothers to exclusively breastfeed for 6 months (DoH 2003) and aims to increase breastfeeding initiation rates by 2% per year (DoH 2002). The 2005 Infant Feeding Survey (Bolling *et al.* 2007) found that in England the rate of breastfeeding initiation is 78%, and, across the UK, the rate of exclusive breastfeeding at 6 months is less than 1%. The UK has one of the lowest breastfeeding rates in Europe (WHO 1999) and this has provoked research investigating the factors associated with breastfeeding rates.

Survey data has identified that women of lower socioeconomic status, those who are younger and those who are less educated, are the least likely to breastfeed (e.g. Kirk 1978; Pursall *et al.* 1978; Bolling *et al.* 2007). Low breastfeeding rates in these groups might be thought to be due to a lack of awareness of the benefits. However, survey data is limited as it identifies an association between socio-economic status and breastfeeding rates but does not explain the relationship. In fact, providing women with literature alone has had little impact on breastfeeding rates (Dyson *et al.* 2006). Qualitative studies have found that formula-feeding women are typically aware of the 'breast is best' message (Hoddinott & Pill 1999) and that women's decisions to formula or breastfeed are often made early in pregnancy and are unrelated to promotion from health professionals (Earle 2002).

Qualitative studies have allowed meaningful data to be gathered from women about their infant feeding choices. Hoddinott & Pill (1999) conducted interviews and focus groups with low income women to explore how they made their decisions. They found that experience of seeing breastfeeding is important as a means of acquiring 'embodied knowledge', which is associated with confidence concerning the act of breastfeeding itself. This knowledge seemed to be more important than awareness of the health advantages. Earle (2002) employed unstructured interviewing techniques in a prospective study of first-time mothers and found that the role of self-identity was

Key messages

- In this study, all twelve participants were aware that breastfeeding is considered the healthiest option for their infant.
- Participants differed in the extent to which they believed the health benefits of breastfeeding.
- Longer-term breastfeeding may depend upon its consistency with a mothers' self-identity.
- Mothers who experienced difficulty breastfeeding their first child may benefit from health professionals' support when breastfeeding their subsequent children.
- Supporting mothers to breastfeed in public and enabling pregnant women and mothers of newborn infants to meet successfully breastfeeding mothers of older infants and may encourage breastfeeding initiation and continuation.

highlighted as influential for those who wished to maintain a strong personal identity and perceived breastfeeding as potentially damaging to this. Marshall *et al.* (2007) investigated the role of breastfeeding in managing self-identity as a 'good mother'. Observations of interactions between mothers and health professionals as well as in-depth interviews showed that breastfeeding was considered synonymous with being a good mother only when the baby was obviously healthy. However, mothers felt breastfeeding had to be defended (when among formula-feeding advocates) if the baby was not content.

In one of the few qualitative studies in the UK including multiparous participants (mothers of more than one child), McFadden & Toole (2006) conducted focus groups with pregnant women and mothers of one or more children under four. They found that embarrassment and concern about breastfeeding in public, along with conflicting advice from health professionals, were barriers to breastfeeding. Stewart-Knox *et al.* (2003) asked primi- and multiparous pregnant mothers to take part in focus groups to discuss the perceived costs and benefits of each infant feeding method. The main barriers to breastfeeding discussed were lack of independence, embarrassment, isolation, return to work, a lack of public facilities and the presence of older children in the family.

The qualitative studies described above provide rich, meaningful data regarding women's perceptions of breastfeeding. However, because one of the aims of qualitative research is to provide understanding of the meanings and interpretations of behaviour within the specific sample under study, it is of value to conduct further qualitative research with additional samples in order to establish whether similar themes emerge or new themes are revealed. The primary aim of this study was to investigate, and differentiate between, the factors affecting mothers' initial infant feeding decisions and the factors involved in their continued infant feeding choices in the first few months; the first study to explicitly do so. A secondary aim was to inform a longitudinal, questionnaire-based study that is currently being undertaken. In-depth interviews were conducted in which both primi- and multiparous mothers were asked about their infant-feeding choices and experiences. Participants had all given birth in Reading, Berkshire, a relatively affluent town in South-East England.

Method

Recruitment

Permission to proceed was granted by the University of Reading Ethics and Research Committee. Recruitment was via the Department of Psychology Child Development Group Infant-Database. Researchers visited the maternity ward of Royal Berkshire Hospital several times a week to identify mothers who were willing to include their contact details in the database. Of the 113 mothers in the database who lived in Reading and gave birth within a specified two-month period, 30 (randomly selected) were sent a letter inviting them to participate in the study.

Participants were informed that the purpose of the study was to investigate infant feeding choices and were made aware of their rights as participants and that the interviewer was not intending to promote a particular feeding method. As a result of an over-representation of breastfeeding mothers early in recruitment, the letter sent out in the latter half of the study stated that the researchers were keen to recruit formula-feeding mothers.

