Midwives and formula feeding

An evaluation of midwives’ knowledge of formula feeding and their role in supporting mothers who formula feed their infants

Dr Sue Battersby’s research shows that many midwives lack the knowledge to advise mothers who choose to formula feed

Sue Battersby PhD MSc PGDipEd BA(Hons) ADM
Independent Researcher/Lecturer
Sheffield

Correspondence:
Dr Sue Battersby
E-mail sue.battersby@fsmail.net

ABSTRACT

Objective To explore midwives’ knowledge of and support for formula feeding and to identify barriers that may prevent midwives giving information to mothers who formula feed their infants.

Method The study was designed in two phases using both qualitative and quantitative approaches. The total sample was 132 midwives. Guidance on ethical approval was obtained from the National Research Ethics Service.

Results The study identified that many midwives had a lack of knowledge of formula milks and that limited support is available for mothers who formula feed. This was compounded by a lack of unbiased literature for both mothers and midwives and a lack of understanding and/or a misinterpretation of policies.

Conclusions National guidelines support a policy of health professionals giving mothers who formula feed the information they require. Mothers who have chosen to formula feed need this information to ensure their infants receive nourishment that is appropriate and is safely and correctly reconstituted. Recommendations are made for clinical practice that should have potential health benefits for infants who are formula fed while not undermining breast-feeding.


Key words: midwives; formula feeding; knowledge; information; support; barriers

Key points

Many midwives continue to ask mothers their feeding intentions despite the Baby Friendly Initiative advising against this practice

Limited information is given to mothers about formula feeding and usually this is given in response to mothers’ enquiries

Midwives have limited knowledge of formula milks and some feel this lack of knowledge makes them an inappropriate person for mothers to ask for information

Midwives felt that mothers received appropriate information and support for formula feeding although they receive less than mothers who breast-feed

Barriers exist to giving information and support to mothers who formula feed. These include lack of information for mothers and midwives, and local and national policies

Introduction

Many midwives and mothers are concerned about the lack of help and information that mothers receive if they choose to formula feed their infants. This study aims to provide a better understanding of an aspect of infant feeding where there are apparent conflicts and misunderstandings.

During the last decade there has been a concerted effort by the Department of Health and local health authorities to increase both the uptake and duration of breast-feeding. This is because it is widely acknowledged by both health professionals and the general public that breast-feeding is best for infants both nutritionally and immunologically. Despite this knowledge, 24% of new mothers still decide to formula feed their infants from birth for a variety of reasons including medical, personal, social, physical and psychological. Even mothers who start breast-feeding often either discontinue earlier than anticipated or introduce infant formula alongside breast-feeding. Bolling et al. identified that three-quarters of all mothers had given their babies formula by six weeks of age and 92% had done so by six months of age.

Bolling et al. also identified that many mothers fail to follow key recommendations for making-up formula feeds despite there being clear instructions on formula packets and tins. The main tendency is to over-concentrate the formula, although under concentration also occurs. In addition,
when formula is incorrectly prepared there are potential risks from contamination by pathogenic organisms. Redmond and Griffiths have drawn attention to the need for effective education of parents and carers on hygienic preparation of bottle feeds by health professionals, ideally including demonstrations.

Incorrect making up of feeds puts babies at risk from health problems both in the short and long term. Many mothers feel that they receive inadequate information on the use of formula milks and the different kinds available. Midwives have expressed their concerns about this and feel that mothers who formula feed are treated like "second class citizens".

The purpose of this evaluation was to:

- Identify how mothers are informed about infant formula in pregnancy and the postnatal period
- Examine midwives’ knowledge and understanding of the different types of formula milks
- Identify where midwives receive their information about formula milks
- Explore midwives’ feelings about the support given to mothers who formula feed their babies
- Identify the barriers that prevent midwives giving information to mothers who wish to formula feed their infants.

**Methodology**

The study was designed in two phases using both qualitative and quantitative approaches. Phase 1 of the study consisted of in-depth face-to-face interviews with 22 midwives from three geographically different hospitals. The midwives were interviewed to identify their knowledge and any issues about informing and supporting mothers who formula feed their infants. The findings from Phase 1 were used to develop a survey for Phase 2. Phase 2 was a quantitative survey of 110 midwives undertaken by GfK HealthCare, an independent market research company specialising in surveying health care professionals. See Figure 1 for sample details.

Before beginning the study, ethical approval was sought from the National Research Ethics Service, which considered the study to be a service evaluation which should not be managed as research. Nevertheless, the Research Governance Coordinators were contacted in each hospital before beginning the evaluation to ensure it met their local needs as well as national standards. One hospital requested that the evaluation be put before the Ethical Committee and ethical approval was granted.

