Perceptions of Breastfeeding Mothers on Breast Milk Donation and Establishment of Human Breast Milk Bank in Hong Kong: A Qualitative Study

Joyce Chung Yin LEUNG¹ & Sui Yu YAU²

Abstract

The benefits of breastfeeding to both babies and mothers are proven. Several well-established breast milk banks exist worldwide to provide donated breast milk for babies, especially those who were born preterm or sick, or those whose mothers have inadequate milk supply. However, no official breast milk bank or channel for milk donation has been established in Hong Kong and limited information is available on the perceptions of breastfeeding mothers about breast milk donation and breast milk banks. The aim of this study is to explore the perceptions on breast milk donation and establishment of breast milk banks among breastfeeding mothers in Hong Kong. A qualitative study adopting in-depth semi-structured interviews was conducted. Ten breastfeeding mothers were invited through purposive sampling from a local breastfeeding self-support group in Hong Kong. Content analysis was performed and four themes were identified. The results revealed that participants expressed positive views on breast milk donation and the establishment of breast milk bank in Hong Kong. Further studies are recommended to examine the views of healthcare professionals regarding this issue.

Keywords: breastfeeding, breast milk donation, breast milk bank, nurses, midwives, perceptions

1. Introduction

Breast milk is recommended for babies and is recognized globally to be highly nutritious. Breast milk donation is suggested for hospitalized or preterm babies when their mothers do not have adequate milk supply. Several breast milk banks and monitoring policies have been established in many countries. Despite the benefits of breastfeeding to both babies and mothers, the practice of breast milk donation and the establishment of breast milk banks have not been developed in Hong Kong. The current study added the views of mothers regarding breast milk banks and breast milk donation.

2. Background

Breastfeeding is ideal for the healthy growth and development of infants. For mothers, it has advantages in reproductive functions and positive implications on health. The World Health Organization (WHO) highly recommends breastfeeding. A global public health recommendation by the WHO and the UNICEF in 2003 stated the following (World Health Organization, 2003):

Infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development, and health. Thereafter, breastfeeding is recommended to continue for up to two years of age or beyond; as to meet the infants’ evolving nutritional needs with safe complementary foods.

¹ Senior Lecturer, Division of Nursing and Health Studies, The Open University of Hong Kong, Ho Man Tin, Kowloon, Hong Kong. Tel: (852) 27686875, Fax: (852) 27891170, Email: jcyleung@ouhk.edu.hk
² Assistant Professor, Division of Nursing and Health Studies, The Open University of Hong Kong, Ho Man Tin, Kowloon, Hong Kong
Breastfeeding benefits infants in nutritional, developmental, psychological, immunological, social, economical, and environmental aspects. Also, breastfeeding for infants decreases the incidence and/or severity of health conditions such as diarrhea, respiratory infection, asthma, and otitis media. In addition, breastfeeding protects babies against sudden infant death syndrome, insulin-dependent diabetes mellitus, Crohn’s disease, lymphoma, and leukemia, and enhances cognitive development and neurodevelopment (Dennis, 2001; Walker, 2011). Maternal health can also be improved by breastfeeding (Heinig & Dewey, 1997; Labbok, 2001; Wambach, Campbell, Gill, Dodgson & Heinig, 2005; Heiman & Schanler, 2006). Other studies have stated that breastfeeding plays a vital role in preventing chronic diseases and diabetes in childhood and adolescence as well as in protecting children from obesity (Davis, 2001; Dewey, 2003; Heiman & Schanler, 2006).

Statistics from the 2012 local survey by the UNICEF Baby-Friendly Hospital Initiative Hong Kong Association (BFHKA) revealed that the rate of breastfeeding upon discharge from maternity units in all public and private hospitals was 83.3% in 2011 (World Breastfeeding Week, 2012). This figure shows an increase of 4.1% from 79.2% in 2010. The generally positive attitude about breastfeeding in Hong Kong showed that more mothers have been trying to breastfeed their newborn babies lately.

