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Knowledge and Attitude about Human Milk Donation among Lactating Mothers at A Tertiary Care Hospital

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ABSTRACT

Background: The advantages of breast milk to a child are so essential that even the mother's absence must not deprive the baby of them. Human milk banking is essential to ensure all infants have access to breast milk. Human milk banks provide the service of collecting, screening, and processing human milk given by nursing mothers who have not been genetically linked to the recipient infant.

Aim: The goal is to evaluate lactating mothers' knowledge as well as attitudes about human milk donation.

Material and Methods: Mothers who have just given birth and are breastfeeding were surveyed using a hospital-based questionnaire at Niloufer Hospital, a tertiary care paediatric hospital in Hyderabad.

A total of 150 mothers who satisfied the study's inclusion criteria have been included. The mothers informed written consent was obtained. The data about Knowledge and Attitude about human milk donation was collected by using a predesigned semi-structured questionnaire that was read out to the mothers. The data was entered into a Microsoft excel sheet and results were computed using SSPS 20. The significance was computed using the chisquare test.

Results: Among 150 lactating mothers, 119 was aware of milk banking. Majority of the mothers 88% (132) have been willing to donate the milk and 12% (18) of mothers refused donating human milk due to reasons like Concerned about not being able to provide enough breast milk for their own infant, cultural practices and traditions discourage this. In the present study, source of information for majority of the donors were healthcare workers (103/150). Among these majority were urban residents. 46%(69) of mothers believed that donor milk contains more nutrients than formula feed.

Conclusion: Most postpartum mothers had a standard level of knowledge about the importance of donating breast milk. They worry about not producing enough milk for their own child, are under the impression that formula is preferable to breast milk as a supplement, and are under the impression that giving their milk may harm the attachment between themselves and their child.

Keywords: Knowledge, Attitude, Human milk donation, Lactating mothers.

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INTRODUCTION

Breastfeeding or getting donated human milk provides the greatest possible nutritional start to life for every infant. Babies do best on a diet of human breast milk, the healthiest kind of milk available.[1] Donor human milk and Breast milk have been shown to be the ideal nutritional option for the most delicate and vulnerable newborns in the neonatal intensive care unit. The advantages of breast milk to a child are so essential that even the mother's absence must not deprive the baby of them. While a few mothers are urgently attempting to breastfeed their kids despite limited success owing to physical infirmities, surgery, or chronic diseases, others are unable to give them formula because of the stress, agony, and stomach distress it causes in their babies.

For babies who are unable to be breastfed, donor milk is the next best option, according to the WHO (World Health Organization). Donor breast milk loses its micronutrients as well as anti-infective properties due to the pasteurization and degradation processes. Donor human milk is thus not a perfect substitute for fresh breast milk. In order to ensure that all infants have access to breast milk, human milk banking is an initiative that must be taken. The collection, screening, and processing of human milk given by nursing mothers who have not been biologically related to the receiving newborn is the work of a service known as a human milk bank.[2]

The initial step that has to be taken before introducing a new health intervention is to evaluate whether or not it will be acceptable to lactating mothers. To learn more about the Attitude and knowledge among lactating mothers about human milk donation, the current research was carried out.

MATERIAL &METHODS

The current research was done from July 2019 to December 2021 for a period of one year six months and is a questionnaire based Prospective study done at Niolufer Hospital for Women and Child Health, Hyderabad, a tertiary care pediatric hospital. The approval from institutional ethics committee was obtained. The study comprised of 150 lactating mothers who attended well baby clinic and Dhatri milk bank at Niloufer Hospital. The informed written consent has been gotten from mothers. The mothers have been interviewed based on a predesigned semi-structured questionnaire. (Figure1). Mothers were made aware of the study's objective and its non- intervention nature.

