

The acceptability of a donor human milk bank and donated human milk among mothers in Limpopo Province, South Africa

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Abstract

Breastfeeding is a crucial public health approach that reduces infant morbidity and mortality by providing essential nutrients and antibodies, and breast milk is easily digested. Breastfeeding and donated milk serve as a preventative measure against necrotising enterocolitis. Additionally, they protect against viruses and nosocomial sepsis. When a birthing parent's own milk is unavailable, alternative enteral nutrition for preterm or low-birth-weight infants is either donor human milk (DHM) or artificial formula. This study aimed to understand mothers' acceptance of the donor human milk bank (DHMB) and DHM. A qualitative phenomenological study was conducted in Limpopo Province, South Africa. The study used purposive sampling to select 23 mothers in postnatal and neonatal wards. Data collection was via in-depth interviews using a semistructured interview guide. Manual data analysis using an interpretative phenomenological analysis (IPA) framework was used to coding. Concepts were grouped to generate themes. Three themes and nine subthemes were generated: (1) DHMBs (2) cultural perspective of DHMB, and (3) health considerations of DHM. Participants were unaware of the DHMB. Hesitancy in accepting DHM due to fear of contracting HIV was observed. Cultural beliefs are an influencing factor for use, while donation was driven by altruistic reasons, preventing waste, helping others and having previously benefited from DHM. The study found that mothers are willing to donate human milk. Willingness to donate can be increased by raising awareness about DHMB and addressing culture and safety concerns at antenatal clinics.

KEYWORDS

acceptability, breastfeeding, donated human milk, donor human milk bank, preterm

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1 | INTRODUCTION

Breastfeeding is a crucial public health approach that reduces infant morbidity and mortality by providing essential nutrients and antibodies, and breast milk is easily digested (James et al., 2009; Martin-Wiesner, 2018). Breastfeeding and donated milk serve as preventative measures against necrotising enterocolitis. Additionally, they protect against viruses and nosocomial sepsis (Ramasethu, 2017). The World Health Organization (WHO) recommends that all mothers should exclusively breastfeed their infants for the first 6 months of life, given the benefits of breastmilk (World Health Organization Internet, 2013).

A donor human milk bank (DHMB) is a service that recruits breast milk donors, collects, pasteurizes and stores donor breast milk, tests the milk for bacterial contamination and distributes donor milk to recipient infants and families (Quigley et al., 2019). When birthing parents' own milk is unavailable, the alternatives are donor human milk (DHM) or formula (Quigley et al., 2019). DHM is of critical importance to the extremely low-birth-weight infants and sick newborns admitted to the neonatal intensive care units (NICU) in the early days of life when the mother's own milk is not available (Bertino et al., 2013).

The NICU is a nursery in a hospital that provides medical treatment to preterm and critically ill infants; it differs from the kangaroo mother care (KMC) unit, and the method used in KMC units involves infants who are not sick being carried, usually by the mother, with skin-to-skin contact (Naylor et al., 2020). DHM is used as a provisional measure and does not replace the effort of mothers to breastfeed their child, rather DHM is used for a limited period with continued lactation support (Taylor et al., 2018).

Globally, the use of DHMB has contributed to decreasing infant morbidity and mortality (Perrin et al., 2022). A scoping review by Gutierrez dos Santos and Perrin revealed that facilitators and barriers for donation varied between countries and across the regions, with motivation to donate made from altruism, extra milk, and the desire to prevent waste (Gutierrez dos Santos & Perrin, 2021).

In South Africa, the exclusive breastfeeding rate increased from 8% in 1998 to 32% in 2016 (Statistics South Africa, 2017), raising concerns. In 2011, a national breastfeeding consultative meeting was held in Tshwane, which discussed high infant and child mortality rates and the low breastfeeding rate. The international representation from the United Nations Children's Fund (UNICEF) and the WHO recognised the benefits of DHM overusing formula when birthing parents' own milk is not possible. The WHO, therefore, commends the global scale-up of human milk banks (Gupta et al., 2019). The Tshwane meeting resolved that 'human milk banks must be promoted and supported as an effective approach, especially in postnatal wards and NICU, to reduce early neonatal and postnatal morbidity and mortality for babies who cannot breastfeed' (Editorial Office, 2011).