Some of the successful breastfeeding mothers produce breast milk more than the amount needed by their babies. At the same time, some mothers are perceived to have insufficient milk production (Walker, 2011), particularly those with preterm infants or with severe medical conditions, or when the mothers are ill or under tremendous stress. These conditions prevent infants from receiving their own mother’s milk (Kim & Unger, 2010). Therefore, breast milk donation can serve as a bridge to satisfy the needs of these infants and compensate for the inadequate supply of their mothers. Studies have suggested that banked donor milk is an option when the infant cannot be breastfed and/or when the mother’s own expressed milk is unavailable (World Breastfeeding Week, 2012). Breastfeeding mothers donated their expressed milk for several reasons: positive breast milk donation experience, altruism, excess milk production, prior experience or knowing that another mother was unable to breastfeed, avoiding waste, access to information about the importance of breast milk donation, self-esteem, social significance, support of hospitals and breast milk banks, and an understanding of the nutritional quality of human milk (Arnold, 2006; Alencar & Seidl, 2009).

The history of human breast milk donation can be traced back to 1909 and the first human milk bank opened in Vienna, Austria (Kim & Unger, 2010). Breast milk banks recruited and screened mothers who have excess milk or are willing to express for the milk bank beyond their own baby’s needs (Tully & Jones, 2010). The banks are responsible for the collection, processing, screening, storage, and distribution of the donated milk to meet the specific needs of individuals for whom breast milk was prescribed by doctors (Human Milk Banking Association of North America, 2008). In other countries, such banks were established to provide an adequate supply of human breast milk, as well as to consistently monitor the nutritional quality of breast milk and allow a more informed approach to the dietary management of infants, particularly those admitted into the neonatal intensive care unit (Williamson, Hewitt, Finucane & Gamsu, 1978). Several well-organized human breast milk banks and guidelines have been established in Europe, America, Australia, and Britain (Arnold, 2006; Hartmann, Pang, Keil, Hartmann & Simmer, 2007; Kim & Unger, 2010).

These countries have also set policies, guidelines, and protocols for monitoring the process from breast milk donation, collection, sterilization, and prescription, as well as rights of parents and recipients. The guidelines were set up to ensure the quality management of the banking procedures, including donor screening, milk collection and storage, pasteurization of human milk, record keeping, standard operating procedures, and document control (Hartmann et al., 2007). Through the process of pasteurization (in which the donor’s expressed breast milk is heated to 62.5 °C for 30 minutes) (Hartmann et al., 2007), many of the nutritional components are not changed or are only reduced minimally in content (Kim & Unger, 2010). Carbohydrates, fats, fat-soluble vitamins, and salts remain unchanged and approximately 13% of protein is denatured (Kim & Unger, 2010). Therefore, donated breast milk is recommended for infants in special medical conditions.
Donated breast milk was prescribed for a variety of medical conditions such as preterm birth, and for babies who have had gastrointestinal surgery as well as malabsorption or feeding intolerance and immunodeficiency (Kim & Unger, 2010). Studies demonstrated that preterm infants who were fed with donated breast milk had a lower risk of developing necrotizing enterocolitis (NEC) than when they were fed with formula milk (McGuire & Anthony, 2003; Boyd, Quigley & Brocklehurst, 2007). Therefore, the demand for donated breast milk for these infants persists. Previous studies revealed that mothers who were willing to donate breast milk do so because of altruism and excess milk production, as well as encouragement from healthcare professionals regarding the needs of the babies (Hegney, Fallon & O’Brien, 2008; Thomaz et al., 2008).

With the advantages of breast milk donation and breast milk banks, infants can receive the ideal food for their growth and development. However, with no official channels for breast milk donation for breastfeeding mothers in Hong Kong, many of these mothers abandon their expressed milk or share it among peer groups. Such practice is not only a waste of nutritious food, but also presents a risk in sharing milk in an unsupervised manner. The milk could be contaminated and unsuitable for consumption. No current studies or data have been published on the perception of breast milk donation or breast milk banks in Hong Kong. Thus, the current study addresses the need to explore the possibility of establishing a formal channel for breast milk donation and breast milk bank from the perspective of breastfeeding mothers in Hong Kong.