Inclusion Criteria

Lactating mothers

- Attending well baby clinic
- With babies in NICU
- With good health willing to donate
- Who are there in the setting when the data are being collected

Exclusion Criteria

- Smokers, tobacco and nicotine users
- HIV, Hepatitis B, TB positive mothers
- Breast infection or a fungal infection of the areola or nipple
- Infection of the breast area with herpes simplex virus or varicella zoster virus
- Has ever had hepatitis or jaundice

Data was done using Microsoft excel 2013 version and analysis was done using SSPS 20.0 version Data presented as percentages and association between variables was studied using the chi square method $P<0.05$ is considered as statistically significant

ISSN: 0975-3583,0976-2833 VOL13, ISSUE 06, 2022

Figure 1: Semi Structured Questionnaire

Basic Data

1. Name
2. Age of mother

Age	
lessthan20years	1
20to30years	2
morethan30years	3

3.IP NO

4.Residence

Rural	1
Urban	2

5. Education of the mother

Illiterate	1
Upto8thclass	2
9th to12thclass	3
Beyond12thclass	4

6. Family income

LessthanRs10,000	1
Rs10,000- Rs20,000	2
>Rs20,000–Rs30,000	3
>Rs30,000	4

7.Parity of the mother

Primipara	1
Multipara	2

8. Type of the delivery

Primipara	1
Multipara	2

9.Occupation of the mother

Primipara	1
Multipara	2

Knowledge about Breast Milk Donation

1.Had heard of breast milk donation or milk bank? NO-1, YES-2
2. Source of information-
Health care worker -1, Mass media -2, Friends /relatives -3
3. If you do not have sufficient breast milk, is donor breast milk better than formula feed?
No-1, Yes-2
4. Donor breast milk contains more nutrients than formula feed? NO-1, YES
5. Donor breast milk provides some immunological benefits? NO-1,YES-2

ISSN: 0975-3583,0976-2833 VOL13, ISSUE 06, 2022

6. Donor breast milk increases the risk of allergy in recipient infants? NO-1,YES-2
7. Donor breast milk may transmit infections to the recipient infant?NO-1, YES-2

Attitude towards Donor Breastmilk

1. Breast milk of a mother is only beneficial to her own child. Agree -1, Disagree-2
2. I would prefer to feed my baby formula feed rather than donated breast milk.
   Agree -1, Disagree-2
3. All nursing mothers must be informed about and encouraged for donating milk to milk banks. Agree -1, Disagree-2
4. Donor breast milk decreases the bonding between mothers and baby. Agree -1, Disagree-2
5 What would you prefer to do to excess breast milk?
Pour out-1, donate to milk bank or other babies-2

RESULTS

Out of 150 mothers, majority (111/150) belonged to 20 to 30 years age group followed by <20 years (29/150) and >30 years (10/150). 55.3% of mothers were from rural areas and 44.6% mothers were from urban areas. Most of the mothers were educated upto 8th class (70) followed by 9th -12th (41) and illiterate (21). 18 mothers studied beyond 12th class. 71 mothers had family income between 10,000-20,000 rupees followed by 33 mothers with family income between 20,000-30,000 and 24 mothers had family income<10,000 rupees.112 mothers were working and 38 mothers were not working.

Majority of mothers were multiparous 64.6% (97) and 53 mothers were primies. 85 mothers delivered by NVD and 65 mothers underwent LSCS.

Out of 150 mothers, 79% was aware of milk banking among these mothers, majority (71.4%) belonged to 20-30 years age group. 51.3% rural mothers were aware of milk banking. There was no significant association found between family income, educational status, parity, type of delivery, working status and knowledge of milk banking. (P>0.05). There was a significant correlation found between knowledge and residence(Table 1).

Table 1: Residence and Source of Information

RESIDENCE	NO SOURCEN (%)	HEALTH CAREWORKER N (%)	MASSMEDIN (%)	FRIENDS/ RELATIVESN%)
RURAL(N=83)	23(71.9)	47(45.6)	6(100.0)	7(77.8)
URBAN (N=67)	9(28.1)	56(54.4)	0(0.00)	2(22.2)
TOTAL	32(100.0)	103(100.0)	6(100.0)	9(100.0)

P VALUE=0.003

62 of the mothers surveyed out of a total of 150 agreed that donor breast milk is preferable to formula feed in cases when mother's milk supply is inadequate. There was no significant association found with demographic factors like age, residence, parity, type of delivery, not working women, family income and educational status.