There are 70 active DHMBs in South Africa, including two in the Limpopo Province (South African Breast Milk Reserve [SABR], 2023), and 52 of DHMBs operate under the coordinated efforts of the SABR, which is a nonprofit organisation. The DHMBs in Limpopo

Key messages

- The study emphasises the possible willingness to accept the concept of donating and utilising donor human milk for newborns who do not have access to their mother's own milk. However, safety concerns, bonding and cultural issues should be addressed.
- Promoting breastfeeding and milk donation in communities requires addressing cultural and health concerns by utilising the service of community health workers.
- Education about safe breast milk banking before neonatal intensive care unit admission is also an important factor.

feed approximately 150 recipients annually, with 28–50 donors. Both banks supply DHM to other facilities without milk banks based on needs posted in a large WhatsApp group called 'SABR Champions,' which is coordinated by a country coordinator to promote an equitable sharing strategy (SABR, 2023). Supply is a problem in Limpopo currently and the donor milk survives by the reserve from the national SABR reserve. Milk banks use local media, pamphlets and word of mouth to educate communities about milk banking.

Philadelphia Hospital was the second hospital in Limpopo Province to create a DHMB (Limpopo Department of Health Bopelong, 2021) with an annual live birth of 5946 and 11.2% low-birth-weight rate in 2020/2021 (Limpopo Department of Health, 2022a). The hospital serves 116 recipients' babies and has 28 donors. The hospital also provides milk to six nearby hospitals in the district (SABR, 2023). The recruitment process primarily targets mothers whose babies have been admitted to the NICU for monitoring. All mothers who lactate well, are free from any sexually transmitted infection and have no chronic diseases qualify to donate. The SABR staff and NICU staff work together to identify and recruit milk donors in the unit. Once they identify a potential donor, the responsible SABR staff member explains the DHMB programme and the importance of DHM to the mother. If the mother agrees, she is requested to complete a screening questionnaire including a declaration and consent form. The questionnaire is reviewed to check if the donor may donate. Once the potential donor is deemed suitable and agrees to donate, she is informed and allocated a donor number. The recruited mothers continue to donate after they and their babies are discharged.

The success of this health intervention depends on the willingness of the mothers to participate either as a donor or as a beneficiary. Understanding reasons for low willingness to donate human milk and low uptake of donor milk is crucial. This study aimed to close an evidence gap by exploring the acceptability of DHMB and DHM and documenting the mothers' who have been admitted to Philadelphia Hospital's willingness to donate and utilise donor milk given that there are only two DHMBs in the province serving a population with a significant annual live birth in facility of 133,000 (2021/2022) and the annual rate of low-birth-weight babies

(<2500 g) of 11% of all live births per annum (2017–2022) (Limpopo Department of Health, 2022b) and Sekhukhune with 28,648 annual live births (2020/2021) and an 8.8% low-birth-weight rate in 2017–2022 (Limpopo Department of Health, 2022a).

2 | METHODS

2.1 | Study design

A qualitative phenomenological study was conducted in October 2022 at a hospital in Limpopo Province, South Africa. Phenomenology is when one collects information and describes the meaning of a situation for people based on their lived experiences (Creswell & Poth, 2016).

The province of Limpopo is in the northernmost part of South Africa and shares national borders with Mozambique, Zimbabwe and Botswana. Additionally, it has internal borders with the provinces of Mpumalanga, Gauteng and Northwest. Limpopo is the sixth largest province in South Africa, with a surface area of 125,754 square kilometres and a population estimate of 5,941,439. Limpopo is divided into five district municipalities subdivided into 22 local municipalities. The capital city is Polokwane. Mining and farming are the main sources of economic activity (Statistics South Africa, 2022). South Africa has experienced a drop in birth rate, but Limpopo maintains a higher birth rate than other provinces and has a large young population (Statistics South Africa, 2022).

Philadelphia Hospital is a regional hospital in Sekhukhune District. The hospital's maternity ward is divided into five sections: the NICU ward which has six beds, the donor milk bank, the low-care unit with eight beds, the KMC unit with seven beds and the postnatal ward. The DHMB in the hospital is managed by the SABR staff in the NICU unit.

2.2 | Participants and recruitment

The participants were recruited using pamphlets and word of mouth by the researcher. The study purposefully selected breastfeeding mothers who had given birth, admitted with their babies to the maternity and neonatal wards of the hospital. The participants were assumed to be unaware of human milk banking, and the researcher briefly explained what it is and the idea behind the donated breast milk bank. The study included only participants who volunteered to participate and gave informed written consent. The participants were recruited and interviewed at the same time. Twenty-three mothers who were breastfeeding (18 years or older) were selected.