This paper presents the findings of the study that explores the perceptions on breast milk donation and establishment of breast milk banks among breastfeeding mothers in Hong Kong. The findings can help encourage the development of breast milk donation and the establishment of breast milk bank in Hong Kong. Given that no such bank has been established in Hong Kong, the aspects of acceptance and utilization are explored to identify the health, financial, and social benefits if one should be established.

3. Aim

The aim of the study was to explore the perceptions on breast milk donation and establishment of breast milk banks among breastfeeding mothers in Hong Kong.

4. Methods

A qualitative descriptive study, with in-depth semi-structured interviews, was conducted with breastfeeding mothers. Content analysis was performed for data analysis (Patton, 2002; Polit & Beck, 2008). Participants were recruited through purposive sampling from a local breastfeeding mothers’ self-support group in Hong Kong. The inclusion criteria were participants had experience in breastfeeding and had a single birth with no complications. Women who consented to participate were invited and an appointment was made for interviews at their convenience. Recruitment continued until data saturation was achieved. Permission to conduct this study was obtained from a local University and the local self-support breastfeeding groups.

5. Data collection

The data were collected through in-depth face-to-face and semi-structured interviews. An interview guide was developed to guide the interviewers. Open-ended questions were used during the interviews. All interviews were recorded by audiotape (Miles, Huberman & Saldana, 2013). Brief demographic and obstetric data were collected. During the data collection period, the interviewer aimed to build rapport with the participants. The participants chose the interview location at their convenience, in which, they felt comfortable. For instance, the interviews were held in the self-support group meeting venue or the participants’ homes. Such a setup would make the participants more relaxed when talking about their experiences and allowed them to look after their babies. Each interview lasted for 45 to 60 minutes (Patton, 2002; Polit & Beck, 2008). Data saturation was achieved and no new themes emerged after interviews with ten participants.

6. Data analysis

Content analysis was performed on the interview data, which were transcribed verbatim. The written transcripts were read and key words were coded. Following preliminary identification of themes of each interview, the themes that required further investigation were identified and discussed with another researcher. These discussions helped to ensure that the themes were related to the decision trail and helped refine the themes. The themes in each interview were compared to one another, and commonalities and differences were identified.
The overall themes that best described the interview results were recognized. The process of writing the themes and describing their interrelations was commenced, and the rewriting process was continued until themes of the participants’ experiences were captured as accurately as possible (Creswell, 2013).

Credibility refers to the extent to which qualitative research findings represent reality (Huberman & Miles, 2002; Creswell, 2013). To become fully immersed in the data, the researchers examined the data repeatedly. All the interviews were conducted by one member of the research team to ensure a high level of consistency. The interviews were audio-taped to reduce the risk of selective data filtering through recall. Transferability refers to the extent to which the findings can be applied to other settings or populations. Detailed descriptions of the interviews were provided so that the readers could evaluate the applicability of the data to other contexts (Richards & Morse, 2007; Creswell, 2013).

7. Findings

The participants’ ages ranged from 29 to 40, with a mean of 34.5. Most of the participants had secondary education level and the rest had tertiary or higher education level. Half the numbers of the participants worked in an office and the rest were housewives. In addition, half the number of the mothers had normal vaginal delivery and the other half chose to undergo cesarean section. All of the participants had heard of breast milk donation and human breast milk banks prior to the interviews.

The perceptions of these mothers on breast milk donation and establishment of breast milk banks could be identified through four themes: promotion of breastfeeding, breast milk donation and breast milk bank establishment; safety concerns; enhancement for breast milk donation; and adequate support from the government and healthcare professionals.

7.1 Promotion of breastfeeding, breast milk donation and breast milk bank establishment

“Promotion of breastfeeding, breast milk donation and breast milk bank establishment” was identified as a common theme because participants expressed the importance of consistent behavior in supplying breast milk and, consequently, in donating breast milk. Participants believed that by promoting breastfeeding and its advantages, more mothers would be motivated to breastfeed their babies. The continuous motivation of breastfeeding would result in excessive amount of breast milk produced. And participants believed that it would be the major reason that mothers were willing to donate. Thus, participants strongly believed after receiving the positive information about the advantages of breastfeeding for both mothers and babies, most mothers would be encouraged to adhere to breastfeeding until the practice was discontinued naturally. Moreover, the gained knowledge about the long-term advantages of breastfeeding for the babies and mothers would greatly help them to get through many difficulties they encountered throughout the breastfeeding period and helped them to insist to breastfeed their babies. Another way of promoting breastfeeding was from the support from their respective families, particularly from their partners, and from the experiences shared during gatherings of the self-support group. Participants felt that they had a strong bonding with their babies and that their babies were nourished by breast milk, and they were glad to continue the practice.

