Mothers' experiences of sharing breastfeeding or breastmilk, part 2: the early 21st century

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Abstract

While women who informally shared breastfeeding or breastmilk (also called cross-nursing or co-feeding) in the latter part of the twentieth century were often reluctant to disclose this practice, media attention in the last few years has resulted in this practice being discussed more. Nurses may, therefore, encounter mothers who have shared or are sharing breastfeeding or their breastmilk at least once. This paper is the second of two to explore the experiences of mothers co-feeding in a variety of situations. Twenty-two mothers who had co-fed, and the coordinator of an online milk-sharing network, were recruited from online breastfeeding discussion networks, personal contacts and word of mouth. Sampling stopped when eight countries were included. Respondents came from a range of cultures and gave different reasons for this practice. They could choose whether to respond to a set of open-ended questions by e-mail or telephone. A number of different situations were identified in which the women had cross-fed on one or more occasions. Cultural issues, including milk siblingship in Islamic and other cultures, were explored. Consent was important, but fully informed consent was not necessarily obtained. Although no formal screening was conducted, it was clear that the women informally screened those with whom they shared their milk. In this study, sharing of breastfeeding or breastmilk mostly occurred in kinship or close female relationships, or at least between women with similar lifestyles and values, and seldom through casual contacts. In most cases, there was informal screening and the women would not have cross-fed indiscriminately.

Introduction

The sharing of breastfeeding within a kinship or friendship context is probably a habit as old as time. As a normal part of women's lives, in an emergency or for convenience, it has been largely unrecorded and so it is not possible to calculate its prevalence. It appears in formal and informal literature whenever it has become unusual, or where the circumstances are of note. For instance, an oft-repeated story concerns Yde (or Ida), the Countess of Boulogne, who in the late-eleventh century insisted on breastfeeding her sons and came to be revered as *the quintessential saintly noble woman*.[1] The legend recounts that another woman of the court responded to the fact that the Countess's baby was screaming by breastfeeding him, and on her return from Mass the furious Countess forced her child to vomit the milk and then breastfed him herself.[2] More recently, Rhonda Shaw has discussed the issues of consent and reciprocity in any sharing of breastfeeding in the context of the complex theory of gift-giving.[3] She has provided an analysis of the implications of non-consensual situations, with particular reference to the so-called *New Zealand Parent Centre* case of 1996, an incident which caused a scandal in New Zealand. Her analysis suggests that, as recently as the 1990s in New Zealand, assumed consent in a communal situation may not have been enough.

Recent accounts of altruistic breast-sharing situations reported in the media have included the Chinese policewoman who breastfed 8 or 9 babies separated from their mothers by the Sichuan earthquake in May 2008, after she was obliged to send her own 6-month old son to his grandparents so that she could undertake relief work.[4] The generosity of about 25 small-town American mothers who formed a roster to breastfeed or provide expressed breastmilk (EBM) for a baby whose mother died after his birth has also been described in the mass media.[5,6] From about 2005, human interest articles began to appear in the media in a number of countries reporting, as something unusual, the sharing of breastfeeding by close friends or relatives in Western countries and Zambia, and the establishment of agencies to supply professional wet nurses in China and the United States.[7-13]

In circles where breastfeeding is well accepted as the norm, examples of the sharing of breastfeeding or expressed milk are sometimes mentioned in passing. For instance, the author of an article in the July 2010 issue of *Essence*, the magazine of the Australian Breastfeeding Association, casually mentioned using her sister-in-law's expressed milk on one occasion when her milk supply was low.[14] The same issue of *Essence* cited a newspaper report in which a Melbourne artist described overcoming breastfeeding difficulties and learning to breastfeed by putting her sister's 6-month old son to her breast.[15] The November issue carried a 2-page account of the experience of two close friends in sharing the breastfeeding of their children.[16]

Since about 2005, online advertisements offering to sell human milk have appeared in the United States.[17] The advertisements commonly claim that the seller is *healthy*, as did advertisements in Melbourne newspapers by Australian wet nurses at the turn of the 20th century; some of the advertisements a century ago also offered doctors' references.[13] Akré and colleagues have argued that the sharing of human milk via the internet, while not totally risk-free, can be normal and safe if wise choices are made.[18] They point out that using artificial infant milk, the usual alternative to the mother's own milk, is not a risk-free activity. However, others have warned the public that responding to online advertising is not a reliable and safe way of obtaining EBM, because: i) the women selling their milk are unknown and buyers cannot be sure of the health of the seller; and ii) contamination or souring of the milk during handling and shipping is possible.[17] Nor can the buyer be sure that the milk has not been diluted.

Why would women in the early 21st century desire to provide nothing but human milk to

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their babies in the first half year of life when there are many commercial products being marketed for feeding infants from birth, and in some countries artificial feeding predominates? While the sharing of breastfeeding or breastmilk is done for many reasons, including convenience, the main reason is to avoid introducing factory-modified milks to babies in an age group for which exclusive breastfeeding is recommended.[19] Besides the fact that artificial infant milks do not fully replicate human milk and lack the living cells which provide protection, there is evidence that there are health costs from replacing human milk with substitute feeds, even for babies born at term.[20,21] The submission by the Public Health Association of Australia to the 2007 House of Representatives Inquiry into Breastfeeding recommended the provision of free human milk banks to fill the need.[22] For premature babies, the risks of artificial feeding include an increased incidence of necrotizing enterocolitis and septicemia.[23-25] Contamination and deficiencies in ingredients during manufacture occur, though only the most tragic cases become widely known.[26-29] Mothers who seek human milk for their infants, and their sisters and friends, who provide it, usually know each other well.