Participants were reassured that all interviews and the survey were confidential and names are identified by a letter (A,B,C) and not by name.

**Results**

How mothers are informed about infant formula in pregnancy and the postnatal period

Antenatally, midwives in both phases of the evaluation were continuing to ask mothers about their feeding intentions. This was despite the Baby Friendly Initiative (BFI) advising against this practice because it is felt that if the mother states she is planning to formula feed this may hinder her from changing her mind later and may also prevent midwives from discussing breastfeeding. In Phase 1, nine of the 12 community midwives interviewed directly asked the mothers how to make up feeds and only followed this up if there were any concerns. On occasions mothers would be given incorrect information and this was usually occurred at the booking interview. For some of the midwives, asking the mothers this question was a requirement on the antenatal booking form.

The findings in Phase 2 were similar to those in Phase 1: a majority of midwives (three-fifths; 63 out of 110) asked mothers about their feeding intentions in both the antenatal and postnatal periods. Alongside this, there were 33 out of 110 midwives who only asked this question in the antenatal period.

Once midwives were aware that the mother intended to bottle-feed, very few took the issue further. It was broached again mainly if the mother asked for information on formula feeding. As a result, mothers received very little in the form of verbal communication about formula feeding in the antenatal period.

Mothers in the survey asked midwives about formula but this was usually related to which brand is best to use (see Figure 2). The main source of information given to mothers is leaflets, although as the hospital frequently restricted midwives’ access to leaflets, this meant that mothers’ access to leaflets was also restricted.

One midwife commented:

“I mean I’m sure if I wanted to, I could probably get hold of some. But you’re sort of … it’s instilled in you really, that you have to be so pro breast-feeding, that you’re not allowed to be pro bottle-feeding or formula feeding.” (MWCG)

The practice of giving feeding and sterilisation demonstrations in antenatal classes has been discontinued by the majority of midwives.

Information given to mothers about formula in the postnatal period is inconsistent both in hospital and on transfer to the community. The majority of midwives asked if the mother knew how to make up feeds and only followed this up if there were any concerns. On occasions mothers would be given incorrect information and this was especially related to the reconstitution of individual feeds. The midwives were either unaware of, or were misinterpreting, the latest Government guidelines, which are based on recommendations from the European Food Safety Authority.

**Figure 1: Midwives interviewed in Phase 1 and surveyed in Phase 2**

<table>
<thead>
<tr>
<th>Type of hospital</th>
<th>Phase 1 No. of midwives interviewed</th>
<th>Phase 2 No. of midwives surveyed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital midwives – BFI</td>
<td>4</td>
<td>38</td>
</tr>
<tr>
<td>Hospital midwives – non-BFI</td>
<td>6</td>
<td>40</td>
</tr>
<tr>
<td>Community midwives – BFI</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Community midwives – non-BFI</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>22</strong></td>
<td><strong>110</strong></td>
</tr>
</tbody>
</table>

*Note: BFI = Baby Friendly Initiative. Includes midwives in a maternity unit working towards a Certificate of Commitment to BFI.
and recommend that formula feeds should be made up freshly for each feed and that the feeds should be reconstituted with water that is at a temperature of 70°C or above.

“I have to say I hadn’t heard of that, no. And in my day … you made them up for the 24 hours, you kept them in the fridge and then those that you didn’t use within that 24 hours you threw away and then you made up a fresh hatch. And that was the done thing in those days and as far as I was aware, I’m ashamed to say, I thought it was still the same.” (MWB5)

“What I’m saying is ‘Okay, sterilise all your bottles, put the water in and store it with the water in and then all you’ve got to do is put the powder in’ and they seem a bit relieved.” (MWA3)

The provision of leaflets to back up verbal information was very ad hoc, despite this practice being recommended by both the Baby Friendly Initiative17 and The National Institute for Clinical Excellence (NICE)18. Very few mothers are shown how to make up feeds on the postnatal ward and relatively few midwives gave demonstrations on how to sterilise equipment.

“We’re not actually permitted to do any demonstrations of how to make the feeds up on the wards … we used to do kind of group sessions and things but I think it’s something to do with Baby Friendly … whatever we do has to be a one-to-one. We don’t actually have the equipment on the ward any more to actually do a feed preparation …” (MWC8)

Midwives’ knowledge and understanding of formula

In both Phase 1 and Phase 2, midwives’ knowledge of formula was weak, especially their knowledge of the differences between types of formula (Figure 3) and many readily acknowledged this.

