

The opinions of mothers with children of ages 0-2 about human milk banks: A qualitative study

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ABSTRACT

Objective: This study aimed to review the opinions of mothers with children of ages 0-2 about human milk banks. **Method:** The study was of phenomenological design. The purposive sampling method of criteria sampling was used. Seventeen mothers of children aged 0-2 who were hospitalized in the pediatrics department of a state hospital and who consented to participate were recruited into the study. The data gathered from the discussions were grouped under themes in Colaizzi's phenomenological content analysis. **Results:** The mothers pointed out that they did not look positively on human milk banks because of religious concerns. The mothers stated that they would share their human milk if they knew the child and parents who gets donor human milk. **Conclusion:** As in organ and blood donation systems, human milk banks can be implemented under the support of the Ministry of Health, which will be instrumental in developing human milk donation protocols and registration systems. This will increase the numbers of babies benefiting from breast milk, thus extending the duration of the breastfeeding period. This in turn will result in the growth and development of healthier generations.

Keywords: Milk banks; human milk, maternal-child nursing, health knowledge, attitude

0-2 yaş arasında çocuğu olan annelerin anne sütü bankalarına ilişkin görüşleri: Nitel bir çalışma

ÖZET

Amaç: Bu çalışmada 0-2 yaş arası çocuğu olan annelerin anne sütü bankalarına ilişkin görüşlerinin incelenmesi amaçlanmıştır. **Yöntem:** Çalışma fenomenolojik desendeydi. Amaçlı örnekleme yöntemlerinden ölçüt örnekleme kullanılmıştır. Bir devlet hastanesinin pediatri servisinde yatan ve araştırmaya katılmayı kabul eden 0-2 yaş arasındaki 17 çocuğun annesi çalışmaya alındı. Tartışmalardan elde edilen veriler, Colaizzi'nin fenomenolojik içerik analizinde temalar altında gruplandırılmıştır. **Bulgular:** Ana temalar anne sütü bankaları ile ilgili endişe, anne sütü bankaları hakkında bilgi ve Müslüman ülkelerde anne sütü bankalarının kullanılabilirliği idi. Anneler, dini kaygılar nedeniyle anne sütü bankalarına olumlu bakmadıklarına dikkat çekti. Anneler, anne sütünü alan çocuğu ve ailesini tanırlarsa anne sütlerini paylaşacaklarını belirtti. **Sonuç:** Organ ve kan bağışı sistemlerinde olduğu gibi, Sağlık Bakanlığı'nın desteği ile anne sütü bankaları hayata geçirilebilir, bu da anne sütü bağış protokollerinin ve kayıt sistemlerinin geliştirilmesine vesile olacaktır. Bu, anne sütünden yararlanan bebek sayısını artıracak ve böylece emzirme süresinin uzamasına neden olacaktır. Bu da daha sağlıklı nesillerin yetişmesine ve gelişmesine neden olacaktır.

Anahtar Kelimeler: Süt bankaları, insan sütü, anne-çocuk hemşireliği, sağlık bilgisi, tutum

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INTRODUCTION

Breast milk is the optimal source of nutrition for infants. Breast milk is essential for a baby's growth and development, and it can reduce infant mortality and morbidity rates.^{1,2} However, some infants are unable to benefit from breast milk due to factors such as the mother or baby's illness, the mother's working status, the scarcity of social support, or postpartum mood disorders.^{3,4} It is estimated that exclusive breastfeeding for six months and continued breastfeeding for the first year of life could prevent 13% of the more than 10 million deaths annually in children under five.⁵ According to World Health Organization (WHO) data, the global exclusive breastfeeding rate for the first 6 months is 41% and 3 out of every 5 newborn babies does not receive breast milk in the first hour of life.⁶ The 2018 Population and Health Survey for Turkey revealed that only 41% of infants younger than six months are exclusively breastfed. The reported median duration of exclusive breastfeeding for babies is 1.8 months. However, breastfeeding rates and durations of exclusive breastfeeding are still below the desired levels.⁷