2.3 | Data collection

Four pilot interviews were conducted in September 2022 in the same study population to test the interview guide. The researcher analysed

the pilot interviews, and it was not necessary to revise the questionnaire. Data were collected via in-depth interviews employing a self-developed semistructured interview guide with 12 open-ended questions with prompts. The data were collected by the researcher.

The interviews were conducted in a private ward with closed curtains and doors. Interviews were conducted one-on-one with the mothers who were admitted with their babies to either the NICU, KMC or low-care unit. In addition, demographic variables such as age, religion and educational qualification were collected. The interview guide in English was translated into the other two languages, Sepedi and isiNdebele by the researcher and isiNdebele-speaking occupational therapist working in the hospital. The interviews were conducted by the researcher, and the participants were able to respond in English and Sepedi which were the languages spoken by the researcher. The researcher translated the Sepedi interview guide back to English to ensure that the meaning/intention remained unchanged.

The interviews were recorded, and notes were taken. The length of interviews lasted from 30 to 45 min. The data collection ended after 23 interviews as data saturation was reached (there was no new information about the variables of interest). The audiotapes were transcribed, and the researchers reviewed the transcriptions for accuracy.

2.4 | Data analysis

Data analysis was performed by the researcher as it assisted the researcher in becoming familiar with the data. Verbatim transcripts were read by the researcher to ensure that all discussions were captured correctly. Transcripts were read repeatedly, and codes were created to generate themes. Manual data analysis using an interpretative phenomenological analysis (IPA) framework was used in data coding. Concepts were grouped into themes.

To ensure trustworthiness, the researcher used the principles of credibility, transferability, dependability and confirmability to guarantee the quality of the data and findings (Kroopnick, 2013). Credibility in this study was ensured through face-to-face interviews, field notes and verbatim transcription (Kroopnick, 2013). Triangulation of the data was achieved by using women with different parities.

Participant identifiers were classified by age, parity and education level.

Broad descriptions of the findings are provided and supported by direct quotations from the interviews to ensure transferability (Kroopnick, 2013).

The researcher piloted the interview guide to ensure that the questions were interpreted consistently, thereby ensuring the dependability of the findings, and the researcher collected data until no new themes emerged (saturation) (Kroopnick, 2013). To determine confirmability, an audit trail was utilised to document the processes used and decisions made during the study. The experienced qualitative research supervisor read the transcripts and the study report and reviewed the audit trail and the emerging categories and themes to ensure credibility and trustworthiness (Kroopnick, 2013).

2.5 | Ethics

The research protocol was approved by ('removed for anonymity').

This study adhered to the principles outlined in the Declaration of Helsinki. Those principles are autonomy, beneficence, nonmaleficence and justice. Participants were allowed to choose their participation and withdraw without negative consequences. The study's information was kept confidential, and the participants were informed about the study's purpose. The hospital community and society might benefit from the findings. The study's participants were not directly harmed, and there were no risks associated with the interviews. The study aimed for fair, equitable and appropriate treatment, with recruitment among eligible mothers and written permission. Participants signed the consent form to participate.

3 | RESULTS

A total of 23 participants were interviewed (Table 1). Participants' ages ranged from 19 to 43 years old. Most of the mothers were not working; they were Christian and single. Their educational levels were high school, college or university. Participants were new mothers, those with second babies and almost half of them had three or more children.

Data were analysed, and information shared by the participants was organised into three main questions: Are mothers aware of milk banking? Are mothers willing to accept donor milk? Are mothers willing to donate breast milk? The resultant three themes are listed in Table 2.

3.1 | Theme 1: DHMBs

In this study, participants were unaware of the existence of DHMB and DHM in the hospital. The following subthemes emerged.

3.1.1 | Awareness of breast milk banks

In this study, participants were unaware of the existence of a DHMB in the hospital. Out of 23 mothers, only eight mothers were aware of the DHMB, and 15 mothers were unaware. 'For the record, this is the first time I have heard of a DHMB. It's a new story for me' (P001A).

Participants were also unaware of any supply of donor milk in their community: 'No I am not aware of mothers who are supplied with donor milk' (P0010C). In one case, the idea was so unfamiliar that although the participant could understand the value, they could not consider participating: 'No. I do not disagree with you, but it's a big deal and it will be challenging for me to give someone my milk this is the first time, I have heard of it. I am even afraid' (P0016B).

TABLE 1 Demographic characteristics of participants.