“If I’m perfectly honest, probably not in any great detail.” (MWB2)

“Not really. I’d have to go and find out … I know of them but I would have to go and have a quick read up on it.” (MWC5)

Two-thirds did not recognise any difference between whey-dominant and casein-dominant formula milks and 32% of midwives were unable to name any constituents of formula before being prompted (Figure 4). Several midwives realised that their lack of knowledge prevented them from fully informing mothers about formula milks when asked.

Sources of information about formula

Midwives often used more than one source when obtaining information about formula milks and formula feeding. Formula companies and their representatives continued to be the main source of information for many midwives, despite many maternity units restricting access to formula companies (see Figure 5). Other sources included professional journals, study days, hospital updates and other health professionals. Results showed that very little information was available in the workplace. Sources of information about official recommendations were also very limited in hospitals and midwives frequently obtained this information from mothers themselves.

“So if there’s anything that’s really new … and particularly when, say, the new information came in about making up the individual feeds and one thing and another, actually I felt a bit … professionally, quite embarrassed towards them because we had women that were coming in asking us about it and we were, you know, really in the dark about it. We hadn’t been given any formal … instructions about that and it was something that seeped in as regards information to the ward and to all of us.” (MWA1)
Midwives’ view about the information and support mothers receive

Despite the general lack of knowledge and information available for midwives and mothers about formula milks, 68% of midwives in Phase 2 thought there was sufficient information available. They tended to believe that they gave information about formula feeding but that what was lacking were the demonstrations. While others thought the information was appropriate, they also thought that mothers might not agree and might want more. They felt that mothers had the option to ask for more but that the onus was on the mother. The main reason seen for the decline in information was that formula companies and their representatives were denied access to maternity units.

The general consensus was that mothers who wish to formula feed receive good, adequate or appropriate information and support. However, when asked to score the support and information given to both mothers who formula feed and those who breast-feed, the scores given for the support and information given to mothers who formula feed was consistently lower than those given for breast-feeding (Figure 6).

Barriers to giving information

All the midwives in Phase 1 believed that it was their role to give information to mothers about formula milks, whereas only 51% in Phase 2 thought this. Many thought it was the role of other health professionals and particularly the health visitor. Of those who did not think it was the midwives’ role, 21% thought it was the role of the formula manufacturers (Figure 7).

Midwives frequently spoke of mothers being pressured into breast-feeding, not by them but by other midwives and health professionals. For some midwives there was a dissonance in their professional practice where on the one hand they were expected to promote breast-feeding whilst on the other they are expected to respect and support women’s choices.

Barriers to giving information about formula feeding were evident throughout the evaluation, despite many midwives stating they did not feel there were any. Infant feeding policies and the Baby Friendly Initiative were seen as barriers, as they were perceived as preventing midwives from practising as they wished and undermined their professional autonomy.

One midwife commented: “Baby Friendly [laughs], which is very unpolitically correct I know but because of the constraints put on us by the Baby Friendly, your hands are tied really. And I appreciate where we’re coming from and in an ideal world, yes, everybody would breast-feed but you know, it’s not for everybody. And there are some mums on medication and things who can’t breast-feed.” (MWC1)

Hospital or Trust policies appeared to prevent any discussion on formula feeding per se in antenatal classes. Lack of information for both mothers and midwives was seen as a barrier to giving information and this contributed to inconsistencies in the provision of information and undermined midwives’ knowledge.

“I think there’s a lack of adequate knowledge about it, about the milk. I mean we can give a little bit but I couldn’t sit and talk more than two or three minutes about formula feeds because I just don’t have that information. Whereas breast-feeding, I could sit and talk all day about it. But I think it’s lack of the information that’s available to us, that’s a big barrier. Okay, apart from the fact of you know, not wanting … you know, the information to come into the ward, but I think yeah, it’s lack of information that we have, that’s right.” (MWA1)

Recommendations from the study

- All mothers who choose to formula feed should have access to the latest Department of Health leaflet Bottle feeding[19] and the Baby Friendly Initiative guide for parents who are bottle-feeding[20]. This should be supported with verbal information and discussion
- An independent leaflet is needed that can be used by both midwives and mothers that details the different types of formula milks
- Clearer guidance is needed on what information on formula milks should give to mothers in antenatal classes
- The BFI[17] and NICE[18] recommendations should be adopted by all Maternity Units, and all mothers who choose to formula feed should be shown how to reconstitute a formula feed before transfer to community care
- Information about formula milks and reconstitution of formula, as well as sterilisation of equipment, needs to be included in pre-registration midwifery curricula
- Hospital updates on infant feeding should include information on key new recommendations and guidelines on formula feeding as well as breast-feeding.
Discussion
This evaluation has supported previous findings about mothers’ concerns at the lack of support and information given to women who formula feed their infants. The information given to mothers both antenatally and postnatally appears inadequate overall. Providing adequate information and support to mothers who formula feed is part of health professionals’ duty of care. The Royal College of Midwives states that “parents who have decided to bottle-feed their infant should be supported in their decision,” while the Scientific Advisory Committee on Nutrition recommends that “while professionals should continue to promote and support breastfeeding they should equally be able to advise parents and practically support formula feeding … the importance of distributing advice to all mothers about correct procedures needs to be emphasised to all health professionals.”