The concept of human milk banks has been developed to provide babies with breast milk and increase breastfeeding rates.^{1,2,4,8} Human milk banks aim to promote the growth and development of infants who are unable to breastfeed, as well as prevent potential issues that may arise from the unregulated sharing of breast milk.⁹ Although there is increasing evidence supporting the benefits of breast milk banking, ethical issues, traditional beliefs, and concerns about the safety of donor milk, as well as a lack of knowledge, remain controversial.¹⁰

Issues may arise in the donation of breast milk and the implementation of human milk banks in Muslim countries.^{11,12} The Quran, the holy book of Muslims, states that certain family members are forbidden for marriage, including mothers, daughters, sisters, father's sisters, mother's sisters, brothers' daughters, sisters' daughters, foster-mothers who have suckled you, and their daughters (your foster-sisters).¹³ However, it is worth noting that despite this religious prohibition, a significant percentage of breast milk donors (80%) and recipients (77%) in Malaysia are Muslim. This rate suggests that human milk banks can be successfully implemented in Islamic countries.⁴

A road map should be drawn to examine why there is concern in human milk banks and accordingly what can be done under these conditions. Mothers are the leading people who decide to benefit from breast milk banking.^{1,11} Therefore, we aimed to review the opinions of Muslim mothers with children of ages 0-2 about human milk banks and their solution suggestions on this issue in Islamic countries. In the context of this general aim, this current study questions were the

following: (1) How is the breastfeeding process for mothers? (2) What is the knowledge of Muslim mothers about human milk banks? (3) What is the perspective of Muslim mothers on human milk banks? (4) Under what conditions do Muslim mothers consider taking donor milk?

A road map should be created to investigate the reasons for concern in human milk banks and determine appropriate actions under these circumstances. Muslim mothers with children aged 0-2 are the primary decision-makers when it comes to utilizing breast milk banks. Therefore, this study aims to examine the opinions of Muslim mothers regarding human milk banks and their proposed solutions to this issue in Islamic countries.^{1,11} Therefore, this study aims to examine the opinions of Muslim mothers regarding human milk banks and their proposed solutions to this issue in Islamic countries.

METHODS

Research questions

The study's specific objectives are as follows:

- (1) What is the experience of mothers during the breastfeeding process?
- (2) What is the level of awareness among Muslim mothers regarding human milk banks?
- (3) What are the opinions of Muslim mothers regarding human milk banks?
- (4) What factors influence the decision of Muslim mothers to use donor milk?

Design

The study employed a phenomenological design, which is commonly used in qualitative research when individuals have awareness but lack in-depth knowledge about a phenomenon. When researching human milk banks, it is important to consult data sources and individuals or groups with relevant experience to gather detailed information.¹⁴ The phenomenon being studied in this research is specifically focused on human milk banks.

Participants

The study employed purposive sampling to gather detailed information from a broad population.¹⁴ Specifically, the criteria sampling method was used to select mothers with breastfeeding babies aged 0-2 for in-depth discussions. The inclusion criteria included: (1) Being a mother with breastfeeding babies aged 0-2 (2) Not having a speech disability (3) Agreeing to participate in the study voluntarily. The number of required respondents was determined by interviewing patients who met the inclusion criteria until the data were saturated, and no new topics were generated. The study recruited seventeen mothers of children who were hospitalized in the pediatrics

department of a state hospital and who consented to participate. Table 1 displays the characteristics of the mothers.

Data collection

Data was collected between February and April 2020. Participants were informed about the study's purpose, confidentiality of responses, and how and where data would be stored. Any questions were answered, and participation was voluntary. A suitable time for the interview was agreed upon by the participants and the researcher, and an interview form was used. Before the interview, the mothers were given time to review the questions and consider their responses. The interviews were conducted in a quiet, suitable room with chairs and no distractions, providing ample space for the

researcher and participant to be alone. Each interview session lasted approximately 20 minutes. The data were collected using a Semi-structured Interview Form, which is a questionnaire consisting of open-ended questions designed to assess the knowledge and thoughts of mothers about human milk banks. The interview form included the following questions: (1) How is your breastfeeding experience? (2) How would you have felt and what actions would you have taken if your breast milk supply was insufficient to meet your child's needs? (3) How would you react and what actions would you take if you encountered a baby whose mother's milk supply was insufficient? (4) What is your knowledge about human milk banks? (5) What are the benefits of human milk banks? (6) What are the drawbacks of human milk banks? (7) What are the requirements for receiving donor milk?

