



# A Study on Acceptance to Voluntarily Participate in Breast Milk Bank Activities amongst Antenatal and Postnatal Women in Three Hospitals of Bhopal

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## ABSTRACT

**Background:** Pasteurised Donor human milk (PDHM) is regarded as "the next best" after the biological mother's breast milk. The aim of the study was to assess the awareness about breast milk banking among antenatal and postnatal women and their willingness to donate their breast milk to the bank or accept it from the bank.

**Materials & Methods:** A cross sectional study was carried out on 350 Antenatal and Postnatal women from 3 hospitals of Bhopal. Purposive sampling was used and 104 antenatal women (>8 months gestation) and 246 postnatal women (<6 weeks) were enrolled. The study was conducted from 1 September to 30 November 2016. The data was collected using pre-designed semi structured questionnaire.

**Results:** Out of 246 postnatal women who were interviewed, 86.6% women were currently breastfeeding their child. Knowledge regarding importance of colostrums and meaning of exclusive breastfeeding was present in 73.4% and 85% participants respectively. The knowledge about existence of breast milk bank was 10% while willingness to accept the milk was 85.4% and to donate was 84.9% in study participants.

**Conclusion:** The knowledge about existence of breast milk bank in study participants was found to be very less. Lack of awareness about existence of breast milk banks was perceived as major barrier in utilisation of breast milk bank services.

**Keywords:** Breast milk banking, cross sectional study, antenatal, postnatal, acceptance

## INTRODUCTION

According to WHO, Breastfeeding is the normal way of providing young infants with the nutrients they need for healthy growth and development. Virtually all mothers can breastfeed, provided they have accurate information, and the support of their family, the health care system and society at large<sup>1</sup>. Colostrum which is the yellowish, sticky breast milk produced at the end of pregnancy or just after delivery, is recommended by WHO for the newborn. Feeding should be initiated within

the first hour after birth or as soon as possible.<sup>2</sup> Exclusive breastfeeding is recommended up to 6 months of age, with continued breastfeeding along with appropriate complementary foods up to two years of age or beyond<sup>3</sup>. According to NHFS 4 only 54.9% and 58.2% infants in India and Madhya Pradesh respectively are exclusively breastfeed up to 6 months of age<sup>4</sup>.

Despite the known benefits of breast milk, there are many barriers to breastfeeding especially mothers of preterm babies face particular prob-

lems which result in a lower percentage of preterm babies receiving breast milk than term babies. Other than the barriers associated with having a premature baby, a mother may not be able to breastfeed her child if she is medically unfit e.g. acute complications during post partum period or on drugs e.g. chemotherapy or radiotherapy where it is contraindicated to breastfeed their babies<sup>5,6,7,8</sup>.

The Pasteurised Human Donor Milk (PDHM) is recommended because of its acknowledged benefits with respect to infant nutrition, gastrointestinal function, host defense, and psychological well-being<sup>6</sup>. Donor breast milk is defined as milk which is donated by another mother and processed by milk bank to be used by a receiver mother who cannot nurse her baby<sup>9,10</sup>. A human milk bank is a service established for collecting, screening, processing, storing and distributing pasteurised donated human milk. Lucas and Cole found that NEC was 6-10 times more likely to develop in exclusively formula fed infants than in those fed only breast milk, and that NEC was 3 times more likely when formula-only fed infants were compared to those receiving both breast milk and formula<sup>11,12</sup>. Other studies have demonstrated that formula fed infants had lower IQ scores than infants fed breast milk<sup>13,14</sup>. Therefore, Pasteurized donor human milk (PDHM) is regarded as "the next best" after the biological mother's breast milk<sup>15,16</sup>. These services provides mothers with an alternative to infant formula and allows the mother to give their newborn the nutrition it needs for healthy growth<sup>17</sup>. The study was undertaken with the objectives to assess the awareness about breast milk banking among the antenatal and postnatal women, and their willingness to donate their breast milk to the bank or accept it from the bank, also to assess the awareness of exclusive breast feeding and its benefits among antenatal and postnatal women.