In cases in which the mother is unavailable or her milk supply is insufficient, the World Health Organization recommends that the milk of another woman is preferable to artificial baby milks, particularly in emergency situations.[30] After breastfeeding by the baby's own mother, the next preferred options are relactation (re-establishment of the milk supply) or wet-nursing by another woman, before artificial infant milk. Yet the prevalence of artificial feeding in many communities has led to suspicion of donor human milk, even from a known and healthy donor.

In the present day, helping out a friend by providing EBM or breastfeeding her baby happens occasionally within peer groups in which breastfeeding is highly valued and women form close friendships. These sub-cultures include local breastfeeding support groups and online groups that focus on natural childbirth and breastfeeding, as well as traditional Islamic societies, and individual families in other cultures. Indeed, in contrast to media articles which sensationalize the sharing of breastmilk,[13] women in these sections of society may only casually mention the generous donation of EBM as an aside in another communication.[31] Sharing breastfeeding also occurs in cultures in which several related women live in the same house or compound. Same-sex couples where both women are lactating occasionally share breastfeeding.[19,32]

Definitions

In this article the term *co-feeding* will be used for the sharing of breastfeeding or EBM between women in a friendship or family environment. Other terms used elsewhere for this practice are *cross-feeding* and *cross-nursing*. Sometimes the term *wet nursing* is loosely used to include this informal sharing; however, strictly speaking, wet nursing is either an occupation or an act of charity (such as after a natural disaster or in a personal emergency), and breastfeeding is not intended to be reciprocal. In this article the term *milk* refers to human milk and non-human milk will be described according to its origin. Manufactured products marketed as a complete feed for infants are here described as *artificial infant milks*.

Milk siblingship is a concept used in a religious and cultural context in Islam, whereby the children who receive the milk of the same woman are regarded as siblings under the consanguinity laws and must not marry. If, by chance, they do marry and it later becomes known that they were breastfed by the same woman, the marriage is annulled.[33,34] A summary of the implications of milk siblingship in this context is provided elsewhere.[19,33,35,36] Milk siblingship was also observed in other cultures in the Eastern Mediterranean, including in early 20th century Greece, where the children receiving the same milk were precluded from marrying each other.[37] The term *milk sibling*, or *milk sister/brother*, is also used by Anglo-Celtic Australian mothers in a non-religious context to describe the bond between their children when breastfeeding is shared on a regular basis, often with family members or close friends, or when a woman breastfeeds a foster baby as well as her own child.[38,16,19]

Literature review

Critics of the sharing of breastfeeding or EBM commonly focus on a potential risk from infection or contamination. The two infectious diseases, which were of concern for transmission through wet nursing in the nineteenth and early twentieth centuries, were syphilis and pulmonary tuberculosis (TB).

Later, concern about *Staphylococcus aureus* transmission led to hospital milk banks testing for this pathogen.[39,40] Since 1985, when it was first suspected that the human immunodeficiency virus (HIV) could be transmitted through milk,[41] HIV and a number of other viruses and drugs of abuse have become the focus of public concern.[42,43]

When breastfeeding is intended within a foster relationship in the United States, county or state regulations may apply. These may require the approval of the child's social worker.[44] However, breastfeeding within a foster relationship, where the care-giver takes on the mother role, is not the same as co-feeding.

Other criticisms of the sharing of breastfeeding are grounded in the contemporary Western construct of an exclusive mother-baby bond.[45] Fears are expressed that the child put to the breast of someone other than the mother will become confused, or that the mother-child bond with be damaged. In earlier centuries, there were fears that the nursling would imbibe a wet nurse's character along with her milk.[46,47] It is difficult for individuals who were reared in cultures where the mother-child bond is considered exclusive to recognize that this is a construct, and that in many cultures broader family and social networks are involved. Indeed, McGoldrick and Carter argue that the concept of child-rearing as exclusively the responsibility of the mother places considerable pressure on her and neglects the richness of a broader caretaker role.[48] One respondent to this study has contributed insights from a culture in which leaving a baby to cry is shameful and any breast available is offered. There is another challenge to the belief in the exclusivity of the mother-child bond: many women today need to return to work for economic reasons while their babies are still very young and they are obliged to leave them with family members or in formal care. It is inconsistent to be concerned about interruptions to the mother-infant bond through sharing breastfeeding, whether as a one-off or regularly, when the reality for many infants is to be cared for by others in the biological mother's absence.

Materials and Methods

The objective of this new study was to observe the practices of women who shared breastfeeding in a number of cultures. *Culture* is here defined as a society or subset of a society with a common view or identity. This may be the dominant culture within a nation, a minority ethnic or religious culture, a subset of a community determined by lifestyle or life-stage situations and beliefs, or an extended family. Examples of subsets within a broader society include women who have formed friendships within breastfeeding or homebirth support groups.

The design and recruitment method precluded any statistical analysis. Rather, as a cultural history, this study was designed to produce a snapshot of the diversity of situations and experiences of women who share breastfeeding or EBM in several cultural contexts in the present day (Table 1). Recruitment for this study was through the author's online networks and by word of mouth. Thus the women were self-recruited and well educated. They also had a greater exposure to breastfeeding than did the general community, and consequently were less

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likely to be shocked by the reality of sharing breastfeeding. Respondents provided information about their experiences by e-mail or telephone, responding to a set of questions used as prompts. Recruitment continued until there were respondents from a rich diversity of geographical locations and circumstances. The original minimum number of 15 respondents was comfortably exceeded. In all, 23 women responded, but the information they provided involved many more women as some co-fed with several others.