Table 1. Characteristics of the participants

Participant	Age	Child's age (months)	Education	Employment Status
M1	23	8	University	Unemployed
M2	26	2	Graduate degree	Unemployed
M3	18	6	High School	Unemployed
M4	27	11	Graduate degree	Employed
M5	22	2	Bachelor's degree	Unemployed
M6	37	22	Graduate degree	Employed
M7	24	2	University	Unemployed
M8	31	10	University	Employed
M9	22	4	High School	Unemployed
M10	25	7	University	Unemployed
M11	27	8	University	Employed
M12	29	13	University	Unemployed
M13	24	6	University	Unemployed
M14	31	5	University	Employed
M15	18	8	High School	Unemployed
M16	27	17	Graduate degree	Employed
M17	22	4	Bachelor's degree	Unemployed

Analizis

The data was analyzed using Colaizzi's phenomenological method. Colaizzi's analysis consists of seven stages: (1) Reading all interview materials to gain a general understanding of the research subject; (2) Extracting statements related to the research problem; (3) Summarizing, extracting, and encoding the data; (4) Summarizing the encoded ideas and identifying common concepts to form themes and theme groups; (5) Providing a detailed description of the relationship between the themes and the research subject; (6) Identifying the essential structure that constitutes the phenomenon; (7) Returning the final analysis to the research subject for verification.¹⁵ Two researchers conducted a thematic analysis of the data. They identified initial codes, refined them iteratively within the research team, and collated them into potential themes. These themes were then finalized by

all authors. Feedback on the rigor and trustworthiness of the themes was also obtained from the interviewed patients.^{16,17}

Ethical Consideration

The study's procedures involving human participants adhered to the ethical standards of the institutional research committee and the 1964 Helsinki Declaration, as well as its later amendments or comparable ethical standards. The Non-interventional Clinical Studies Ethics committee of a university approved the questionnaire and methodology for this study (Approval Date: 04.02.2019, Approval No: 484). Data collection was based on voluntary participation of enrolled individuals. To protect privacy, mothers were referred to by code names (M1-M17). The research adhered to the Standards for Reporting Qualitative Research (SRQR) checklist.¹⁸

RESULTS

This section presents the findings obtained from interviews conducted with Muslim mothers of children

aged 0-2 to understand their thoughts and experiences with human milk banks. The analysis of the collected data revealed main themes and subthemes, which are presented in Figure 1.