Variables	Categories	Number of participants	Percentage
Age (years)	19–23	2	8.70
	24–28	9	39.13
	29–33	7	30.43
	34–38	0	0.00
	39–43	5	21.74
Employment status	Working	4	17.39
	Not working	19	82.61
Religion	Zion Christian Church	8	34.78
	Apostolic Church	7	30.43
	Christian	3	13.04
	Not attending church	3	13.04
	Muslim	1	4.35
	Roman Catholic	1	4.35
Education	High school	17	73.91
	College/university	6	26.09
Marital status	Single	17	73.91
	Married	2	8.70
	Living together	4	17.39
Number of children including the current baby	1	6	26.08
	2	7	30.43
	3	2	8.70
	4	5	21.74
	5	1	4.35
	6	1	4.35
	7	1	4.35

3.1.2 | Positive impact of donor milk

The unavoidable reality is that some additional milk is needed when mothers cannot produce enough milk: 'I don't have enough milk and the donor milk is assisting me a lot and my baby is growing well' (P006B).

One participant said, 'I have no issues using donor's human milk: I was not having any problem with donor milk because I don't have enough milk and my baby was getting donor milk' (P004B).

In some cases, this lack of milk was only temporary: 'Yes, I did accept DHM as it was assisting my baby while am waiting for my milk

TABLE 2 Summarised three themes and eight subthemes from interview data generated during analysis.

Themes	Subthemes
1 Donor human milk banks	1.1 Awareness of donor human milk bank 1.2 Positive impact of donor human milk 1.3 Prevention of waste
2 Cultural perspectives of donor human milk	2.1 Cultural beliefs 2.2 Bonding
3 Health considerations of donor human milk	3.1 Passing of illnesses 3.2 Desire to assist others. 3.3 Concerns related to receiving donated human milk

to flow. The donor milk was explained to me. It is a good thing, and the milk will make my baby grow well' (P0010C).

3.1.3 | Prevention of waste

Participants were willing to donate breast milk when they experienced an oversupply of their breast milk: 'Yes, my breast becomes full of breast milk which I may donate' (P001A).

The eagerness to donate was motivated by the impulse to prevent waste and help others: 'I will donate breast milk because from my previous breastfeeding experience, my breast had more milk, and it was free flowing. It is not good to just let breastmilk get wasted' (P0010C).

3.2 | Theme 2: Cultural perspectives of DHM

Cultural influences were one of the key barriers to milk donation. The following subtheme emerged:

3.2.1 | Cultural beliefs

Participants were unaware of this programme and reflected on the cultural aspect: 'It is difficult for me to accept breast milk donated by someone you don't know especially if you hear about it for the first time'. This has shown a deep connection between individuals who consider a family as an important aspect.

Women in Limpopo were reluctant to donate and use DHM given the familial relationship and bonds: "It is an emotional process from a cultural point of view. I should be trusting that person if that person was my family member I can understand' (P0016B).

3.2.2 | Bonding

A significant emotional concern among the participants whose babies were possible recipients of donated milk was the relationship between the recipient baby and that donor mother: 'I am asking if there will be no bond created by the intake, but if they are cleaning the milk for the concentration of germs perhaps it may address my concern on the bond that my baby can have with that donor' (P008B).

The unique bond between mother and baby and the potential interference of the use of donated milk was a real concern: 'I will accept as long as the mother who is donating will not look at my baby in the eyes or face so that the baby will not feel or think that the person is her mother, there must not be a bond between the two' (P0015B).

Participants in some instances were not sure what to say about milk donation and raised major breastfeeding benefits that their babies can benefit from the breast milk: 'No, I do not know why, I would like my baby to feel me, and we have a connection, it will be like drinking water, I want skin to skin and blood to blood'. There must be a bond between me and my baby. 'My baby must feel my heartbeat' (P0023D).

3.3 | Theme 3: Health considerations of DHM

The theme of health consideration emerged when participants were questioning the safety of the milk and the following three themes emerged.

3.3.1 | Passing on illness through human milk

The concern was so serious that in one instance, one participant would only accept the donor breast milk if there was a consent form signed between her and the hospital, detailing that if something happens to her baby because of donor breast milk, the hospital is liable: 'I will accept if there is an agreement form that we sign both of us in case something can happen to my child' (P0014B).

Accepting donor breast milk was not a problem for the participants if certain requirements were met: 'Yes, I accept donor milk on conditions that the milk is first checked and cleaned before usage' (P0018C) and in particular 'if the milk will be cleaned and checked for diseases' (P0021F).