Letters were followed by a telephone call from the researcher to ascertain if mothers were interested in participating. Twelve of the thirty mothers approached agreed to participate. In accordance with participants' rights, they were not asked their reasons for refusing. However, two participants spontaneously offered reasons; one was busy with older children and the other unwell.

As the research aimed to obtain detailed, in-depth descriptions of participants' experiences, the sample was necessarily small. Since a sample of 12, self-selected participants cannot be expected to be representative of the population, demographic details were not collected (see Morse 2008).

Data collection

Participants were interviewed in their own homes, at a time convenient to them. All interviews were con-

ducted with participants' babies present, and three were conducted with pre-school children also present. In two cases, the participants' husbands were at home but in another room and in another case the participants' sister was present towards the end of the interview. Given the nature of the study, it was common that interviewing was paused while participants attended to their children. A topic guide comprising 12 open-ended questions regarding participants' feeding intentions prior to the birth, any influences upon those intentions, and their experiences of feeding after birth was used. The interviewer encouraged participants to expand upon, or introduce new topics. Interviews lasted between 30 min and 2 h and were terminated when all the topic guide questions had been addressed and participants felt they had nothing further to add. Interviews were audio-recorded, with participants' consent, and transcribed verbatim along with notes taken during the interview.

Data analysis

Transcriptions were analysed using the Atlas.ti software package (Atlas.ti Scientific Software Development GmbH, Berlin). Codes (labels representing an idea or theme) were created in an inductive and cyclical process – inductive because codes emerged from the data itself and cyclical because codes were refined as further interviews were analysed and early interviews were revisited. Outputs of all quotations attached to a code were regularly checked to ensure they all represented the same, specific idea defined by the label. Coding began with identifying highly specific codes, which were then combined within families of semantically similar, frequently co-occurring or thematically related codes. For example, a series of specific codes such as 'nipple pain', 'other breast pain', 'latch', were combined within a family called 'physical difficulties with breastfeeding'. Other specific codes ('early breastfeeding', 'skill' and 'expertise/practice') were combined within a family of 'learning to breastfeed'. A third family called 'milk supply and demand' emerged from the specific codes 'hungry baby' and 'lack of milk'. Links were identified between these families if single quotations were linked to different families or were perceived by the researcher to be thematically related, and they formed the theme 'physical capability' described in the results section.

Reliability and validity of analysis

Pope *et al.* (2000) recommend measures to improve the reliability of, and reduce error in, qualitative analysis including 'constant comparison' in which each item is checked against other items within the same category, and some form of inter-rater reliability to ensure there is not a strong researcher bias. As each code emerged from the data, it was given a definition; each new example of this code was checked against previous examples and the definition. As analysis progressed, earlier transcripts were then checked for more subtle examples of codes that had emerged in later transcripts. A second coder became familiar with four of the transcripts and was asked to identify any codes that she believed were missing, or to highlight any occasions where she disagreed with the interpretation. The second coder did not report any disagreements with the primary coder.

In order to ensure the validity of the interpretation, Mays & Pope (2000) recommend paying attention to negative cases and measuring respondent validation. In later stages of the analysis, when common themes were emerging, the researcher checked through the transcripts for any examples that showed a different pattern to the theme emerging, and included these in the discussion of each theme. After the transcripts had been coded, each participant received a synopsis of their interview in the post, followed by a telephone call 1 or 2 days later, in which they were invited to express their level of agreement with the analysis. Contact was made with 9 participants, two of whom made additional comments; one mother disagreed that not being able to drink alcohol contributed to her desire to stop breastfeeding, and another added that protection from cancers was another reason for her to continue breastfeeding. These comments were considered in the next stage of analysis.

Results

The 12 participants were mothers of infants aged between 7 and 18 weeks. The sample included both primi- and multiparous mothers, and mothers choos-

Table 1. Participants' infant feeding behaviour

Participant identifier	Age of infant (at interview in weeks)	Older siblings (*n*)	Expressed feeding intention	Feeding method until time of interview
1	8	0	Breast	Exclusive breastfeeding until 1 month, then breastfeeding with occasional formula.
2	9	2	Breast	Mainly breastfeeding, with formula every few days
3	10	1	Breast	Exclusive breastfeeding for 2 weeks, then introduced occasional water.
4	18	0	Breast	Exclusive breastfeeding for 3 weeks, then introduced formula. Exclusive formula from 4 weeks.
5	16	1	Breast	Exclusive breastfeeding for 2 weeks. Exclusive formula from then on.
6	12	0	Formula	Exclusively formula feeding from birth.
7	7	0	Breast	Mainly breastfeeding with one bottle of formula per day.
8	10	0	Formula	Breastfed for 5 weeks with top ups of formula. Exclusive formula from then on.
9	12	1	Breast	Exclusively breastfeeding
10	14	1	Breast	Exclusive breastfeeding in hospital. Once at home switched to formula with occasional bottle of breastmilk for 1 week.
11	12	1	Breast	Exclusively breastfeeding
12	16	0	Breast	Breastfed with some bottles of formula for 10 days, then exclusive formula.