All of the respondents, except 2, shared breastfeeding or EBM in the first decade of the 21st century. The other 2 co-fed in Australia (pre-1980) and Colombia (1985). Another co-fed in the first decade of the 21st century and also in the period 1989-1999. One woman expressed milk to donate, but the milk was refused. Her experience is included to contribute to the cultural diversity from eight countries, as she was the only respondent from the Middle East. The mothers defined their own ethnicity and nominated either a nationality or a sub-culture within the country. For instance, Americans identified themselves as *White American, Askenazi Jewish, Other European, American/Caucasian, Chinese* and simply *American*. The Indian respondent belongs to a traditional Muslim family, a minority group. Thus, a number of different subcultures were represented (Table 1).

The study began by using themes that emerged in a previous study to provide a relevent framework for reporting also the experiences of these international participants.[19] The themes were: *consent, screening, the baby's behaviour, the opinion of others* and *how the respondents viewed their experience*, and the questions were based round these themes. Additional themes that emerged in this second study were: *when the biological mother has cancer and milk-sharing database*.

This study adheres to the Guidelines of the ethical review process of The University of Queensland and has received ethical approval.

Results

The women who contributed their experiences were from diverse backgrounds and circumstances. The experiences described occurred in eight countries and some of the participants belonged to subcultures within the country of residence (Table 1). They included: a Muslim co-wife living on the Indian subcontinent; an Australian living in Indonesia; several Anglo-Celtic women and one British woman in Australia who shared breastfeeding or milk with relations or friends from breastfeeding or childbirth groups; women who had met through breastfeeding or other networks in the United States; and a Colombian woman and a Lebanese woman who expressed milk for sick babies. Information on a different modality of milk-sharing was provided by the coordinator of an online register of Dutch milk donors who contribute their milk after being screened and accepted.[49] Pseudonyms are used for the

Table 1. Main characteristics of participants.

Pseudonym	Country	Culture/nationality (as defined by respondent)	Other women	Relationship
Fatima	India	Traditional Islamic Indian (one mother was from a different culture)	3	Co-wife and 2 friends
Laura	Australia	British	Several	Acquaintances and clients of same midwife
Michelle	Bali, Indonesia	Anglo-Australian	2	Friends (Balinese)
Jenny	Australia (pre-1980)	Anglo-Celtic Australian	3	Cousin and 2 friends Breastfed 2 other babies Her baby breastfed by friend
Anita	Australia	Anglo-Celtic Australian	1	Sister
Jack	USA	Caucasian American	2	Friend from same breastfeeding group and friend of a friend
Ilena	USA	White American	2	Friend; sister
Indigo	Colombia	White Hispanic	1	Acquaintance
Ann	Canada	Anglo-Celtic Canadian	1	Friend
Hannah	USA	Ashkenasi	2	Friends
Jess	Canada	American	1	Friend
Alice	USA	Chinese	1	Friends
Rose	USA	Other European	5	Friend breastfed her baby. She provided EBM to one friend, 2 acquaintances; one third party
Beth	USA	American	4	Friends
Karen	USA	Anglo-Celtic	Approx. 6	Friends
Cathy	USA	American/Caucasian	3	Friends
Sylvia	Australia	Italo-Australian	1	Cousin
Maree	Australia	Australian	1	Friend
Lisa	Lebanon	From the Middle East	1	Friend of acquaintance (the latter was donating EBM for her friend's sick baby.)
Sally	Australia	Anglo-Celtic Australian	Multiple	Friends, online acquaintances, strangers
Rosemary	USA	White Canadian	Multiple	Friends, internet contacts, sisters
Mandy	Australia	Anglo-Celtic Australian	2	One friend; one adult undergoing chemotherapy
Moedermelk Netwerk	Netherlands	Dutch	Multiple	Online contact, with screening

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respondents and the other individuals involved preserving anonymity. The exception is the coordinator of the Dutch register, as she is the contact person for this service.

In all, 22 respondents described their experiences of giving or receiving breastfeeding or expressed milk. The milk sharing involved from one to 6 other women, and in some cases it was not clear how many women were involved. So the total number of women involved is unknown.

Family tradition of sharing breastfeeding

Some families had a history of sharing breastfeeding within the family or friendship network in previous generations. Sylvia's grandmother had done so in Italy many years before. The cousin whose baby received Sylvia's milk later provided EBM for another cousin, but this was never used. The women in Fatima's family had also commonly shared breastfeeding in the past. Michelle's mother and her close friend had breastfed each other's babies in Australia years before. Some of the other respondents breastfed a sister or a cousin's baby at least once and sometimes regularly.

The respondents and their circumstances

Fatima spent her early years in northern India in a traditional Muslim family compound where the women's quarters surrounded a courtyard. There were usually 8 to 10 lactating women at any given time. In addition, servants usually brought their babies or young children to work. Co-feeding was common and it could be inter- and intra-generational. It was considered shameful to allow a baby to cry when there was someone available to provide comfort and milk at the breast. In infancy, Fatima was sometimes breastfed by her father's young aunt and a cousin's wife, and in adulthood she, too, shared breastfeeding. The only barrier was the need to avoid having the same woman breastfeed 2 children who might be considered future marriage partners.

As an adult, Fatima shared breastfeeding with other women after becoming her husband's second wife. The first time, Fatima breastfed her neighbour, Grace's, screaming 6-month old baby after his grandmother was unable to console him while his mother was at work. The baby *looked quizzically* at Fatima, before drinking hungrily. When Grace returned, she breastfed Fatima's son to relieve her own overfull breasts. There were no concerns about milk siblingship as, firstly, both babies were boys, and secondly, Grace belonged to a different culture and their children could never have intermarried. The co-feeding happened regularly for two months.