“I have great support for breastfeeding and it should be strongly promoted. Breastfeeding benefits the baby by providing nutrition for their growth and development. That’s the best and only thing that a mother can give to her own child. Definitely I will donate that excessive milk to the sick babies. But I need to make sure that I can satisfy my own child before donation.” (Participant 5).

Another barrier to breastfeed and thus breast milk donation is the feeling of isolation and being blamed by others. Some participants felt isolated because they chose to breastfeed their baby. Some family members might be afraid that the mother’s had inadequate milk to feed the baby, whereas other relatives thought that breastfeeding was not as convenient as using formula milk. Thus, some participants expressed the need to promote breastfeeding not only to the mothers, but also to the public as well. They believed that some mothers discontinued breastfeeding as of these reasons.
"I felt lonely and isolated when I fed my baby after being discharged from the hospital. My family, except my husband, was not very supportive of this. They said that breast milk was not as nutritious as formulas because they read on the advertisements of the formula manufacturer that many supplements were added to the powder. They said that my baby always cries and looks thin. They thought I had inadequate milk and that the baby didn’t like my milk. They also offered to help in feeding if the baby would use formula.” (Participant 3).

Through the promotion of breastfeeding and its advantages and the increase in the awareness in the public, more mothers could adhere to this practice. If mothers could be successful in breastfeeding, they could donate their breast milk to the bank if one will be established in Hong Kong.

7.2 Safety concerns

“Safety concerns” was identified as the quality assurance for breast milk donation and breast milk bank the quality control. It ranged from the screening of suitable donors and their availability, breast milk donation and collection procedures, the storage of the collected breast milk, and the management and quality control of the breast milk bank. All of the participants showed their willingness to donate their breast milk and they said that helping these babies would be a meaningful action; however, the donated breast milk must be strictly monitored to ensure its quality. Participants expressed positive opinions on breast milk donation and were willing to contribute to the health of babies by donating safe milk to them. And they responded positively to the establishment of a breast milk bank in Hong Kong. According to the participants, donated breast milk was a kind of food for the recipients and must therefore be safe for their health. Therefore, a strict monitoring system is needed, and the action to establish such a system must be well-monitored and should not involve any monetary compensation.

“I would be more than happy to help other babies through my excess breast milk if they need it. It would be a waste to dispose the milk. You know, for those excessive milk, I can only use it to make soaps, and also for bathing and feeding my older children. I spent a significant amount of time to pump the milk out. Every single drop is a treasure. If the mother’s would not mind, it would be my pleasure to help.” (Participant 6)

Moreover, the participants said that they were more willing to donate breast milk if the breast milk bank would be managed and monitored by the government. All of the participants have heard of the breast milk banks in other countries and expressed support for the establishment of such a bank, considering that Hong Kong was well-developed and had a high standard of medical technology and techniques. The participants said that they would be more confident if laws and policies would be formulated to maintain the quality of the donated breast milk and ensure the use of donated breast milk for babies in need.

“The government should be responsible for monitoring and assuring the quality of our donated milk in terms of hygiene, health status of donor, storage, and delivery of donated breast milk. The donation should not involve any money. Also, the government and healthcare professionals should ensure that the donated breast milk is used properly.” (Participant 7)

To ensure the success of such establishment, “monitoring of breast milk bank” and “knowledge of healthcare professionals” were suggested by the participants. The government should be responsible for setting up and monitoring the establishment of breast milk bank. Some participants stated that the public would be more confident if the bank would be monitored by laws and policies and operated by healthcare professionals. Participants also expressed that the safety measures about the donor screening, their suitability and availability were another concerns for them. The government, the monitoring institution and healthcare professionals should be alert to the regulations and take controls over these issues.