Note: Table shows age of infants, number of older siblings, feeding intention prior to birth expressed retrospectively at time of interview and actual behaviour of sample.

ing to feed their infants with formula and/or breast milk. Table 1 shows the age of the infant at the time of the interview, the presence of older siblings, mothers' feeding intention prior to giving birth (expressed retrospectively during the interview) and how mothers were feeding at the time of the interview. Of the 12 participants, 10 had intended to breastfeed and went on to at least initiate breastfeeding. Two participants intended to formula feed, one of these did initiate breastfeeding, and one fed her baby with formula milk only.

Four themes emerged from the data: Information, knowledge, decision making and the role of health professionals; physical capability; family and social influences; independence, self-identity and lifestyle.

Information, knowledge, decision making and the role of health professionals

The participants in this study cited a variety of sources of information regarding infant feeding including books, magazines, television documentaries, the Internet, friends, family and health professionals. All participants were aware of the 'breast is best' message and several reported being aware of this message before they were ever pregnant. Often, participants expressed detailed understanding of specific benefits for their infant, such as aiding development of the immune system, and preventing allergies. However, few showed awareness of the length of time it is recommended that breastfeeding continue, or the benefits for themselves.

Differences emerged when participants discussed the degree to which they believed the reputed benefits of breastfeeding. In general, those who were exclusively breastfeeding at the time of the interview reported the health benefits for the child to be the most influential factor in their decision to breastfeed. On the other hand, several participants who had switched to formula-feeding by the time of the interview indicated that they did not entirely believe the claims about health benefits. This was either expressed in terms of their own experience contradicting the health claims, or of the health benefits being outweighed by risks of breastfeeding, such as not knowing how much milk the baby has consumed.

P6, 1st child aged 12 weeks, formula-feeder:
'I mean I'd read about it and stuff so, yeah I mean I was, in the beginning I thought well it probably is [healthier] because it's more natural and healthy for the babies, but then at the same time it's not, 'cos you can't monitor how much they're taking in and so they could be screaming that they are hungry but you don't know if they're hungry'.

P4, 1st child aged 18 weeks, formula-fed after 4 weeks of breastfeeding:
'I know that it [breastfeeding] is the best thing for her but at the same time you know, I wasn't overly sold for the simple reason that I was bottle-fed from birth so, and I've, I'm not allergic to anything . . . whereas my boyfriend, on the other hand, he was breastfed for 18 months, and he's sick boy! You know? He's allergic to everything . . . So then I kinda think you were breastfed and I wasn't so I'm not totally sold on the idea that it decreases the chances of them having allergies and stuff'.

P7, 1st child aged 7 weeks, combined feeding:
'as I say with me having asthma and er, allergies, I mean I'm allergic to two of the main antibiotic groups so, I want to give her as much protection as I possibly can. I think they say that if you feed for 6 weeks it gives them a certain amount of immunity up until age 14 or something so, every week that you manage to do really does boost the immunity . . . so, I really just want to keep going as long as, as long as we can'.

Mothers differed as to how and when they made their decision regarding feeding their babies. Six said they knew how they would feed their baby even before pregnancy. Five of these intended to breastfeed, and often these mothers said that how they intended to feed their baby was never something they had to think about. Other mothers gathered information to decide the best option for them. Four said they were influenced by their health professionals, who were often regarded as a source of pressure to breastfeed. Those who felt they had been heavily influenced by this pressure were more likely to switch to formula-feeding earlier than those who had made the decision based on other factors. However, mothers also described experiences of feeling supported by individual health professionals, particularly those who spent time with them in hospital helping establish breastfeeding.

P10, 2nd child age 14 weeks, formula-fed after 1 week:
I: Were you sort of always thinking about breastfeeding?
R: No . . . I think it all came from that, the pressure eerm, maybe that's a bit unfair, but erm the expectation. . . but no, I don't, if you'd have asked me, say when I was 25, would you breastfeed if you had a child I would probably have said no [screws up face]

Physical capability

Many mothers experienced practical problems with breastfeeding; all who initiated breastfeeding experienced some degree of pain and several reported experiencing difficulties with the infant latching onto the nipple. For some, this was resolved within a few days, but for others this was more difficult to resolve and was cited by one woman as a reason for stopping breastfeeding after 10 days. Many mothers lacked confidence in their milk supply or described how their baby was particularly hungry and their demand for milk too high. For one mother, this was a reason to formula-feed from birth.

P11, 2nd child aged 12 weeks, exclusive breastfeeder:
'The first six weeks were just really painful, really sore cracked nipples which was awful, eerm and I did, seriously think about stopping then'.