After her co-wife gave birth to a baby, both wives shared breastfeeding, as their babies were only five months apart. Thereafter, they shared the breastfeeding of 5 children from infancy through till they were toddlers. Apart from some initial nipple confusion when breastfed by the other mother, the children soon adapted to breastfeeding by either woman. The two wives are close friends and they found the arrangement convenient. Fatima and her close friend from childhood, Kulsum, also co-fed their first 2 babies mainly as a means of female bonding, to consolidate the closeness of their relationship. Kulsum's husband knew and gave his permission, but Fatima's husband and co-wife have never been told.

Laura, a British woman living in Australia, had difficulty establishing adequate lactation. Other mothers in her home birth circle provided their EBM to meet Laura's desire to avoid using artificial infant milk. Several women provided their milk, which Laura fed by bottle to her baby. The babies of the donor mothers were aged from one month to toddlers of about 18-24 months. Laura's own baby was aged 2-4 weeks at the time. She was able to increase her milk supply to the extent that she was later able to donate her own excess milk to another mother.

Jack's introduction to co-feeding began through a breastfeeding support group in the United States. During her first lactation she was one of 3 women who directly breastfed a baby whose mother was suffering from depression and also she provided EBM. This continued until the baby's mother was established on suitable medication. Jack also co-fed, on just one occasion, to comfort the baby of an acquaintance who became distressed in his mother's absence. Later, while tandem breastfeeding 2 toddlers and six months pregnant with her third baby, she again offered her breast to another baby.

Jenny breastfed the babies of 2 other women: her cousin and an acquaintance from an Australian breastfeeding support group, soon to become a close friend. In addition, one of Jenny's babies was breastfed by another close friend. Her cousin's milk supply was compromised after emotional trauma from bereavement and the baby was consequently at risk of failure to thrive. The baby's mother had started using a mechanical pump to stimulate her supply. Concerned about the baby's condition, a family member suggested the cousins swap babies for a feed. This enabled her cousin's baby to experience a flow of milk from Jenny's full breasts and learn to breastfeed, while Jenny's vigorous baby provided stronger stimulation to her cousin's breasts. This strategy was so successful that it was needed only once. Jenny's acquaintance in a breastfeeding-support group was breastfeeding twins sequentially, rather than concurrently. Once, the twin who was waiting became distressed and by mutual agreement Jenny breastfed this baby, who attached willingly. On the other occasion, when Jenny and her friend Chris and their families were holidaying together, Jenny's 9-month old baby developed vomiting and diarrhea and medical treatment was sought. Later, while Jenny slept, Chris, whose baby had been weaned some time before, put Jenny's baby to her dry breast off and on through the night to sooth her.

Like Jenny, other mothers responded to a short-term need on the part of a new mother. In Colombia, the mother of a baby born at 33 weeks asked Indigo to provide expressed breastmilk for this baby. The baby's doctor recommended breastmilk, but the mother was ill and also had breast implants, and she was producing insufficient milk. In addition, her doctor believed her medications were contraindicated. An Australian mother, Sylvia, whose parents were born in Italy, was visiting her cousin in the maternity hospital. The baby had never managed to attach at the breast and the mother had not successfully expressed any colostrum. As the baby was lethargic and not exhibiting hunger cues the midwives considered giving artificial infant milk by syringe to provide calories and stimulate the baby to be more vigorous. On learning that Sylvia was still breastfeeding an older child, the midwives discussed the option of using Sylvia's milk with the parents. The baby received the 20 mL that Sylvia expressed and within 24 h had attached at the mother's breast. Thereafter, breastfeeding progressed well and was continuing a year later. Maree, an Anglo-Celtic Australian, twice breastfed the baby of her friend to meet a short-term need. It was the first child for each of the women. The first time, her friend was resting and the hungry baby was six days old. Maree also offered her breast to the same baby six months later.

Michelle, an Anglo-Celtic Australian woman who has worked in Bali for several years, has shared breastfeeding with two Balinese friends. On the first occasion, Michelle's child was hungry and distressed in her absence. Consent had not been sought, but Michelle accepted the gift of breastfeeding in the spirit in which it was offered. The fact that Michelle's mother had shared breastfeeding with a close friend and talked openly about it may well have been a factor in her attitude. Michelle's baby was between four and ten months old when he was sometimes breastfed by her friends; the babies of the other mothers were older.

Anita is one of several Australian sisters whose mother is a former breastfeeding counsellor. When her younger sister, Trish, left hospital with her second baby, she was suffering from a serious *Staphylococcus aureus* infection

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and experiencing breastfeeding difficulties. Anita helped by breastfeeding her baby. Despite the persistence of the *S. aureus* infection for up to 18 months, Trish eventually breastfed for approximately four years. On a single occasion, Trish reciprocated by breastfeeding Anita's baby when he was hungry and his mother was absent.

Low milk supply in the biological mother was the reason for some instances of milk sharing, sometimes for an extended time. Ilena, an American, provided her expressed breastmilk (EBM) to 2 babies who were not her own. One was the baby of a friend, whose *hormonal problems* prevented her from producing an adequate volume of milk. The other was her sister's baby on a single occasion when her sister was absent. Rose provided 7 L of frozen EBM to a friend, who always struggled with low milk yield, attributed to polycystic ovary syndrome (PCOS). The friend who received Mandy's EBM struggled with insufficient milk because of *a thyroid condition* and supplemented her baby with EBM from several women for up to eight months. Low milk supply of unstated origin was the reason why Beth provided her EBM to several friends during her two lactations. On one occasion, she directly breastfed a baby at the request of the mother who was overwhelmed at the thought of latching-on her baby onto the breast. When Jess, an American then living in Canada, experienced temporary low milk yield after the birth of her second baby, he received one feed at the breast of her close friend and a small amount of EBM. Thereafter he received only his mother's milk.