This concern regarding the safety of the milk and the fear of contracting HIV through breast milk was evident in this study. Participants mentioned that they would accept donor breast milk if the milk was pasteurised due to the unknown status of some of the donors: 'Yes, I will agree if the milk is cleaned because I do not know the status of other women' (P002B).

In some cases, mothers could not donate even if they were willing due to their HIV status: 'No, I am not donating because I am drinking medication for HIV. I will not be able to donate' (P0019E).

The concern about the safety of donor breast milk was prominent, especially about HIV infections: 'I do not feel comfortable donating due to infections unless I am forced by situations. Even with blood donation I do donate, I do not want somebody's blood. There are many infections these days' (P0022C).

3.3.2 | A desire to assist others

Participants, especially those who had previously benefitted, were willing to assist others and in some cases were even willing to overcome a personal aversion to contribute: 'I don't have a reason to donate, only in desperate situations to assist in severe cases. I don't like breastfeeding personally; it makes me scared' (P0015B) and 'I am aware that donor breast milk helps new-borns who aren't getting enough milk, and it has helped me as well, so I want to help others as well' (P007B).

3.3.3 | Concerns related to receiving donated human milk

The lifeline that donor breast milk represents was clear: 'Yes, I will accept donor milk, I see donor breast milk like any other milk which is important, if you do not breastfeed, the baby will not grow well. The baby may be hungry, which may result in him crying and getting sick because of poor feeding' (P007F). Breast milk, even if donated, was considered superior to the formula: 'Yes, I will agree because these babies need breast milk, and the formula is not good for them' (P004B).

Despite this, there were participants who were resistant to the idea when they had no personal need: 'Hmmm, no, I won't agree, to take milk from another woman; I have never done that before. Milk from another woman mmm, how will it be? No, no, I won't agree but I know that a breastfed baby is healthy' (P003B).

4 | DISCUSSION

The purpose of the study was to explore the acceptance of DHMB and DHM among mothers at Philadelphia Hospital as well as the reasons for the current low acceptance of DHM.

The majority of the participants were single and were primarily Christians. The literature has shown that religion and marital status are not related to the DHMB (Abhulimhen-lyoha et al., 2015; Gelano et al., 2018). Their educational levels were high school, college or university, with an age range from 19 to 43 years old. The literature has shown that age and educational level did not affect milk donation (Huang et al., 2021). Participants were new mothers or second-time mothers. Participants were unaware of the service before delivery. They heard about DHMB and DHM during their hospital stay and learned about it from nurses and other admitted mothers. After it was explained to them, they appreciated the idea and its advantages for babies when

their mother's milk is not available. This finding is similar to what has been reported in a study among women in Mankweng hospital in Limpopo Province, South Africa, where mothers who were admitted were the only ones who were aware of the DHMB compared to mothers who were attending antenatal clinics (Mantji et al., 2019). This finding was contrary to the study that was conducted in North West Province in South Africa, where participants heard about DHMB from facilities before delivery (Lubbe et al., 2019).

The findings from this current study suggest the need for education about DHM during antenatal care. Currently, staff at antenatal clinics only educate mothers on the benefits of breastfeeding, and incorporating education about DHM may help to broaden mothers' understanding of breastmilk banking before possible admission of newborns to the NICU postdelivery, (McLeod et al., 2002). This suggestion is supported by a study from Coutsoudis et al., where participants considered health education on donor milk as the first important strategy for the acceptability of the service (Coutsoudis et al., 2011).

4.1 | Willingness to donate human breast milk

The desire to donate was motivated by the need to reduce waste. This willingness is comparable to the study by Doshmangir et al., who reported that the reason for donation was excess milk production (Doshmangir et al., 2019). Cultural beliefs, a positive HIV status and personal aversion were cited as barriers to donate. Participants whose previous babies were the beneficiaries of milk donation in the neonatal ward described how it aided in the development of those infants and the benefit of donor milk as their reason for donating.

The study conducted by Leung and Yau (2015) supports the findings of this study, where mothers indicated positive belief in breast milk donation and willingness to donate to make babies grow healthy. The individual's motivations for donating were primarily out of generosity, which supports the study that was conducted in France where mothers' reasons to donate were largely altruistic and had a generally positive attitude (Azema & Callahan, 2003). A few participants mentioned that they were not comfortable donating milk, and they equated milk donation to blood donation. This finding is contrary to a study by Magowan et al., where participants regarded the blood donation process as safer and hygienic when compared to milk donation (Magowan et al., 2020).