P12, 1st child aged 16 weeks, formula-fed after 10 days:
'For a start in the hospital she wouldn't latch on so she lost a lot of weight to begin with. . . and then she would just scream and scream and scream and scream and she was upsetting herself, and then it got to me in the end'.

P6, 1st child aged 12 weeks, formula-feeding:
'But he's easier with the bottle 'cos I would never be able to feed him as much as he wants to eat!'

Several mothers reported how they felt breastfeeding was a skill made easier with practice and experience – the longer a mother continued breastfeeding the easier she believed it was. Those who had successfully breastfed their first child reported that feeding was generally easier with their second, although finding the time to breastfeed was more difficult (reported further in 'Independence, self-identity and lifestyle'). Conversely, one mother who had great difficulty breastfeeding her first child was reluctant to try again with her second.

P12, 1st child aged 16 weeks, formula-fed after 10 days:
'I mean it's another skill isn't it? I mean you've never done it before, so its something that you've got to learn and the baby's gotta learn . . . but yeah it didn't even occur to me that I would have trouble or that it would be difficult'.

P10, 2nd child aged 14 weeks, formula-fed after 2 weeks:
'[C]os I thought well it didn't work last time it won't work this time and you suddenly think oh God I don't know what to do'.

P9, 2nd child aged 12 weeks, exclusive breastfeeder:
'[B]ut with M. [2nd child] I went into hospital armed with the ointment, with the nipple shield etc. and I didn't need them and I don't know whether that's just because I was more relaxed about it . . . but that was much, much easier'.

Family and social influences

The infant's maternal grandmother was mentioned frequently by mothers as an important source of support and practical advice in the early days. When mothers are divided into predominant breastfeeders or predominant formula-feeders (based on how they have fed until the interview), most of the breastfeeders had been breastfed themselves, and most formula-feeders had been fed with formula themselves. Often, mothers stated that how they were fed had a direct influence on their decision.

P12, 1st child aged 16 weeks, formula-fed after 10 days:
'[A]nd um I mean my mum couldn't breastfeed either me or my brother and I, I turned out all right because of it'.

P11, 2nd child aged 12 weeks, exclusive breastfeeder:
'I guess my mum was quite a big influence 'cos she, when she had us, I think a lot of people did bottle feed then and, and she didn't and that was quite good really. I think she would have been a bit miffed if I had breastfed. . . I mean bottle-fed'.

Many mothers referred to the infant's father as an influence, with concerns that he would be unable to feed the baby if she chose to breastfeed. This was a problem in terms of the practical help the father could provide, and concern about the father bonding with his baby. However, mothers commonly stated that the decision was ultimately their own.

P7, 1st child aged 7 weeks, predominantly breastfeeding:
'[M]y husband sort of said oh you know whatever you think is best 'cos obviously it's me that's doing it, rather than him'.

Older children were considered a barrier to breastfeeding, especially when a mother felt she could not breastfeed in public, as this would restrict the lives of her older children. Mothers were concerned about juggling the time spent with all their children and found this left them with little time to look after themselves. Some mothers felt neglected by health professionals if they had an older child. Although this was understood to be due to limited resources, they described a need for reassurance.

P10, 2nd child aged 14 weeks, formula-fed after 2 weeks:
'If I can't get over that issue [feeding in public], I'm gonna be tied to the house and my older daughter couldn't cope . . . she would be climbing the walls and it wouldn't be fair on her. And also you know you try everything possible to avoid you know a jealousy situation . . . and you know if I am spending that amount of time feeding A. then it is gonna create a problem'.

P2, 3rd child aged 9 weeks, combined feeding:
'[A]nd as you go down the line you get more and more children so you have less time, you don't necessarily have time to feed yourself properly'.

P3, 2nd child aged 10 weeks, exclusively breastfeeding:
'Especially when they hear that it is your second child, they just assume that you know, 'cos I was like 'is he latching on correctly?' . . . so kept calling them, but it wasn't happening'.

In a wider context, what the mother perceived to be the normal behaviour around her was sometimes reported as an influence on her own infant-feeding decision. Four of the six breastfeeding mothers directly reported that most people they knew with children had breastfed. By contrast, those who intended to formula-feed, or who switched to formula-feeding, either perceived bottle feeding to be the norm, or were unclear about what the norm was due to a mix of influences or not having much experience of children.

P1, 1st child aged 8 weeks, predominantly breastfeeding:
'I never really thought otherwise . . . round my family who had children they all breastfed, I didn't even think, probably

when I was little as well, if you go back, never knew you could buy formula to feed a baby'.

P10, 2nd child aged 14 weeks, formula-fed after 2 weeks:
'[B]ecause the babies I knew when I was young weren't being breastfed they were being bottle fed maybe next generation it might become a bit more natural again . . . there was no mention of breastfeeding, I don't think it even occurred to me till I was quite old that that was an option!'