Maternal or infant anatomy resulted in low supply for 2 of the respondents. Low milk supply because of an infant oral anomaly was why Cathy, a Caucasian American, accepted EBM from her friends in a breastfeeding group. A short tongue despite two frenotomies made breastfeeding difficult and it was more than three months before the baby could breastfeed at night and even longer before she was breastfeeding in the daytime. Pumping *round the clock* provided insufficient stimulation to Cathy's supply, but she was determined her baby would receive only breastmilk and her friends made this possible. Most of the milk came from the mother of a baby of similar age. Later, Cathy was able to express a small amount of her milk for a baby about six months younger than hers. Sally, an Anglo-Celtic Australian, was unable to produce sufficient breastmilk because of hypoplastic breasts and for her second baby she took advantage of the informally donated EBM of a network of other women.

A request for additional milk from an acquaintance who was donating milk for a sick baby in the neonatal intensive care unit (NICU) led Lisa, a Middle Eastern respondent, to express her milk, despite being close to weaning her 2-year-old. The baby's mother, who never supplied EBM for her baby, refused the offer. The reason for refusal was never stated, but the baby's mother was under stress. She had accepted the milk of a friend and it is likely that she needed to personally know any woman whose milk her baby received. These women were not bound by Islamic laws concerning milk siblingship as Lisa and the baby's mother were Lebanese Christians and the mother who was donating milk was Eastern European.

There were many reasons why Rosemary provided her milk for other mothers' babies, depending on the immediate need. She was *happy to help a baby who needed milk for one reason or another to help a mother in need*. These included a hungry child when the mother was absent, a regular arrangement while baby-sitting, initial low milk supply and for a mother adopting a baby. She breastfed the children of friends, her 3 sisters and Internet contacts. Two of her babies were breastfed by other women.

When the biological mother has cancer

Two of the respondents to this study described situations in which informally donated milk was used for the baby of a mother with cancer. When these motheres started treatment with chemotherapy drugs that were incompatible with breastfeeding, other mothers provided their milk so that the babies would continue to receive breastmilk. One of the respondents provided her milk to a friend who was undergoing chemotherapy; the other was a cancer patient whose friends donated their milk for her baby. A third respondent donated EBM to an adult cancer patient in her 50s. Usually a network of women provided EBM.

Rose provided her frozen EBM to an acquaintance who was undergoing treatment for cancer, and who was pumping and dumping her milk in the hope of maintaining lactation and, in the future, resuming breastfeeding. Rose had stored a large stock of frozen EBM before returning to work. Her own baby refused to drink from anything except a breast, and so she donated 6.5 L of this stockpile. She is unsure if the other mother was able to resume breastfeeding once her body had been cleared of the chemotherapy. Another acquaintance received milk from Rose when she had to interrupt breastfeeding to undergo a diagnostic imaging procedure for suspected cancer; no cancer was found. Most of the 3.5 L of EBM donated to her by Rose was not used and the recipient, in turn, donated it to someone else who was leaving a 9-month old baby for a brief trip overseas. Rose was not pleased that her milk had been passed on without her permission.

Karen, an American breastfeeding counsellor, was diagnosed with cancer when her sixth child was nine months old. Weaning to undergo chemotherapy did not, however, mean switching her baby to artificial infant milk as several other mothers were willing to express their milk for her baby. For the most part she fed this donated milk to her baby by bottle, but a close friend also initially fed Karen's baby directly at her breast on several occasions. This friend's baby was about two years old. The other mothers who helped Karen were producing milk after a stillbirth or for babies ranging from newborn to one or two years old. Although she had hoped to resume breastfeeding after completing the chemotherapy, stressful medical issues intervened. She estimates she has enough frozen milk from her friends to give to her son until he is over two years old.

Mandy responded to a request for EBM for a middle-aged cancer patient, posted on an online breastfeeding forum by the patient's daughter. The oncologist fully supported giving EBM to alleviate side effects of chemotherapy. The recipient drank about 50 mL of EBM mixed in a *smoothie* with fruit, until she was no longer able to swallow.

Milk-sharing database

To meet a need for donor breastmilk in the Netherlands in 2005, Chella Verhoeven started a *milk-sharing-database* to put mothers with insufficient milk for their babies in touch with mothers with ample supplies. When the *Moedermelk Netwerk* (Mothersmilk Network) began, there had been no formal milk bank in the Netherlands since 1973. A new hospital-based milk bank for premature infants subsequently opened in spring 2011. Unlike the informal sharing between strangers who have made contact via the internet and who cannot be sure of the provenance of the milk, donor mothers are rigorously screened before they are accepted for the Netherlands database. Indeed, the donor mothers are required to complete a screening form and to have a blood test for the current viruses of concern. The recipient mother also completes a screening form. Where possible, mothers living near each other are put in touch. Participants follow the procedures in the German milk banking regulations for pumping and transporting the EBM, since there are no equivalent guidelines in the Netherlands. The pasteurisation is carried out by the recipient mother in her home, using the Pretoria method of pasteurisation (Chella Verhoeven, personal comment, July 2008).[49] Thus costs are minimized, no premises or a centralized sterilizer are required, and the mothers can be sure that their babies are receiving milk from safe sources.

Usually more than one donor from the Netherlands register provides milk to a mother who has too little milk for her baby. A feature of

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this system, because the mothers know each other and build up a relationship, is that the donor mothers feel responsible for the recipient babies (Chella Verhoeven, personal comment, July 2008). Indeed, occasionally a mother has continued to donate her EBM to the mother-baby dyad she was matched with, even after her own baby has weaned.