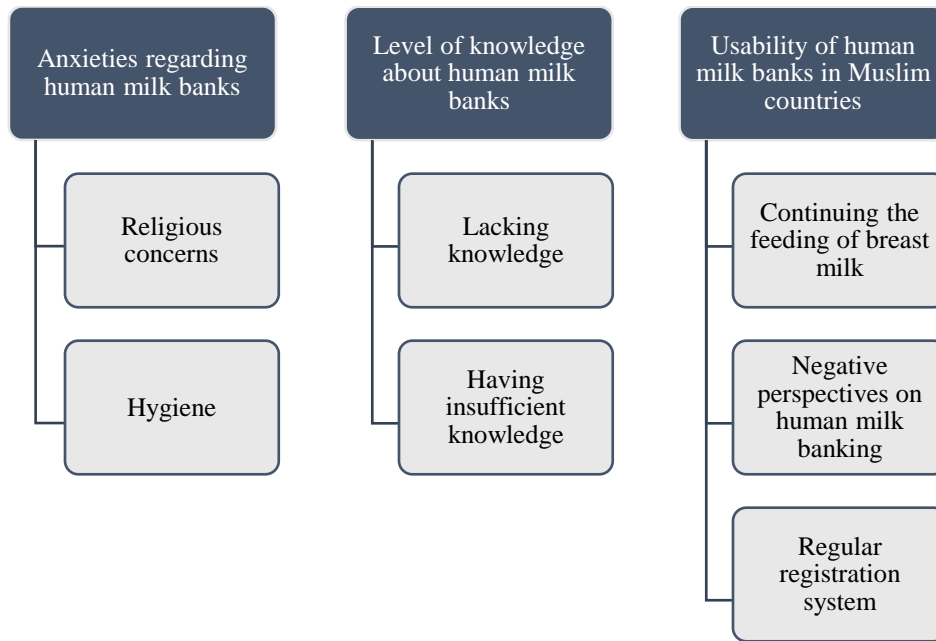


Figure 1. Themes and Sub-themes Emerging from the Interviews

The mothers stated that donating breast milk would establish a familial relationship known as 'milk kinship,' a concept recognized in Islamic countries. They expressed disapproval of human milk banks due to religious concerns. Some of the mothers articulated their views as follows:

"I'm sad when a mother's milk isn't enough for her baby; I would try to be of help. But I don't know if I would give her my own milk. Our children would be bound by milk kinship." (M7);

"I wouldn't give my baby someone else's milk. And I wouldn't give my milk to someone else's baby. It is a very inconvenient situation in my belief." (M6);

"If I got milk from milk banks, I wouldn't know who I'm getting it from, I wouldn't know the gender of the woman's child. This would be a problem when my child grows up. It is forbidden in my religion." (M11).

Five of the mothers stated that, in addition to religious concerns, they would not trust or accept human milk banks due to hygienic reasons. Some mothers expressed this sentiment as follows:

"I would need to know if the donating mother has any kind of disease. I couldn't put my child's health at risk." (M2);

"I have a problem with cleanliness. I can't make use of just anything. I'm even very careful when I feed my baby with a bottle. I really don't know how I could feed the baby someone else's milk." (M6).

Three of the mothers expressed that they were unaware of human milk banks. Three of the mothers expressed that they were unaware of human milk banks. Some mothers stated:

"I don't know what human milk banks is. It's not something bad, is it?" (M3);

"No, "I don't know what human milk banks is." (M8);

"I don't know what human milk banks is, I've never heard of it." (M9).

Seven of the mothers reported being aware of human milk banks but lacked knowledge about them. Some mothers expressed uncertainty, stating:

"I've heard of human milk banks, but I don't exactly know what it means. I haven't looked into it. My milk is enough for my child." (M1);

"I had read about it somewhere when I was pregnant. I think they collect mothers' milk and give it to other children." (M5).

Four of the mothers suggested that human milk banks could be beneficial for infants whose mothers are unable to produce enough milk, allowing for continued breastfeeding. Some mothers expressed this sentiment.

"It may be good for babies who've lost their mothers or don't have mothers. Or when a mother's milk isn't enough and another person can provide the milk. There are formulas but breast milk is much more substantial." (M4);

"It may be an advantageous practice for babies who don't have breast milk available. Mothers who don't have enough milk may choose to do this. Babies get jaundice and don't gain weight if they aren't breastfed. It may be beneficial for babies." (M12).

Some mothers expressed negative attitudes towards breast milk banks, stating that they could never trust donor milk. Some mothers expressed negative attitudes towards breast milk banks, stating that they could never trust donor milk. It is important to note that these are subjective evaluations and should be clearly marked as such.

"How would the milk that was collected be stored? The milk will come from many different people, how will we know who has what? I would think there would have to be a thorough investigation. But I think I still wouldn't trust it." (M4).

"If the mother's milk isn't enough, the baby can be given formula. They make good formula now. It'll make the baby gain weight. Donor milk is not the only solution." (M10).

Some mothers mentioned relying on breast milk banks after the regular registration system was established for milk collection. This allowed the brothers to become acquainted with each other.

It is very inconvenient for me to give someone else's milk to my child. It is equally a problem that I give my own milk to the president's child. However, I would only do it if I knew the person. It is the only way. I should be able to get the information of the child with whom I share my milk so that my child gets to know her milk sibling (M5).