Many mothers described feeling uncomfortable breastfeeding in public and described facing a choice of feeling isolated at home or formula-feeding. The primary concern was that other people would disapprove of them breastfeeding in public. However, formula-feeding mothers also said they were concerned that other women would judge them for not breastfeeding. Those who breastfed the longest often felt more comfortable breastfeeding in front of others.

P4, 1st child aged 18 weeks, formula-fed after 4 weeks:
'I'm very active so for me to stay in and being stuck in the house all day I was going house-crazy and I'd, I'd I daren't go out 'cos I was so worried she's start crying you know and need a feed and I thought don't wanna get my boob out in public!'

P2, 3rd child aged 9 weeks, combined feeding:
'[Y]es I'm I've fed him, in the park the other day, went round to a friends yesterday . . . I've fed him up at the shopping centre on Saturday. So yeah, anywhere really!'

P6, 1st child aged 12 weeks, formula-feeding:
'[S]o it doesn't really bother me but it does because . . . there was these two older ladies sitting on the chairs next to me and . . . one of them said to me oh you know in my days we didn't have that we had to do good old breastfeeding that's the best start you can give your baby'.

Independence, self-identity and lifestyle

Mothers disagreed as to which feeding method was the most convenient. Breastfeeding was described by those who were committed breastfeeders as the most convenient because it was 'on tap' and did not require extra shopping, preparing, cleaning or heating. Those who were formula-feeding described formula as being convenient because feeding routines could be controlled by the mother rather than by the infant. Breastfeeding was considered by both breast and formula-feeding mothers to be the most time-consuming.

P4, 1st child aged 18 weeks, formula-fed after 4 weeks of breastfeeding:
'I wasn't really prepared for bottle feeding, and that's why I wanted to breastfeed, I thought so much easier . . . no bottles, no cleaning, no formula, no nothing'.

P5, 2nd child aged 16 weeks, formula-fed after 2 weeks of breastfeeding:
'[H]e was, you know, 15 min, then 4 or 5 min and he'd want more and you know so it was kind of . . . I didn't ever feel like right he's had a feed and he's OK for like an hour and a half or something . . . it was really constant'.

The majority of mothers, including the most committed breastfeeders, referred to a loss of independence as a consequence of breastfeeding. This mostly related to difficulty going anywhere without the baby because only they could feed it, and was often exacerbated by avoidance of breastfeeding in public (see 'Family and social influences'). Mothers referred to the need to train the babies to feed from a bottle at a young age to ensure they would take a bottle if they needed to. While expressing milk was helpful for some participants, others reported difficulty expressing enough milk. Expressing breastmilk when returning to work was only considered by one mother. Others felt they would not be able to continue providing breastmilk while at work as it would be inconvenient and embarrassing.

P1, 1st child aged 8 weeks, predominantly breastfeeding:
'I wanted to make sure she was ok with the bottle, but obviously it was my milk in there. But she will now take either, 'cos I didn't want her to rely 100% on me'.

P8, 1st child aged 10 weeks, formula-fed after 5 weeks of breastfeeding:
'[C]os the milk builds up don't it and so you'd have to express during the day and I was thinking 'cos how would you do that at work? Just going off to express! And then don't mind my milk in the fridge!. . . so I wouldn't have been able to do . . . it would be embarrassing!'

Some participants described how breastfeeding reinforced their identity as a mother, partly because they described breastfeeding as a time to bond with their

baby and because nobody else could provide for the baby in the same way. However, when mothers did not meet their breastfeeding goals, they described feelings of failure and an identity as a bad mother. Several mothers described how they wanted to re-establish their identities as more than a mother, perhaps by going back to work. Others felt that being a mother was never a major part of their identity.

P7, 1st child aged 7 weeks, predominantly breastfeeding:
'[A]nd we have this thing that nobody else you know, nobody else can give it to her . . . and there's a photo of my Dad holding her [the baby] and my Mum putting a dummy in her mouth but she's there looking at me! There's about 6 pictures and every time she's following me around the room like its really, really nice you know that she's looking for me'.

P3, 2nd child aged 10 weeks, exclusively breastfeeding:
'I'm just trying to think of everything in general, I want him to have a good start in life but I also want to be able to live life. I can't afford to just sit, and be a mother for two years so I'll give him a good start and then, you know, we'll take it from there . . . and I think maybe if you are breastfeeding for so long, maybe it would become a bit hindrance then to your life'.

P12, 1st child aged 16 weeks, formula-fed after 10 days:
'[S]o you know throughout my twenties really didn't come into contact with children or know what it was or probably would have done a double take if I'd seen someone breastfeeding and I, I'd never been one of these women that desperately wanted children you know I've always kind of, I've had my life and do my career path and that sort of thing and children was always something that I thought oh yeah OK, possibly one day'.