“The establishment of a breast milk bank must be a positive development for the public. As in establishing a blood bank, the government has the responsibility to establish and monitor the breast milk bank. The donated breast milk will be used on human bodies; I think it should be monitored carefully. It is important to set up laws, policies, and guidelines for the donors and recipients, as well as to ensure the quality of donated breast milk for babies in need.” (Participant 1). Participants perceived “safety concerns” was one of the major considerations when they expressed on the issue about breast milk donation and establishment of breast milk bank.
7.3 Enhancement for breast milk donation

“Enhancement for breast milk donation” was defined as the availability and convenience of training, facilities and resources provided to potential breast milk donors. Participants expressed although most of the breastfeeding mothers were positive to breast milk donation, the complicated and prolonged training and procedures may hinder their willingness to participate in the donation procedure. The reason was that mothers wished to accompany their baby and family and if the donation procedure was lengthy and time consuming, the willingness to be volunteer donor must be decreased. Moreover, some breastfeeding mothers were full-time employed. They were even more eager to accompany their family in their spare time rather than engaged in the donation procedure.

“I found it is meaningful to help other babies who are sick or have no breast milk supply from their mother. But this is solely in terms of if I can do it in my expected or controlled time and resources. For example, I can express more milk than my baby needs. And that I can donate that extra amount to those babies. I cannot afford extra time to go to the hospitals and pump out my milk for them. That’s not fair to my own baby.” (Participant 1).

“I am not sure if there’s special technique to collect the donated milk for the sick babies. They are too fragile and tiny. I am afraid our daily practice to collect expressed milk is not suitable for them. Frankly, my baby usually feed on my breast. I think not every mother pump out the milk. The government should provide some training to us before we do the donation, right?” (Participant 1)

In addition, the facilities and resources provided to donors were the factors that breastfeeding mothers took into consideration before they decide to become donors. Participants said that environmental factors, equipment and utensils expenses, as well as the delivery expenses on expressed milk, were their concerns. They expressed that the employment policy or working environment might impede their willingness to engage, in which the government could set some rules and regulations for the company to take reference. Lack of nursery facilities in the society was another example to donation when the mothers had the needs to express breast milk. Participants suggested subsidizing or providing proper utensils and equipment for the breast milk donation as well as the delivery expenses.

“The expenses of purchasing the breast milk pump or storage bags or bottles are expensive. I feel more comfortable if the government can borrow the equipment or machine to me. And I am not sure about the different in requirements of the equipment or utensils that between self-use and donation. I think it should be in a more serious way or requirement for the donation? I am not sure! If yes, then the expenses must be increased. So the government should sponsor us.” (Participant 5).

“The storage bottle and sterilization machine are expensive! I think there should be lending machine to me if I donate my milk. And the travelling fee and time for bringing the collected milk to the hospital is a cost for me. Travelling is very expensive nowadays. For breast milk, we need to keep it fridge and I think the delivery fee is expensive too.” (Participant 7).

Participants showed the enhancement of breast milk donation by providing appropriate training, facilities and resources greatly improve their willingness to the donation and support to the establishment of breast milk bank. These actions by the government or health care professionals would increase their confidence in the donation and more adhere to breastfeeding and breast milk donation, and generally migrate to the success to the establishment of breast milk bank.

7.4 Adequate support from the government and healthcare professionals

“Adequate support from the government and healthcare professionals” was defined as the support such as public education, promotion, and financially from the government and healthcare professionals, in order to promote breastfeeding to the public and facilitate the breastfeeding mothers to continue their practice.

Participants expressed the need to increase the knowledge on breastfeeding among breastfeeding mothers and to the public prior to the establishment of a breast milk bank. Participants believed that the increased awareness of breastfeeding was essential to breast milk donation and thus to establish breast milk bank, by facilitating the breastfeeding mothers in an easier and baby-friendly environment to continue breastfeed their baby.
Some of the participants revealed experiences of being discouraged by healthcare professionals when they faced problems in breastfeeding. The participants said that the inadequacy of training and knowledge on breastfeeding, lack of personal experience of breastfeeding, and advertisements of formula milk were obstacles to successful breastfeeding as well as to the establishment of a breast milk bank. Moreover, the healthcare professionals should be well-equipped about the issues and taking a positive attitude towards them, in order to educate the mothers and encourage them to compliance to breastfeeding and breast milk donation.