4.2 | Willingness to use donor human breast milk

The reception of donor breast milk is influenced by cultural norms. This study found that some participants were not comfortable with using donated milk and preferred someone from their own family as the best option for feeding their baby compared to using milk from someone they do not know. These findings are similar to the study conducted in Limpopo among the Vatsonga people where grandmothers breastfeed babies of their family members for different reasons (Risenga & Lebeso, 2014). The similar findings were reported in a study conducted in eastern Ethiopia, where some women stated that using another mother's breast

for infant feeding is only possible if the recipient baby is related to the donor by blood (Gelano et al., 2018).

The primary concern of participants was safety, and the safety issue was expressed as a concern about the risk of HIV infection to their babies by DHM, as they argued that some donors' status is unknown. Studies supporting this finding on safety issues as a concern were from two African cities (Durban and Nairobi) and one Asian city (Hong Kong), where mothers were concerned about the safety of the donor milk. (Coutsoudis et al., 2011; Leung & Yau, 2015; Magowan et al., 2020). Conditional acceptance was reported in one study in South Africa and Eastern Uganda, where participants specified conditions such as checking the status of the donor and the cleanliness of the milk before they were willing to accept the donor milk (Coutsoudis et al., 2011; Magowan et al., 2020).

Some formalised the notion of risk and acceptance in terms of only agreeing to accept DHM if the hospital signed a consent form outlining their respective responsibility if the baby suffered harm because of the DHM. This has generated a conversation in hospital administration that there is a need to focus on balancing the potential benefits of using DHM with the need to minimise hesitancy caused by lack of knowledge and ensuring that mothers are educated about the safety of milk and ensuring that the community understand the process of milk donation

The signing of the agreement form is similar to the one that healthcare providers use when educating patients about the risks and benefits of a procedure. In a study by McGlothen-Bell, it was mentioned that the use of an informed consent form for providing DHM will be an added advantage in addressing moral issues raised in the NICU (McGlothen-Bell et al., 2019).

In this study, we found that the perceived value of breast milk influenced the participants' willingness to accept DHM. Similarly, a study conducted in Southeast Nigeria reported a high willingness of mothers to accept donor breast milk (Iloh et al., 2018). Participants valued donor milk as it assists them in their babies' growth, and they viewed it as a beneficial temporary solution for insufficient milk. This finding was contrary to a study that was conducted in Limpopo Province, South Africa, where mothers had a different view that they were not comfortable accepting donated breast milk for their children (Mantji et al., 2019).

Participants questioned the threat to the mother-baby bond if DHM was used. These findings are comparable to the study conducted in Northwest Province in South Africa, where the fear of bonding was mentioned during the discussion of wet nursing by the old grannies (Lubbe et al., 2019). The same fear came out during a discussion on the utilisation of DHM where participants were afraid that the child may inherit the personality traits of the donor.

4.3 | Limitations of the study

The study excluded the opinions of grandmothers and healthcare professionals who have a significant influence on the acceptability of DHM. Additionally, community healthcare workers who are essential

providers to the community were excluded. As this is a qualitative study, findings are not generalisable to other hospitals. The study's significant strength is that it is one of the new studies performed in Limpopo investigating DHMBs.

5 | RECOMMENDATIONS AND CONCLUSIONS

Caregivers need to know that the decision to donate milk to a DHMB is a personal choice. Breastfeeding promotion, protection and support are crucial before using DHM from a human milk bank. These initiatives include education, counselling and supportive environments. Access to peer support groups and healthcare providers is also essential for successful breastfeeding experiences. It is essential to advise caregivers and parents that, while DHM can be beneficial in certain situations, it is not always necessary for every child's nutritional requirement.

The study reveals participants lacked awareness of the use of DHM and DHMBs before admission. Participants were willing to donate human milk, driven by a variety of motives such as being a previous beneficiary, altruism and prevention of waste. Increasing awareness about DHMBs, addressing cultural concerns and emphasising safety can encourage more breastfeeding mothers to donate their milk or accept donated milk. Additionally, the study underscores the importance of early antenatal education on these topics to boost acceptability. Therefore, the policy regarding antenatal care education should change to include DHM and DHMB health education for mothers.

AUTHOR CONTRIBUTIONS

Tebogo Mampane established the first concept of the paper, reviewed the literature, conducted the interviews, conducted data analysis and wrote the initial draft of the article. Jacqueline E. Wolvaardt verified the first concept of the paper and literature sources, reviewed the methodology and data reporting and edited and reviewed the final document.