Discussion

Four themes emerged from the data encompassing social, cultural, physical and personal factors associated with mothers' infant feeding decisions. Participants were aware of the 'breast is best' message and described this as an influential factor in the decision to initiate breastfeeding. However, where the reputed health benefits did not match with personal experience, participants sometimes expressed distrust in the benefits and were less likely to continue breastfeeding. The timing of the decision may be important, as those participants who knew they would breastfeed before they were pregnant were also more likely to breastfeed for longer than those who made the decision during pregnancy.

Practical difficulties with breastfeeding were reported by all participants with concerns about milk supply the most common. Generally, breastfeeding was cited as a skill that needed time and experience to learn, rather than the natural, easy process that some had expected. Participants who were prepared for this, because of past experience, were more likely to persevere and continue breastfeeding for longer periods. However, difficulty breastfeeding their first child led some participants to formula-feed their second child.

Social influences were important, with the maternal grandmother and the infants' father cited frequently when describing the decision whether or not to initiate breastfeeding. General cultural norms were important factors in the duration of breastfeeding, with participants who felt that breastfeeding was the norm continuing longer than those who had rarely seen another mother breastfeeding.

Embarrassment when breastfeeding in public and the time required for breastfeeding contributed to a loss of independence for many participants. This was a particular problem for those who identified themselves as individuals with roles beyond motherhood, namely going out to work. These factors seem to be particularly related to a shorter duration of breastfeeding. Those participants who breastfed longer saw it as convenient rather than a hindrance, and felt that it helped them establish their identity as a mother rather than inhibiting other aspects of their identity.

Many of the findings from this study confirm previous reports as noted below. They also extend our understanding of women's initial and longer-term feeding choices in several ways, notably (1) the degree to which participants believed the information they received regarding the benefits of breastfeeding, (2) the role of seeing other mothers breastfeed, and (3) the role of the mother's need for independence to retain her previous self-identity.

Consistent with findings from other qualitative studies (Hoddinott & Pill 1999; Earle 2002), this study

has found that the 'breast is best' message is reaching both breast- and formula-feeders. However, this study revealed differences in the degree to which mothers believe these benefits. Formula-feeders indicated they did not believe the reputed benefits, perhaps because they did not match with their own personal experience (often having been formula-fed themselves). By contrast, participants who were themselves breastfed showed a stronger belief in the health benefits of breastmilk.

Two possible explanations for these differences are that, first, mothers may listen to health professionals' advice and consider it in light of their own experiences, rather than considering it fact. Alternatively, many mothers described feelings of guilt when they stopped breastfeeding and felt a need to justify to health professionals (and others) their decision to formula-feed. Those who had switched to formula-feeding could have constructed new beliefs to justify this decision. Of course, this could also mean that those mothers who were breastfeeding were stating the benefits of breastfeeding in order to justify their decision to continue to breastfeed.

Hoddinott & Pill (1999) similarly identified that mothers differed in their ownership of their knowledge of its benefits, with committed formula-feeders discussing the benefits in terms of what 'they say' rather than what 'I believe'. Those who reported negative experiences of seeing someone breastfeed were more likely to distance themselves from this knowledge and were more likely to formula-feed. Hoddinott & Pill (1999) also suggest that positive experiences may allow mothers to accumulate embodied knowledge – a type of knowledge gained through direct visual or practical experience of a skill rather than theoretical knowledge of how to perform it – and that this increases mothers' confidence in their breastfeeding ability. In this study, those participants who perceived breastfeeding to be the norm or had witnessed breastfeeding on a number of occasions, tended to breastfeed longer than those who had rarely seen breastfeeding before. Furthermore, many of the participants who stopped breastfeeding had experienced practical difficulties and appeared to lack confidence in their ability to breastfeed, particularly concerning their supply of milk. This suggests that mothers who do not have vicarious experience of breastfeeding may lack confidence and, therefore, have difficulty establishing breastfeeding themselves.

Many of the participants described anxiety about breastfeeding their infant in public. They were especially concerned that other people would object to them breastfeeding near them, resulting in embarrassment. Similar findings have been reported elsewhere, for example, Stewart-Knox *et al.* (2003). These findings suggest that mothers feel two opposing pressures from society: one that breastfeeding is best for the health of their baby, but, on the other hand, that breastfeeding is not something that should be seen in public. In light of the discussion surrounding the importance of exposure to breastfeeding mothers, the difficulty that many mothers experience breastfeeding in public is particularly relevant because it may perpetuate the belief that breastfeeding is not the norm.

Concerns about breastfeeding in public also exacerbate mothers' feelings of a loss of independence. Participants described a restriction on their ability to leave the house when or as often as they wished for fear of having to feed the baby in public. They described breastfeeding as tying them to the baby because they had to be with him/her at all times in case of feeding. Both breastfeeding and formula-feeding mothers described this in contrast to the benefit of formula-feeding – leaving the baby and a bottle of formula milk with someone else for a few hours.