Consent

The importance of consent from the mother of the recipient baby has been acknowledged.[3,19] In the women surveyed here, it is doubtful how informed the consent was, although there is, in fact, no consensus in defining *full informed consent*.[50] Sometimes consent for co-feeding was specifically discussed in advance, though within families and close friendships it was sometimes a tacit agreement and had been discussed after a situation arose where an inconsolable baby was breastfed in the mother's absence. This was the case the first time one of Michelle's Balinese friends comforted her baby at the breast. She realized this action was in her baby's best interests, both the first time it occurred and on subsequent occasions. She explained: *On the first occasion, it happened before I knew, but there was difficulty in getting my baby settled to sleep, and he wouldn't take a bottle or any other form of milk to settle. I had no issues with any other occasion, and in fact was more than happy for this to occur given it was the least distressing [option] for my baby*.

Consent was given verbally from the first time Anita shared breastfeeding with her sister. Anita commented: *It was adverse circumstances, but we would have done it* [anyway]. *I don't know if we'd have done it quite so often and so long*.

When Lucy expressed milk for her cousin's newborn, unofficially the parents agreed and the midwives were supportive of the idea. It was at the mother's request that Indigo donated her milk to the sick premature baby. Verbal consent was also given when Jenny and other mothers shared breastfeeding in a variety of circumstances. The milk sharing was consentual in all cases in which Beth provided her milk. Jess had asked her friend to provide some EBM. All parties consented when Sally received EBM informally donated by a number of other women. All the situations were consentual when Rosemary provided milk for other women's babies or her own babies were breastfed by others, and the mothers in Rosemary's circle all consented. The mother of the first baby to be breastfed by Jack and two other friends had begged them to help, though despite this she was uncomfortable about remaining in the room while her baby girl was breastfed by others. Beth's babies never received milk from other women, but she believed she would have done so in an emergency, provided she had given permission.

In two situations, a third party was involved in a milk-sharing triangle, without the consent of one party. While Rose felt *relieved* that her friend had breastfed her baby in her absence, and also felt positive about donating frozen milk to other women when all parties had consented, she was uncomfortable about the action of one of these women in passing on her (Rose's) milk to someone else. In another situation in which a third party, Lisa, was asked to donate milk by someone other than the mother, she wrote: *I was so proud of myself and I was happy that I* [would] *be able to help a sick child*. Despite the milk not being accepted, *overall… it was a really nice experience. It felt that I had super powers!*

Consent was sometimes given by another family member in the absence of the mother. The baby's grandmother, who was in charge of the baby, encouraged Fatima to breastfed the distressed baby of her neighbour, who was late coming home. In the other situations in which Fatima shared breastfeeding, there was mutual consent. The first time Maree breastfed her friend's baby, the baby's father gave consent, while on later occasions the mother provided approval. Consent also had a broader dimension in the case of Jack, who lives in the Mid-West of the USA. After Jack had put a friend's baby to her breast on two occasions, her husband dissuaded her from doing it again, as he was concerned that the other mother's estranged husband, the father of the other baby, had not been told and he feared legal consequences. Later, Jack breastfed a distraught baby who was brought to her to breastfeed, in desperation, by the baby's caregiver, a mutual friend of the mother and Jack. Jack asked permission of both her children to let this baby drink some of *their* milk. Her children were concerned for the baby and agreed. The baby's mother approved of the co-feeding when they discussed it later.

Ilena's friend gave verbal consent to receiving whatever EBM Ilena could provide. However, she never obtained consent from her sister on the day she gave several feedings of EBM to the latter's baby. The children's grandmother knew and approved, but Ilena has never told her sister. Another mother asked Ilena to provide milk for the baby of a third party, but she has not done so as she would prefer to have the mother's consent.

Screening

Only in the milk-sharing network in the Netherlands was formal screening undertaken. One respondent in the United States, Rose, who donated large quantities of her frozen EBM to five other women, had blood tests for HIV and *other blood borne pathogens* but the recipients never questioned her about that. Mandy offered to undergo screening tests before donating EBM to a cancer patient. However, the woman's oncologist considered this unnecessary as the cancer was terminal and the benefits outweighed any risk.

Other mothers in this study knew the women with whom they shared breastfeeding or EBM, typically through close family relationships or peer networks. In a few cases, the women cross-fed with *acquaintances* from these networks. A question about whether there were women whom they would not allow to breastfed their babies elicited details of the informal screening which most respondents unconsciously performed. Jess believed she would be comfortable if the other women were her friends. For Fatima, whose religion (Islam) encourages breastfeeding for two years and has religious laws concerning milk siblingship, it is important that: *if the baby is to be left to another woman to nurse* [breastfeed], *she should be healthy and without any serious disease. For this complete knowledge about the antecedents of the women is a must. I cannot entrust my child for feeding by a lesser known woman*.

Ilena knew the women whose babies received her milk very well. She has never been a recipient of breastmilk for her own babies. Hypothetically, she would not have accepted EBM for her babies if she had any doubts about the donor's health history, *particularly if there was a history of promiscuity or possible drug use*. She would let one sister breastfeed her baby, but not the other, primarily because of her medical history. Rose stated that she would never allow her baby to be breastfed by strangers or anyone whose medical status was uncertain or whose use of illegal drugs was unknown. A similar requirement was stated by Beth, who added the proviso that she would either need to know the woman well or have evidence of medical screening.

Laura knew her donors through a homebirth network or as clients of the same midwife. Her response as to whose milk she would not accept was: *If anybody has an illness,* [or uses] *alcohol or drugs*, whereas women would be acceptable sources *if I or my midwife knew their medical status*. She emphasised that *where* [the milk] *is not pasteurised, I would want that personal connection*".