ACKNOWLEDGEMENTS

The authors would like to thank the mothers who were admitted at Philadelphia Hospital during the data collection and the staff in the maternity ward for their cooperation, including the Limpopo Department of Health for allowing me to collect data at the facility. I would like to express my sincere appreciation to my supervisor, family and my children for their unwavering support and encouragement throughout my study. Ms Lucy Sibande the occupational therapist working at Philadelphia Hospital translated the English version to the Isindebele version. Ms Thuli Khorombi who is working at the breastmilk bank of Philadelphia Hospital contributed to pasting the recruitment pamphlets before the data collection.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available at the University of Pretoria at <https://library.up.ac.za/health>.

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REFERENCES

- Abhulimhen-Iyoha, B., Okonkwo, I., Ideh, R., & Okolo, A. (2015). Mothers' perception of the use of banked human milk for feeding of the infants. *Nigerian Journal of Paediatrics*, 42(3), 223–227.
- Azema, E., & Callahan, S. (2003). Breast milk donors in France: A portrait of the typical donor and the utility of milk banking in the French breastfeeding context. *Journal of Human Lactation*, 19(2), 199–202. <https://doi.org/10.1177/0890334403252476>
- Bertino, E., Giuliani, F., Baricco, M., Di Nicola, P., Peila, C., Vassia, C., Chiale, F., Pirra, A., Cresi, F., Martano, C., & Coscia, A. (2013). Benefits of donor milk in the feeding of preterm infants. *Early Human Development*, 89, S3–S6. <https://doi.org/10.1016/j.earlhumdev.2013.07.008>
- Coutsoudis, I., Petrites, A., & Coutsoudis, A. (2011). Acceptability of donated breast milk in a resource limited South African setting. *International Breastfeeding Journal*, 6(1), 3. <https://doi.org/10.1186/1746-4358-6-3>
- Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publications.
- Doshmangir, L., Naghshi, M., & Khabiri, R. (2019). Factors influencing donations to human milk bank: A systematic review of facilitators and barriers. *Breastfeeding Medicine*, 14(5), 298–306. <https://doi.org/10.1089/bfm.2019.0002>
- Editorial Office. (2011). The Tshwane declaration of support for breastfeeding in South Africa. *South African Journal of Clinical Nutrition*, 24(4), 241.
- Gelano, T. F., Bacha, Y. D., Assefa, N., Motumma, A., Roba, A. A., Ayele, Y., & Tsige, F. (2018). Acceptability of donor breast milk banking, its use for feeding infants, and associated factors among mothers in eastern Ethiopia. *International Breastfeeding Journal*, 13(1), 23. <https://doi.org/10.1186/s13006-018-0163-z>
- Gupta, A., Suri, S., Dadhich, J. P., Trejos, M., & Nalubanga, B. (2019). The world breastfeeding trends initiative: Implementation of the global strategy for infant and young child feeding in 84 countries. *Journal of Public Health Policy*, 40(1), 35–65. <https://doi.org/10.1057/s41271-018-0153-9>
- Gutierrez dos Santos, B., & Perrin, M. T. (2021). What is known about human milk bank donors around the world: A systematic scoping review. *Public Health Nutrition*, 25(2), 1–11. <https://doi.org/10.1017/S1368980021003979>
- Huang, C., Han, W., & Fan, Y. (2021). Knowledge and attitude on donation of breast milk in hospitalized mothers. *Gaceta Sanitaria*, 35(3), 213–215. <https://doi.org/10.1016/j.gaceta.2019.09.013>
- Iloh, K. K., Osuorah, C. D., Ndu, I. K., Asinobi, I. N., Obumne-Anyim, I. N., Ezeudu, C. E., Oluchi, U. M., Anyanwu, O. U., Ekwochi, U., Ogoke, C. C., Ayuk, A. C., & Obu, H. U. (2018). Perception of donor breast milk and determinants of its acceptability among mothers in a developing community: A cross-sectional multi-center study in south-east Nigeria. *International Breastfeeding Journal*, 13(1), 47. <https://doi.org/10.1186/s13006-018-0189-2>
- James, D. C. S., & Lessen, R., American Dietetic Association. (2009). Position of the American Dietetic Association: Promoting and supporting breastfeeding. *Journal of the American Dietetic Association*, 109(11), 1926–1942. <https://doi.org/10.1016/j.jada.2009.09.018>
- Kroopnick, M. (2013). AM last page: The MCAT exam. *Academic Medicine*, 88(4), 737. <https://doi.org/10.1097/ACM.0b013e31828abf7f>