This loss of independence was perceived to hinder social roles outside of motherhood. Researchers have suggested that it is the changing roles of women in society that have led them to value their independence (Stewart-Knox *et al.* 2003) and their sense of identity outside being a mother (Earle 2002). Certainly changing roles in society may have an impact, as many of these participants felt obliged to return to work within 6 to 9 months and felt that they should stop breastfeeding in time for this. This suggests that women's multiple roles as both mothers and women who work outside the home may impact upon their infant feeding behaviour. Alternatively, those who are committed to breastfeeding may prioritize this and

give up their working lives for longer, or manage to continue breastfeeding while working. Similarly, while many participants did feel that they had lost some of their self-identity due to breastfeeding and wished to be more than a mother, others suggested that breastfeeding helped them to develop a positive identity of themselves as a mother. It is possible that changes in women's roles have led them to identify themselves as individuals with several different roles (or at least to express their desire of such roles) and that breastfeeding, in providing some restrictions on their independence, can hinder their self-identity. By contrast, those women who value their sense of identity as a mother may find that breastfeeding helps them to reinforce this, and is a more positive experience.

Stewart-Knox *et al.* (2003) identified the presence of older children as a barrier to breastfeeding, as participants needed to leave the house with older children more often. This sample described similar difficulties, especially if they were concerned about feeding in public. However, those who had fed an older child successfully felt feeding was easier with experience and felt more able to establish a feeding routine with their second child. Several women with more than one child reported that they felt neglected by health professionals after the birth of their second child, even if they had not successfully breastfed their first child. This suggests that while first-time mothers are a natural choice for targeting limited resources, increased attention to multiparous mothers who have previously encountered difficulties may also be worthwhile.

The mothers in this study have provided rich data regarding their personal experiences and beliefs, and this has allowed a deeper understanding of the infant feeding decision they faced. However, we have some concerns regarding whether the sample encompasses a broad range of experience because the rate of mothers who never breastfed their infant (only one in twelve) was substantially lower than national statistics that suggest 25% of women never initiate breastfeeding. It is plausible that perceived social pressure resulted in formula-feeding mothers being less likely to agree to participate in this study, however, because women were not asked to give reasons for declining to participate, we cannot provide systematic evidence for this.

Conclusion

All participants were aware of the health benefits of breastfeeding but differed in the extent to which they believed them; those who were familiar with breastfeeding showed a stronger belief in the health benefits. Embodied knowledge about breastfeeding, through vicarious or direct experience, may also have enabled mothers to establish successful breastfeeding. Strategies for promoting breastfeeding initiation should aim to increase the perception of breastfeeding as the norm and increase women's likelihood of witnessing positive examples of successful breastfeeding. These include expanding policies such as protecting mothers' right to breastfeed in public, providing more antenatal classes in which pregnant women have the opportunity to meet breastfeeding mothers and see breastfeeding taking place, and providing mothers of newborn infants with the opportunity to meet mothers who have returned to work and continued to breastfeed. Enabling pregnant women and mothers of newborn infants to meet successfully breastfeeding mothers of older infants may also increase the perception that it is possible to retain an identity beyond that of a mother even when breastfeeding.

In order to further examine the issues it raises, self-identity and experience have been incorporated into a large longitudinal survey investigating women's infant feeding choices from pregnancy until their infant is six months old.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

References

Beral V. (2002) Breast cancer and breastfeeding: A collaborative reanalysis of individual data. 47 epidemiological studies in 30 countries, including 50302 women with breast cancer and 96973 women without the disease. *Lancet* **360**, 187–195.

Bolling K., Grant C., Hamlyn B. & Thornton A. (2007) *Infant Feeding Survey 2005*. The Information Centre, Office of National Statistics: London.

Chantry C.J., Howard C.R. & Auinger P. (2006) Full breastfeeding duration and associated disease in respiratory tract infections in US children. *Pediatrics* **117**, 425–432.

Department of Health (2002) *Improvement, Expansion and Reform: The Next 3 Years. Priorities and Planning Framework 2003–2006*. Available at: http://www.dh.gov.uk/assetRoot/04/07/02/02/04070202.pdf (Accessed 9 May 2006).

Department of Health (2003) *Infant Feeding Recommendation*. Available at: http://www.dh.gov.uk/assetRoot/04/09/69/99/04096999.pdf (Accessed 9 May 2006).

Dewey K.G., Heinig M.J. & Nommsen L.A. (1993) Maternal weight-loss patterns during prolonged lactation. *American Journal of Clinical Nutrition* **58**, 162–166.

Dyson L., Renfrew M., McFadden A., McCormick F., Herbert G. & Thoman J. (2006) *Promotion of Breastfeeding Initiation and Duration: Evidence into Practice Briefing*. National Institute of Clinical Excellence available online: http://www.nice.org.uk/page.aspx?o=346169 (Accessed 13 July 2007).