“I insisted on breastfeeding my baby even after I heard negative comments from a nurse. I think other mothers may give up on this! They (healthcare professionals) may not receive adequate training and knowledge, or they may misunderstand if they do not have their own experience in breastfeeding. I don’t think the breast milk bank can be established if the people in charge cannot think from our point of view.” (Participant 7).

Public misinformation about breastfeeding and breast milk donation was other concerns. Participants expressed that facilities for breastfeeding mothers in public places were inadequate. The participants also expressed their eagerness for the government and healthcare professionals to promote breastfeeding to attract public attention, such as extending the maternity leave, adding more nursery rooms and facilities in working places, and promoting education to the public. Four working mothers in our study also stated that the working environment was an essential factor that affected their decision to continue breastfeeding. Mothers said that after they resumed work, they needed to find a place and time to express their breast milk, as well as obtain permission from their company to do so. They strongly believed that this practice can be regulated by government policies. They also expressed that the promotion and successful of continuation of breastfeeding were the major concerns for their decision to donate their breast milk.

“I think the government should be the pioneer in promoting breastfeeding in Hong Kong, so that we can continue to feed our babies longer. Many countries have high breastfeeding rates and the mothers there can keep up the practice because of the widespread acceptance of society. Once the society becomes more baby-friendly, the rate of breastfeeding will be higher. Then, we can think of donating breast milk or establishing a breast milk bank in long-term.” (Participant 7).

Participants had positive views on breastfeeding and establishing a breast milk bank in Hong Kong. However, the participants also suggested that the government should take responsibility to support and monitor the public awareness of breastfeeding and establishment of breast milk bank in Hong Kong.

8. Discussion

Participant’s expressed highly acceptance of breast milk donation and the establishment of breast milk bank and suggested that its establishment and development should be announced to the public to gain their attention. Through the promotion of breastfeeding to the public, the breastfeeding rate would increase and more mothers would continue this practice. These mothers would drive the success of breast milk donation and, consequently, the development and establishment of a breast milk bank in Hong Kong. In addition, the promotion of breastfeeding would lead to a more baby-friendly environment in which more mothers could continue to breastfeed even if they go to public places or resume their work after their maternity leave. Furthermore, the advertisement and promotion from formula manufacturers should be limited, at least in hospitals or pediatric wards, to sick babies.

Healthcare professionals should also receive more knowledge or training in breastfeeding as well as about breast milk donation and breast milk bank establishment. Some participants received negative feedback and discouragement from healthcare professionals, which served as an obstacle to the success of establishing breast milk bank. The positive and encouraging attitude of healthcare professionals is essential for the recruitment of breastfeeding mothers to donate their breast milk and contribute to a potential breast milk bank. Nurses greatly influence the breastfeeding mothers’ initiation and duration of breastfeeding, and thus their initiation to breast milk donation and breast milk bank establishment. Breastfeeding mothers can receive more information about breastfeeding and breast milk donation after the healthcare professionals enriched their own knowledge. Furthermore, the government and healthcare professionals would be responsible for monitoring the breast milk bank; thus, their knowledge and attitude toward the subject can greatly influence public behavior.

Further studies are suggested to explore the views of healthcare professionals such as midwives, nurses, and physicians on breast milk donation and breast milk bank establishment. These professionals should be interviewed because they are expected to have a key role in the donation process and follow-up monitoring in the future.
9. Conclusion

Previous studies on breast milk donation and breast milk banks have been conducted in other countries and mainly focused on setting up policies and reinforcing monitoring procedures. The current study contributed findings on the perceptions of mothers on breast milk donation and the establishment of breast milk bank in Hong Kong. Most of the breastfeeding mothers welcomed the idea of breast milk donation and the establishment of breast milk bank. Thus, nurses are recommended to increase their knowledge of breastfeeding to encourage mothers to continue breastfeeding and monitor the breast milk bank in the future. Nurses also play an important role in the promotion of arousing the public attention about the establishment of breast milk bank in Hong Kong.

References


