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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Financial Support: None declared
Conflict of Interest: None declared
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How to cite this article:

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Date of Submission: 25-02-18
Date of Acceptance: 25-06-18
Date of Publication: 30-06-18

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. 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. 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. 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.

Despite the known benefits of breast milk, there are many barriers to breastfeeding especially mothers of preterm babies face particular prob-
The study was conducted for a period of 3 months. The study was conducted for a period of more than 6 weeks postpartum were included in the study. Antenatal women of more than 32 weeks of gestation and postnatal women of less than 6 weeks postpartum 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.

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. 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. 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. Other studies have demonstrated that formula fed infants had lower IQ scores than infants fed breast milk. Therefore, Pasteurized donor human milk (PDHM) is regarded as "the next best" after the biological mother's breast milk. These services provide mothers with an alternative to infant formula and allows the mother to give their newborn the nutrition it needs for healthy growth. 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.

Information 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 JIP 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 age group 26-30 years and mean age was 24.41 ±3.41 years.

Table 1 Education Status of Mother

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

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 breastfeeding.

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 Sickness/ Illness of Mother (7.1%), No/ poor production 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 donors breast milk (35%) as the best alternative feeding options for the baby

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

Table 2: Reasons for not accepting donor’s milk

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-

“Bachche ko usse lagaav ho jaata hai, jiska dooddh peeta hai”; “Hamare sammaj mein kisi aur maa ka dooddh nahi pilaate”; “Pata nahi kaunsi jaat ki ma ka dooddh hai”; “Hamare bachche ko kisi dusre ki maa ka dooddh pilaane se acha, ham gaaye ka dooddh hi pilaayege”

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

<table>
<thead>
<tr>
<th>Reason for not willing to donate</th>
<th>Women(n=53)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religious/ caste / other cultural beliefs</td>
<td>13 (24.5)</td>
</tr>
<tr>
<td>Bank not accessible</td>
<td>11 (20.7)</td>
</tr>
<tr>
<td>No Response</td>
<td>29 (54.7)</td>
</tr>
</tbody>
</table>

The educational status of study participants was poor, 44% of participants were illiterate. In our study, we found that 68.8% mothers and 63.3% grandmothers knew benefits 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 conducted by Pandey D et al in 2013 in Karnataka found that 68.8% mothers and 63.3% grandmothers 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% grandmothers compared to our study (20.6%). This may be due to difference in literacy rate among participants in both the studies, in our study 44% of participants were illiterate while only 32% grandmothers and 1.6% mothers were illiterate in comparative study.20

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, despite the poor educational status. The findings
were similar to study conducted by Mackenzie C et al in May 201321.

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 Counselling 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.

REFERENCES.