Earle S. (2002) Factors affecting the initiation of breastfeeding: implications for breastfeeding promotion. *Health Promotion International* **17**, 205–214.

Hoddinott P. & Pill R. (1999) Qualitative study of decisions about infant feeding among women in east end of London. *British Medical Journal* **318**, 30–34.

Kirk T.R. (1978) Breast-feeding and mother's education. *Lancet* **8101**, 1201–1202.

Kramer M.S. & Kakuma R. (2002) *The Optimal Duration of Exclusive Breastfeeding: A Systematic Review*. World Health Organisation: Geneva. Available at: http://www.who.int/child_adolescent_health/documents/nhd_01_08/en/index.html (Accessed 21 January 2009).

Kramer M.S., Guo T., Platt R.W., Sevkovskaya Z., Dzikovich I., Collet J.P. *et al.* (2003) Infant growth and health outcomes associated with 3 compared with 6 mo of exclusive breastfeeding. *American Journal of Clinical Nutrition* **78**, 291–295.

Kramer M.S., Matush L., Vanilovich I., Platt R., Bogdanovich N., Sevkovskaya Z. *et al.* (2007) Effect of prolonged and exclusive breastfeeding on risk of allergy and asthma: cluster randomised trial. *British Medical Journal* **335**, 815–818.

McFadden A. & Toole G. (2006) Exploring women's views of breastfeeding: a focus-group study within an area with high levels of socio-economic deprivation. *Maternal and Child Nutrition* **2**, 156–168.

Marild S., Jodal U. & Hanson L.A. (1990) Breastfeeding and urinary tract infection. *Lancet* **336**, 942.

Marshall J., Godfrey M. & Renfrew M.J. (2007) Being a 'good mother': managing breastfeeding and merging identities. *Social Science and Medicine* **65**, 2147–2159.

Mays N. & Pope C. (2000) Qualitative research in health care: assessing quality in qualitative research. *British Medical Journal* **320**, 50–52.

Morse J.M. (2008) 'What's your favourite color?' Reporting Irrelevant Demographics in Qualitative Research. *Qualitative Health Research* **18**, 299–300.

Newcomb P.A., Storer B.E., Longnecker M.P., Mittendorf R., Greenberg E.R., Clapp R.W. *et al.* (1994) Lactation and a reduced risk of premenopausal breast cancer. *New England Journal of Medicine* **13**, 81–87.

Oddy W.H., Holt P.G., Sly P.D., Read A.W., Landau L.I., Stanley F.J. *et al.* (1999) Association between breast feeding and asthma in 6 year old children: findings of a prospective birth cohort study. *British Medical Journal* **319**, 815–819.

Owen C.G., Whincup P.H., Gilg J.A. & Cook D.G. (2003) Effect of breast feeding in infancy on blood pressure in later life: systematic review and meta-analysis. *British Medical Journal* **327**, 1189–1195.

Pisacane A., Graziano L., Mazzarella G., Scarpellino B. & Zona G. (1992) Breastfeeding and urinary tract infection. *Journal of Pediatrics* **120**, 87–89.

Pope C., Ziebland S. & Mays N. (2000) Qualitative research in health care: analysing qualitative data. *British Medical Journal* **320**, 114–116.

Pursall E.W., Jepson M.E., Smith B.A.M. & Emery J.L. (1978) Breast-feeding and mother's education. *Lancet* **8095**, 896–897.

Saarinen U.M. & Kajosaari M. (1995) Breastfeeding as prophylaxis against atopic disease: prospective follow-up study until 17 years old. *Lancet* **346**, 1065–1069.

Sadauskaite-Kuehne V., Ludvigsson J., Padaiga Z., Jasinskiene E. & Samuelsson U. (2004) Longer breastfeeding in an independent protective factors against development of type 1 diabetes mellitus in childhood. *Diabetes/Metabolism Research and Reviews* **20**, 150–157.

Stewart-Knox B., Gardiner K. & Wright M. (2003) What is the problem with breast-feeding? A qualitative analysis of infant feeding perceptions. *Journal of Human Nutrition and Dietetics* **16**, 265–273.

Von Kries R., Koletzko B., Sauerwald T., von Mutius E., Barnert D., Grunert V. *et al.* (1999) Breast feeding and obesity: cross sectional study. *British Medical Journal* **319**, 147–150.

Wilson A.C., Forsyth J.S., Greene S.A., Irvine L., Hau C. & Howie P.W. (1998) Relation of infant diet to childhood health: seven year follow up of cohort of children in Dundee infant feeding study. *British Medical Journal* **316**, 21–25.

World Health Organization (1999) *Comparative Analysis of Implementation of the Innocenti Declaration in WHO European Member States: Monitoring Innocenti Targets on the Protection, Promotion and Support of Breastfeeding*. Available at: http://www.who.dk/document/e63687.pdf (Accessed 9 February 2006).