While Michelle was comfortable with the idea of particular friends breastfeeding her baby, she stated that she would never allow strangers to do so.

Jack's experiences of co-feeding were at the request of desperate women. In the hypothetical situation of her babies receiving milk from someone else if she were ever unable to breastfed, she stated that the other woman would have to be a non-smoker and abstain from drinking caffeine or taking medications or other drugs. Jack would also require the

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donor to be on a similar exclusion diet to hers because of serious allergies in her fourth and fifth children, including a life-threatening peanut allergy. Dietary factors were also a consideration when Cathy informally screened the mothers who provided EBM for her baby. She wanted them to be nutrition-conscious, eating healthily, be in good health and to have a similar lifestyle perspective. Indeed, before accepting milk from them, she discussed these issues with the women.

The issue of screening was never raised when Sylvia expressed her milk for her cousin's baby in the maternity hospital. The cousins knew each other well. This also applied when the sisters, Anita and Trish, shared breastfeeding and when Jenny shared direct breastfeeding with a cousin and two close friends. While comfortable about co-feeding in her own close circle, Jenny would not have done so in situations in which she did not know the background of another mother well, or in the case of a smoker. In Maree's case, the baby's parents were friends. Although her own baby has never received the milk of another mother, Maree stated she would be *grateful* if another mother breastfed her baby, so long as she was not on medications that could pass through her milk and was not using recreational drugs or alcohol.

Some of the women with whom Sally and Rosemary co-fed were acquaintances and, on the surface, they appeared to have less rigorous screening. However, the women who provided their milk to Sally, and those for whom Rosemary provided her EBM, belonged to similar breastfeeding networks. In Rosemary's case, she also shared breastfeeding with her three sisters. She stated she would never allow her baby to be co-fed by women who were smokers or on medications, or *women I don't like*.

Most of the mothers accepted breastfeeding or EBM from women at any stage of lactation. Only one of the mothers, Helen, an Australian, stipulated a preference that the mothers who provided milk had babies close in *age* to hers. This is in keeping with a very old tradition of preferring milk of a similar age to the recipient baby, or at least not from a much later stage of lactation, found in recommendations for selecting a wet nurse and also in early 20*th* century newspaper advertisements for wet nurses.[13]

The baby's behavior

Some of the babies received donated EBM by bottle or syringe and they were never directly co-fed at breast. The respondents confirmed that these babies drank the donated milk avidly. Some babies happily accepted another breast and all but one of those who were reluctant soon became willing. Rose's baby consistently refused EBM by bottle, but accepted her friend's breast (despite the fact that her supply was declining because her twins were almost three years old) and he went to sleep after breastfeeding. The four babies who received Rose's EBM drank it by bottle and acceptance of her breast was never an issue.

Michelle's baby, who was about four months old, went to her friend's breast willingly: [He] *was hungry and wanted to feed. Didn't even seem to notice that it wasn't Mum!* Anita reported that neither her baby nor her sister's baby objected to being breastfeed by the other mother: *They didn't actually react at all. All of them just latched on*. This applied whatever the babies' age, which ranged from newborn to eight or nine months. A friend's baby accepted Beth's breast on the one occasion when it was offered. All the babies breastfed by Rosemary accepted her breast. When Chris put Jenny's baby to her breast through the night, this soothed the baby and kept her settled, even though the breasts were empty after weaning. Each of the 2 babies whom Jenny breastfeed on a single occasion were willing to attach. In the case of her cousin's baby, who was underfed: *The look on her* [face] *was of disbelief at the flow of milk*.

However, Fatima observed that when she and her co-wife or close friends breastfed each other's babies, some babies were aware of the different breast at first but they soon accepted it. The different ages of the children of Fatima and her co-wife are a likely factor when *some of the children initially did experience nipple confusion and had problems nursing from two mothers*, but this was only transitory. Some babies, such as Jess's, were newborns and appeared not to notice. The age of her friend's baby was a factor in acceptance of Maree's breast. As a newborn, the baby took the breast readily, but at the age of seven months the same baby refused her breast and so she expressed her milk instead. She also provided EBM on several occasions when the mother attended social events. One of the babies whom Jack breastfed attached only momentarily, which she believes was because she was pregnant and her milk may have tasted different. The baby who received her milk for the longest time was an avid feeder, who seemed to need the cuddling and skin contact she received when breastfeeding from the 3 mothers who co-fed her.

The opinions of others

As in an earlier study of co-feeding in Australia,[19] sometimes one or both of the mothers who shared breastfeeding chose not to tell her husband. This is because they believed the men would not understand and their not knowing preserved harmony in the household. Consent was almost universal between the women involved. But, whether in a modern Western family or a traditional family, women took autonomy for their decisions. Thus the information was not always shared with the male partner. Anita reported that her sister, Trish's, husband was initially *very unhappy* that Anita was breastfeeding his newborn son. However, he later saw co-feeding as a benefit for baby-sitting so that he and Trish could go out. Fatima came from a traditional Islamic family in which the women of the household had shared breastfeeding, sometimes across generations. However, she saw no point in telling her husband that she shared breastfeeding with a friend outside her ethnic and religious community; the circumstances did not provide religious or familial complications through milk siblingship. He was, however, aware that his 2 wives shared breastfeeding. The children of the co-wives were already closely related by blood and could never marry, even without the milk siblingship relationship. Fatima has not discussed co-feeding with others in her community as *there has not been any need, on the one hand, and it is too personal a matter, on the other*.