- Leung, J. C. Y., & Yau, S. Y. (2015). Perceptions of breastfeeding mothers on breast milk donation and establishment of human breast milk bank in Hong Kong: A qualitative study. *International Journal of Nursing*, 2, 72–80. <https://doi.org/10.15640/ijn.v2n2a9>
- Limpopo Department of Health. (2022a). *Newborn care in Limpopo (FY2021/22) performance (Unpublished)*.
- Limpopo Department of Health. (2022b). *Limpopo Department of Health District Health Information System*.
- Limpopo Department of Health (Bophelong). (2021). *Limpopo health MEC launched the Charlotte Manny Makgomo Maxeke Breast Milk Bank at Philadelphia Hospital*.
- Lubbe, W., Oosthuizen, C. S., Dolman, R. C., & Covic, N. (2019). Stakeholder attitudes towards donating and utilizing donated human breastmilk. *International Journal of Environmental Research and Public Health*, 16(10), 1838. <https://doi.org/10.3390/ijerph16101838>
- Magowan, S., Burgoine, K., Ogara, C., Ditai, J., & Gladstone, M. (2020). Exploring the barriers and facilitators to the acceptability of donor human milk in eastern Uganda—A qualitative study. *International Breastfeeding Journal*, 15(1), 28. <https://doi.org/10.1186/s13006-020-00272-1>
- Mantji, M., Makoma, B., & Tebogo, M. (2019). Women's knowledge and attitudes on established breastmilk bank in Limpopo Province, South Africa. *Global Journal of Health Science*, 11, 93.
- Martin-Wiesner, P. (2018). *A policy-friendly environment for breastfeeding. A review of South Africa's progress in systematising its international and national responsibilities to protect, promote and support breastfeeding*. DST-NRF Centre of Excellence in Human Development.
- McClothen-Bell, K., Cleveland, L., & Pados, B. F. (2019). To consent, or not to consent, that is the question: Ethical issues of informed consent for the use of donor human milk in the NICU setting. *Advances in Neonatal Care*, 19(5), 371–375. <https://doi.org/10.1097/anc.0000000000000651>
- McLeod, D., Pullon, S., & Cookson, T. (2002). Factors influencing continuation of breastfeeding in a cohort of women. *Journal of Human Lactation*, 18(4), 335–343. <https://doi.org/10.1177/089033402237906>
- Naylor, L., Clarke-Sather, A., & Weber, M. (2020). Troubling care in the neonatal intensive care unit. *Geoforum*, 114, 107–116. <https://doi.org/10.1016/j.geoforum.2020.05.015>
- Perrin, M. T., Gutierrez dos Santos, B., Mansen, K., & Israel-Ballard, K. (2022). Global neonatal care and access to human milk. *Jornal de Pediatria*, 98, 545–547.
- Quigley, M., Embleton, N. D., & McGuire, W. (2019). Formula versus donor breast milk for feeding preterm or low birth weight infants. *Cochrane Database of Systematic Reviews*, 7(7), CD002971. <https://doi.org/10.1002/14651858.cd002971.pub5>
- Ramasethu, J. (2017). Prevention and treatment of neonatal nosocomial infections. *Maternal Health, Neonatology and Perinatology*, 3(1), 5. <https://doi.org/10.1186/s40748-017-0043-3>
- Risenga, P., & Lebese, R. (2014). Lived experiences of first time mothers towards breastfeeding at Muyaxe village in Mopani District of Limpopo Province South Africa. *Journal of Medicine and Medical Research*, 4, 51–58.
- South African Breast Milk Reserve. (2023). *SABR board pack—Compounded two-year report 2021/2022 and 2022/2023*.
- Statistics South Africa. (2017). *South Africa health survey demographic and health survey 2016: Key indicator report*. Statistics South Africa.
- Statistics South Africa. (2022). *Census 2022 and mid-year population estimates (MYPE)*.
- Taylor, C., Joolay, Y., Buckle, A., & Lilford, R. (2018). Prioritising allocation of donor human breast milk amongst very low birthweight infants in middle-income countries. *Maternal & Child Nutrition*, 14(S6), 12595. <https://doi.org/10.1111/mcn.12595>

World Health Organization. (2013). *Essential nutrition actions: Improving maternal, newborn, infant and young child health and nutrition*.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Mampane, T., & Wolvaardt, J. E. (2024). The acceptability of a donor human milk bank and donated human milk among mothers in Limpopo Province, South Africa. *Maternal & Child Nutrition*, 20, e13651. <https://doi.org/10.1111/mcn.13651>