## MATERIALS AND METHODS

This was a hospital based cross sectional study. The study was conducted after taking approval from Ethical Committee of Institute. The acceptance of breast milk bank came out to be 30 % in a pilot study. Using Abramson and Gahlinger formula, sample size was calculated to be 323. Adding 10% of non response rate, total of 350 antenatal and postnatal women were registered from three different hospitals of Bhopal for study using convenient sampling. Antenatal women of more than 32 weeks of gestation and postnatal women of less than 6 weeks postpartum were included in the study. The study was conducted for a period of three months.

Informed consent for the study was obtained from all the study participants. Data regarding their demographic characteristics, breast feeding practices, knowledge & awareness about breast feeding and its benefits were collected using a semi structured questionnaire. Also, awareness about existence of breast milk bank and their willingness to donate and accept milk from the bank were assessed through the questionnaire followed by a short health education session informing them about the existence of breast milk bank in JP hospital, Bhopal and benefits of breast milk & Human Milk Banking. The Epi info 7 and Microsoft Office Excel 2007 were used for data processing and statistical analysis.

## RESULT

A total of 350 women were included in the study from 1 September 2016 to 30 November 2016. Out of 350 participants 104 (29.7%) were antenatal and 246 (70.3%) were postnatal. The age of participants ranged between 18-35 years. 55.7% participants were in age group 21-25 years followed by 28.8% in 26-30 years of age and mean age was 24.41 ±3.41 years.

**Table 1 Education Status of Mother**

Education status of mothers	Frequency (n=350) (%)
Uneducated	154 (44)
Upto 5 <sup>th</sup> std	93 (26.5)
Upto 8 <sup>th</sup> std	76 (21.7)
10 <sup>th</sup> pass	17 (4.8)
12 <sup>th</sup> pass	7 (2)
Graduation	3 (0.8)

Table 1 shows that 44% of the participants were illiterate and about one fourth of the study participants were educated up to primary level.

Our study also aimed at eliciting the knowledge of mother's about benefits of breastfeeding. The study found that most of the women (77.5%) knew at least one benefit of breastfeeding to the baby. But only few women (20.6%) knew about the benefit of breastfeeding to the mothers. Knowledge about the beneficial effect of breast milk in mental development was least (6%). Less than one-third of the women had knowledge about any of the benefits of breast feeding & 76% study participants did not know of any benefits of breastfeeding to the mother. Rest 14% knew at least one benefit of breastfeeding to the mothers. Importance of colostrum was known to 73.4% and meaning of exclusive breast feeding was known to 84.6%. Most of the study participants (84.3%) knew the correct duration (6 months) of exclusive breast feeding.

Most of the ANC (75%) and PNC (88.2%) knew the meaning of exclusive breast feeding.

Out of 246 postnatal women selected only 86.6% women were currently breastfeeding their child. The rest of the neonate (13.4%) were not being breast fed because of the following reasons Sick-ness/Illness of Mother (7.1%), No/poor produc-tion of breast milk (3.2%), Family members (mother in law/ husband) not allowing mother to breastfeed her neonate (1.5%), Baby in NICU (1.4%) and Premature baby (0.2%).

Only 10% knew about the existences of breast milk banks and about 299 (85.4%) participants were willing to accept the milk from a donor or bank, while 84.9% among the study participants were willing to donate their excess breast milk. The study participants mentioned other animals (cow/buffalo/goat) milk (55.4%) followed by do-nors breast milk (35%) as the best alternative feed-ing options for the baby

**Table 2: Reasons for not accepting donor's milk**

Reason for not accepting donors milk	Women (n=51)
Religious/ Caste/ other cultural beliefs	26 (50.9)
Cow milk is best	1 (1.9)
Bank not accessible	2 (3.9)
No Reason (no answer given)	22 (42.2)

Figure in bracket indicate percentage

Barriers in development of breast milk bank and it utilization can be classified among 1) donation of milk 2) acceptance of breast milk 3) knowledge gap 4) perceived medical issues. The verbatim of some of the women who were not willing to accept donor's milk gave following statements-

*"Bacchhe ko usse lagaav ho jaata hai, jiska doodh peeta hai"; "Hamare samaaj mein kisi aur maa ka doodh nahi pilaate"; "Pata nahi kaunsi jaat ki ma ka doodh hai"; "Hamare bacchhe ko Kisi dusre ki maa ka doodh pilaane se acha, ham gaaye ka doodh hi pilaayenge"*