Jack believes that neither of the recipient mothers told their husbands. Her own husband initially disapproved of her sharing her milk with children from other families, as he considered the milk belonged to their own children. Apart from mothers in her La Leche League circle, other Americans she has discussed co-feeding with expressed *initial disbelief, curiosity, shock, discomfort, polite revulsion* about sharing a body fluid.

Some family members expressed positive opinions. Laura, who was British-born but co-fed in Australia, reported that her parents *thought it was wonderful that women would come and bring milk, when my baby was starving*. Some of the other respondents came from families in which there was a family history of sharing breastfeeding. Ilena's mother was pleased that her daughter had provided her EBM to 2 babies. The mothers of both Michelle and Anita and Trish had, in fact, told the present author of their daughters' co-feeding experiences and provided their daughters' contact details for interview. Anita would have been willing to share breastfeeding with 2 of her Australian Breastfeeding Association friends, although this never happened. She was sure they would not have considered it strange. The other family was *very grateful* that Indigo had provided her milk to their son and no one ever criticized the co-feeding. Indigo's son and the other little boy were playmates in Colombia. They were aware that they had both been fed on Indigo's milk and would joke that they were *teat brothers*. This is another example of the bond perceived between families who have shared breastfeeding in cultures in which there is no tradition of milk siblingship.

Sylvia's husband was comfortable about her donating her milk for her cousin's baby, as were the baby's parents and grandmother.

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Initially the recipient baby's parents were reluctant for others to know, but later they were open about it. Alice's husband was comfortable about her donating her excess milk as their own baby's needs were well met. When Jenny breastfed her cousin's baby, it was another family member who suggested the co-feeding. Maree reported that other family members of the baby she breastfed know about the co-feeding and were surprised but comfortable about the practice. Some of her other friends have said they would be prepared to co-feed to help a mother out. The families of the other babies in Rosemary's circle knew the mothers shared breastfeeding. The family of the cancer patient who received Mandy's EBM was personally involved in making the arrangements. Her daughter recruited donors and her ex-husband collected the milk from donors' homes. Mandy has stayed in touch with the family whose baby received her EBM and her own husband and family know this. She described her son and the other child as *milk brothers, family for life*.

The mothers generally refrained from telling people outside their immediate circle, such as a breastfeeding support group. Consequently, they received mostly positive reactions. However, while other people Rose told were supportive, they expressed concern about her potential liability. Beth has not told others about her experiences. Cathy, on the other hand, has always been very open about accepting donor milk for her baby, and her *alternative* lifestyle, and she believes most people accepted the situation. Lisa has not talked to others about once expressing milk for a sick baby as this is rare in urban areas of Lebanon. Her husband thought she had *gone too far*.

How the respondents viewed their experience

The mothers in this small sample of women from diverse cultural backgrounds felt positively about the experience. In Fatima's opinion, by avoiding cross-feeding, modern women *forego the all-round advantages of a cross-nursing relationship*. She and her co-wife found sharing breastfeeding to be a convenient way of balancing household tasks and *wifely duties* with childcare. Laura found the experience a positive one: *I was overwhelmed with gratitude and extremely moved*. She still keeps in touch with some of the other women. Indigo received direct feedback from the baby's mother, who telephoned her to report the baby's weight gains and tell her that her milk was helping the baby to do well. This added to Indigo's positive view of the experience. Jenny has very warm feelings about sharing breastfeeding which she remembers as *Very natural, conferring mother-to-mother about the best thing to do for this kid at this moment*. Similarly, Beth felt very positive about using her milk to help her friends avoid giving their babies artificial feeds.

Sylvia felt *honoured* at being given the opportunity to express milk for her cousin's baby. She later wondered if she had done the right thing, considering that donor milk for human milk banks is commonly screened and pasteurized. However, she would be happy to donate milk again. As for receiving donated milk, she would have misgivings if a family member or friend offered her breast to any child of hers without her permission. However, if she happened to be in a situation where she was unable to breastfeed, such as through illness, she would accept EBM. In essence, she views the sharing of breastfeeding or breastmilk as *something to be done out of necessity* and not for trivial reasons. Maree described the experience of co-feeding thus: *I was happy to feed my friends* [sic] *hungry baby, it was very satisfying and rewarding for me to do so. I hold the memory as one of my special mothering experiences*. Jess, whose baby fed at her friend's breast on one occasion and also received donated EBM, also considered the experience positive.

Some women had positive memories of sharing their EBM, but drew the line at direct breastfeeding. Alice, a Chinese American, explained: *While I shared breastmilk, it was in the form of expressed milk so I did not breastfeed my friend's baby. I don't think I would directly breastfeed a baby nor allow someone else to do so for my own child. The act of breastfeeding is a bond that should be reserved for the baby's Mom, whether or not milk is involved*.

Conclusions

This small study provides a snapshot of a range of different situations and cultural contexts in which women have shared breastfeeding or EBM, mainly in the first decade of the 21*st* century. Despite the different cultural contexts, a number of consistent factors emerged. These were: a reluctance to use non-human milk when human milk was available; knowing the other woman well; the good health of the other woman; usually a consensual situation; and convenience. In some cases, female bonding between the mothers, who were already close, was also stated or implied. Sometimes a network of women provided EBM for the same recipient.

Nurses or midwives may encounter lactating women who are cross-feeding whether in an emergency situation or routinely. The mothers involved may deny performing any screening, but nurses should not assume that this is so. Asking the mother whether there are any women with whom she would not co-feed will usually elicit a list of criteria. This study reveals that women who believed they were not screening the other women involved were, in fact, careful about whose milk they accepted for their babies. This information can be obtained by asking the woman if there is anyone she knows with whom she would never share this very personal act and body fluid. Women are usually very clear about whom they would never choose and why, and from this it can be deduced that lifestyle and health screening is taking place.

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