DISCUSSION

We aimed to review the opinions of mothers with children of ages 0-2 about human milk banks. The study was of phenomenological design. The main themes were anxiety related to human milk banks, knowledge about human milk banks, and usability of human milk banks in Muslim countries. The most of the mothers were against human milk banks in this study. The most important reason for their opposition was religious concerns. Some mothers in the study expressed a willingness to use donor breast milk, but only if it came from a known donor. Some mothers in the study expressed a willingness to use donor breast milk, but only if it came from a known donor. If obtaining milk from a relative or friend is not possible, they would consider using donor milk.

Most of the mothers in this study were against human milk banks, primarily due to religious concerns. The primary reason for their opposition was religious concerns. Studies conducted in Muslim countries show comparable results.^{12,19-21} In one study, 40.8% of the mothers did not approve of human milk banks. 77.5% of them stated that babies breastfed by the same mother would be considered "milk kin" to each other. This means that there would be an ethical issue if they were to unknowingly marry each other in the future.¹² Muslims believe that accepting donor breast milk establishes "kinship" between the donor women (including her offspring) and the recipients of the breast milk. The infant who receives the donor milk and the children of the donor mother are considered 'milk siblings', and therefore are prohibited from marrying each other.^{10,13}

Some mothers in the study expressed interest in using donor breast milk, but only if it came from a known donor. In human milk banks, it is crucial to identify both the donor and the recipient when transferring donations.^{22,23} When a mother has no other option but to obtain donor breast milk, she often prefers to receive it from a relative or friend due to religious concerns.²¹ However, human milk banks are generally accepted when the baby's gender is known, the number of recipients is limited, and the identities of the donor and recipient are disclosed.²⁴

The mothers in the study opposed human milk banks due to hygienic concerns. Milk donations are accepted only when the health data of donors are reliable, and the milk collected is pasteurized and stored appropriately.²⁵ To avert hygiene-related problems, this practice should be placed under the control of public authorities.²⁶

Some of the mothers in the study stated that the child could be fed formula in place of breast milk. Mothers always prefer to feed their own breast milk to their babies as a first choice. The majority of mothers who

are unable to provide their babies with their own breast milk make use of formula feeding rather than applying for a milk donation. Obtaining breast milk from a breast milk donor or a milk bank is the last method they choose.²² However, donor human milk has been shown to offer several advantages over formula feeds, including lower rates of infection and feeding intolerance.²⁷

The mothers' religious concerns, their anxiety regarding hygiene and their scant knowledge of human milk banks are striking. A Muslim country can engage in human milk banks, but only if breast milk is collected and registered in an efficient system of recording.²⁴ When this is put into place, mothers can then learn about the medical records of the other mother (whether or not the mother has some kind of disease) and also find out about the baby's gender before making or receiving a donation of breast milk.^{23,24}

Three out of the twelve mothers in the study said they had no idea about human milk banks. A study conducted in Turkey indicates that 28.4% of the participants knew nothing about human milk banks.¹² The authors of a study conducted in Malaysia report that 80% of breast milk donors and 77% of recipients are Muslim.⁴ Human milk banks can be carried out in Muslim populations. One of the biggest barriers in this context is mothers' lack of knowledge about human milk banks. This is where health professionals need to step in. In a descriptive study, 34% of the participating mothers learned about donating breast milk from the information provided to them by health professionals.²⁸

CONCLUSION

The mothers in the study did not have enough knowledge about human milk banks and also had anxieties regarding the practice. These anxieties (religious and hygienic) can be mitigated through a program of education on human milk banks. As in organ and blood donation systems, human milk banks can be implemented under the sponsorship of the Ministry of Health, which will be instrumental in developing human milk donation protocols and registration systems. This will increase the numbers of babies benefiting from breast milk, thus extending the duration of the breastfeeding period. This in turn will result in the growth and development of healthier generations.

Author Contributions

Working idea/design: MK, AK, NA

Data collection: MK, AK, NA

Data analysis and interpretation: MK, AK, NA

Literature review: MK, AK, NA

Writing the article: MK, AK, NA

Critical review: MK, AK, NA

Final approval and responsibility: MK, AK, NA

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