It could be strongly argued that by not supporting and giving mothers appropriate information, health professionals are breaking the Nursing and Midwifery Council Code: Standards of Conduct, Performance and Ethics for Nurses and Midwives. The at the time this study was undertaken there were very few independent, unbiased sources of information about infant formula milks for health professionals and parents. This, however, should no longer be a barrier. The Department of Health has updated its information leaflet and the Baby Friendly Initiative has published an information sheet for mothers on formula feeding. The latter has an additional information sheet for health professionals which is in more depth. The Royal College of Midwives has published an infant feeding leaflet with a comparison chart of the ingredients in different formula milks. In addition there are recommendations for making up formula feeds in a joint publication from the Department of Health and Food Standards Agency.

These publications will be invaluable for pre-registration midwifery education and also as professional updates for qualified staff. Articles in peer-reviewed professional journals are a further source of information, for example More’s recent review of milks for infants in Journal of Family Health Care. Health professionals have an onus to ensure they keep themselves up to date and need to remember that if they do not do this they are failing in their duty of care to the mother and, even more importantly, to the baby. The use of these resources will enable health professionals to give unbiased, up-to-date information to mothers.

Policies are often blamed by midwives for not providing information on infant formula antenatally. However, the Baby Friendly Initiative states that its standard on informing all pregnant women about the benefits and management of breastfeeding (Step 3) is not intended to deny women information on infant formula or to undermine safety. Other impartial information on formula milks can be given in antenatal classes. The criteria for the UNICEF UK Baby Friendly Initiative are currently being reviewed and will be including minimum standards related to the content of antenatal infant feeding classes.

Both NICE and the Baby Friendly Initiative recommend that mothers who are formula feeding their infant should be provided postnatally with information and a demonstration before they are discharged to the community. Despite this recommendation, mothers rarely receive either the demonstration or information due to lack of time and resources, and hospital policies.

Adopting the recommendations above would help to ensure that all mothers who are formula feeding their infants are transferred to the community with full knowledge about different types of formula milks and their safe preparation. In the community, staff are encouraged to have a full discussion with bottle-feeding mothers to ensure full understanding of how to bottle-feed correctly and UNICEF UK provide an audit tool to help with this process.

Although the study demonstrated a lack of knowledge of formula milks and limited support for mothers who formula feed, it also showed that the problem has been compounded because policies have been misunderstood and misinterpreted. As already discussed, there are national guidelines that support a policy of health professionals giving mothers who formula feed the information they require. Health professionals who do not do this are failing in their professional duty. None of the recommendations made should compromise breast-feeding but should enhance the care and information given to mothers who have chosen to formula feed their infants. This in turn has potential health and safety benefits for infants who are formula fed by ensuring the nourishment they receive is appropriate and that it is safely and correctly reconstituted.

References
5. Health and Social Care Act 2008

DECLARATION

Funding
This study was made possible through a grant from INFORM, an Infant and Diетetic Foods Association Limited initiative supported by SMA Nutrition and Nutricia Ltd.

Author’s personal statement
Infant feeding and particularly formula feeding is a highly emotive subject in health care. I have included this personal profile to reveal my own position in regard to breast-feeding and to make the data lens and analytical filter through which I processed the evaluation more transparent.

I am an independent researcher/lecturer and a mother of two boys, both of whom were breast-fed for six months, an accepted norm in the late 1970s and early 1980s. As a practising midwife I strongly support breast-feeding and always have done, and am actively involved with breast-feeding initiatives in my own city of Sheffield. I am a volunteer breast-feeding peer supporter at a children’s centre on a regular basis. All my research to date has been on aspects of breast-feeding and especially peer support for breast-feeding. During this time I have become increasingly aware that many mothers and midwives are concerned about the lack of information that mothers receive if they choose to formula feed their infants. This concern arose during my PhD study and has also been raised by other studies. The present study is in no way intended to undermine or distract from the promotion of breast-feeding or the support midwives give to breast-feeding mothers but to better understand an aspect of infant feeding where there are apparent conflicts.