In the present study, source of information for majority of the mothers were healthcare workers (103/150). Among those majority were urban residents 69 out 0f 150 mothers believed that donor milk contains more nutrients than formula feed. There was no significant association found on this belief with age, educational status, family income, parity & type of delivery. More urban residents significantly believed this compared to rural donors. (P<0.05).

ISSN: 0975-3583,0976-2833 VOL13, ISSUE 06, 2022

86 out of 150 mothers believed that donor breast milk provides some immunological benefits. There was no significant association found on this belief with age, education status, family income, parity, type of delivery and occupation of mother.

The majority of breast milk mothers (92 out of 150) were of the opinion that receiving breast milk from a donor increases the recipient infant's chance of developing allergies. 86 of 150 mothers believed that donor breast milk may transmit infections to the recipient infant. Regarding these beliefs, there was no significant association found with age, family income, education status, parity, type of delivery and occupation of mother.

70 out of 150 mothers believed that mother's breast milk is only beneficial to her own child. There was no association found with socio-demographic factors in regards to this belief.($P>0.05$) .83 out of 150 mothers preferred to feed formula milk rather than donated breast milk . 90 mothers agreed for donating milk to milk banks.110 mothers believed that donor breast milk decreases the bonding between mother and baby. 105 mothers wanted to express the excess breast milk. There was no significant association found with socio-demographic factors and mothers attitude.

58.2% of multipara mothers believed that donor breast milk decreases the bonding between mother and baby. This association was statistically significant. ($P<0.05$)88% of mothers accepted and 12% of mothers refused for milk banking. Among those who accepted for donation,34.7% had preterm baby in NICU on parenteral feeds. 23.3% accepted due motivation by lactational counselors. 16% accepted due to excessive milk production. Most of the mothers who refused to donate stated concerns about their own supply of breast milk as the primary reason for their refusal.(Table 2)

Table 2: Reasons for acceptance and refusal for donating Human Milk

	Frequency	Percent
ACCEPTANCE	**132**	**88.0**
Excessive milk production	24	16.0
Lactating mothers with dead/stillborn baby	18	12.0
Preterm baby in NICU on parenteral feeds	52	34.7
Motivation by lactational counsellors	35	23.3
Altruistic feelings	3	2.0
REFUSAL	**18**	**12.0**
Fear of not having milk for own baby	10	6.7
Against traditions and customs	3	2.0
Mother is sick	2	1.3
Family not approving	3	2.0
Total	**150**	**100.0**

DISCUSSION

The most beneficial nourishment for an infant's overall growth and development is breast milk from their mother. Breastfeeding is best for babies, and all mothers should do it. However, in some instances, if mother is unable to feed her child directly, her breast milk must be expressed as well as given to the newborn. This is especially important in the case of preterm babies and other infants who are at a high risk for complications.

Breastfeeding has been shown to dramatically lower the risk of infection, particularly necrotizing enterocolitis, in infants, and when a mother's own milk is unavailable or inadequate, Pasteurized donor human milk is the next best option.[6,7] Babies who have not been breastfed reportedly need more medical attention in their first year of life, including

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more doctor's visits, hospitalizations, and medication.[8] It was stated in the 2013 Census that there were 28 neonatal fatalities for every 1000 live births in India, making it the country with the highest incidence of low birth weight infants. The National Health Mission, Government of India has set one of its primary objectives as lowering the country's infant mortality rate.[9] Donor mother's milk obtained from a human milk bank may have a significant effect on decreasing the death rate of newborns.[3]

This research employed a questionnaire to evaluate women's knowledge as well as attitudes towards human milk banking; the results were discussed and analyzed. Tertiary care facility in Hyderabad, India was used for the research. The study was carried out on 150 lactating mothers to assess knowledge, attitude and acceptance of human breast milk donation. Out of150 mothers, majority 74% belonged to 20 to 30 years age group. 55.3% of mothers were from rural areas and 44.6% mothers were from urban areas. Most of the mothers were educated upto 8th class (70).47% mothers had family income between 10,000-20,000 rupees followed by 22% mothers with family income between 20,000-30,000 and 24 mothers had family income<10,000 rupees.74% mothers were working and 25% mothers were not working. 64% of mothers were multiparous and 35% mothers were primies. 56% mothers delivered by NVD and 43.3% mothers underwent LSCS.