**Table 3 - Reasons for not willing to donate their breastmilk (if in excess)**

Reason for not willing to donate	Women(n=53)
Religious/ caste / other cultural beliefs	13 (24.5)
Bank not accessible	11 (20.7)
No Response	29 (54.7)

Figure in bracket indicate percentage

Statements of mothers not willing to donate- *"Humare bache k liye hai, hum nahi denge"; "Hamein hi doodh kam maatra mein aata hai, dusre bache ko kaise de dein"; "Gharwale nahi dene denge"*. Perceived medical issues:- *"Maa ka mansik swasth theek nahi hai, bachcha bhi waisa ho jayega "*.*"Maa ko mirgi ke*

*daure aate hain"*. Lack of knowledge:-*"Hume pata nahi tha esa bhi kuch hota hai"*.*"Abhi tak nahi pata tha ab pata chala hai tho sochen gay"*, *"Suna tha per pata nahi tha ki bhopal may bhi hai"*.

## DISCUSSION

When the child is in NICU, the family is concerned with the well being of the neonate and the need of the breast milk bank is not felt. It is also difficult for the staff to counsel and convince the family for availing the breast milk bank facility in such a situation.

Our study included both Antenatal and postnatal women to assess the awareness and acceptance of Human Milk Banking. Antenatal women who were near term (>32 weeks) were also included be-cause they were soon to enter the phase when they breastfeed their child and secondly our study aimed to assess the knowledge and attitude of women. The mean age of participants in our study was 24.41 ±3.41years which is similar to Mean age 25.75±7.04 in a study by Miranda et al in 2016 in Brazil<sup>18</sup>.

The educational status of study participants was poor, 44% of participants were illiterate. In our study, the knowledge about importance of colostrum was known to 73.4% and meaning of exclu-sive breast feeding was known to 84.6%. In a study conducted by Verma A et al in Uttar Pradesh in 2016, it was found to be 61.7% and 52.8% respec-tively<sup>19</sup>. The greater awareness in our study is probably due to intensive IEC by MoHFW, GOI initiative to promote breastfeeding and bring down Infant Mortality Rate.

Our study found that 77.5% of study participants knew atleast one benefit of breastfeeding to the baby but only 20.6% of study participants knew about its benefits to the mothers. In a comparative study among two generations of mothers con-ducted by Pandey D et al in 2013 in Karnataka found that 68.8% mothers and 63.3% grandmoth-ers knew benefits of breastfeeding to the baby. But the awareness about its benefits to the mother was much higher i.e. 50.8% mothers and 43% grand-mothers compared to our study (20.6%). This may be due to difference in literacy rate among partici-pants in both the studies, in our study 44% of par-ticipants were illiterate while only 32% grand-mothers and 1.6% mothers were illiterate in com-parative study.<sup>20</sup>

The knowledge regarding existence of breast milk bank was very poor i.e. 10% in our study, but the willingness to accept and to donate breast milk was found to be 85.4% and 84.9% respectively, de-spite the poor educational status. The findings

were similar to study conducted by Mackenzie C et al in May 2013<sup>21</sup>.

## CONCLUSION

Most of the women were willing to donate (84.9) and accept (85.4) donor's breast milk, in spite of poor literacy level. But this reflects only the attitude of the women and not the practice/ behaviour which would be assessed only if the need arises. Actual practice will also be affected by the knowledge attitude and behaviours of other family members. Most of the women (89.2%) were not aware of the existence of breast milk bank. The knowledge about meaning of exclusive breast feeding and its duration was good reflecting good IEC services related to maternal and child health.

## RECOMMENDATIONS

Since the awareness about existence of breast milk bank is only 10%, there is a need to make antenatal, postnatal women and their families' aware regarding existence of such banks. Proper Counseling and education should be done during their antenatal visit so that they may come to know the existence of breast milk banks and their benefits. Seeing the good acceptance towards breast milk banks among study participants, establishment of more banks should be encouraged in the state.

There should be a mechanism to refer mothers who are not able to breastfeed in spite of adequate production of breast milk to the breast milk bank. Such mothers should also be counselled about the benefits of using this facility by a designated staff.

## LIMITATIONS

This study evaluated only the knowledge and attitude of the study participants. What will be the actual practice regarding donation and acceptance of breast milk if required is not assessed in the study. Study population is not representative of the general population of Bhopal because the patients come from low socio economic background in the hospital in which the study is conducted.

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