Out of 150 mothers, 79.3% was aware of milk banking among these mothers, majority (71.4%) belonged to 20-30 years age group. There was no significant association found between family income, educational status, parity, type of delivery, working status and knowledge of milk banking, not working women, family income and educational status. In the present study, source of information for majority 68.6% of the mothers were healthcare workers.

In cases when there's just not enough breast milk, 41.3% of mothers believe that donor milk is beneficial. More urban residents significantly believed this compared to rural donors.57.3% of mothers believed that donor breast milk provides some immunological benefits. There was no significant association found on this belief with age, education status, family income, parity, type of delivery and occupation of mother.

61.33% of mothers believed that donor breast milk rises the risk of allergy in recipient infants.57.3% of mothers believed that donor breast milk may transmit infections to the recipient infant. Regarding these beliefs, there was no significant association found with age, education status, family income, parity, type of delivery and occupation of mother.

46.6% believed that mother’s breast milk is only beneficial to her own child. There was no association found with socio-demographic factors in regards to this belief.(P>0.05) .55% mothers preferred to feed formula milk rather than donated breast milk . 60% mothers agreed for donating milk to milk banks.73% mothers believed that donor breast milk decreases the bonding between mother and baby. 70% mothers wanted to express the excess breast milk. There was no significant association found with socio-demographic factors and mothers attitude.

58.2% of multipara mothers believed that donor breast milk decreases the bonding between mother and baby. This association was statistically significant. 88% of mothers accepted and 12% of mothers refused for milk banking. Among those who accepted for donation ,34.7% had preterm baby in NICU on parenteral feeds. 23.3% accepted due motivation by lactational counselors. 16% accepted due to excessive milk production. Among those who refused to donate, majority were in fear of not having enough milk for their own baby.

According to the findings of this research, mothers in India have a limited understanding of the idea of donor breast milk and a limited awareness of the policy on the use of Donor Breast Milk (DBM), but they have a relatively high desire to engage in the concept. Similar results were found in a survey of 198 mothers at a tertiary hospital in south Nigeria [4]; While just 25.8% of respondents had heard of donor-conceived breast milk (DBM), 59.1%

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were firm believers that human milk banking is essential to aiding orphaned and abandoned infants. Although only 41.6% of women in a poll of 448 in Izmir, Turkey were familiar with the idea of milk banking, 68.8% were eager to give their breastmilk.[5] Similarly, we found that healthcare providers were the most prevalent source of knowledge regarding donor breast milk, and a research in south Nigeria[4]by Iloh KK et al. Contrarily in a similar study in Turkey, media accounted for 85.7% of the information source. While just 28% of Nigerian women have access to the internet and other forms of electronic media, 46% of Turkish women have.[4,5] This difference might be explained by the larger exposure to media forms available to mothers in Turkey.

We observed that mothers who knew about donor breast milk and who preferred it to baby formulae were more likely to be actual donors. Consistent with the results of a previous multi-center research conducted in eastern Ethiopia, this data suggests that mothers who have heard about donor milk banks are more likely to adopt the practice. Knowledge of donor milk, access to information on breast milk expression, and help from unit personnel were all associated with a greater likelihood of breast milk donation, according to research conducted in Rio de Janeiro, Brazil.[11]

CONCLUSION

Our research shows that although most women are familiar with the idea of human milk banking, only a small percentage are willing to contribute their own breast milk for this purpose. The main cause of this is because people aren't aware of the benefits of human milk, thus neither they nor their families are prepared to break with cultural norms and give their children formula. For the sake of the future of thousands of highrisk neonates born in our country, the government, health specialists including paediatricians, lactation experts, and NICU nursing staffs, and social workers should join hands to disseminate the idea of human milk bank during the prenatal period itself.

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