

Knowledge, Attitude and Perception of Young Women about Human Breast Milk Donation: A study from North India

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Citation this Article: Khina Sharma, Ramandeep Kaur, Mahendra Kumar, Sushma, Priyanka Thakur, Ruchika Sharma, Ankita Thakur, Asha Devi, “Knowledge, Attitude and Perception of Young Women about Human Breast Milk Donation: A study from North India”, IJMSIR- June - 2021, Vol – 6, Issue - 3, P. No. 59 – 66.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Introduction: Donor’s breast milk is the next best alternative for infant’s nutrition after mother’s breast milk. Donated breast milk is breast milk expressed by a mother that is then processed by a milk bank for use by a recipient that is not the donor mother’s own baby. Present study was conducted to assess the knowledge, attitude and perception of the young women about breast milk donation and acceptance.

Material and methods: A cross sectional study design was considered for the study and 210 young women of age 18-30years was recruited by snowball sampling. A pre-validated self-structured questionnaire was used to assess knowledge, attitude and perception of participants about human breast milk donation. Research data was collected by an electronic survey

during 20th December 2020 to 02nd January 2021 by google forms.

Results: Study results revealed that majority of young women (48.1%) demonstrated good knowledge and high positive attitude (53.8%) about human breast milk donation. It was found that knowledge and attitude of participants about human breast milk donation was statistically associated at p value <0.05.

Conclusion: Our study found that, most of young women had good knowledge and high attitude as well as satisfactory perception regarding donation and acceptance of human breast milk. However some of the participants had denying perception regarding donor’s breast milk.

Keywords: Human breast milk donation, milk banking, knowledge, perception, Indian women, Breast feeding

Introduction

Human breast milk is the single best nutrient rich food for the growth and development of an infant particularly in the initial six months of life¹. It is now unanimously accepted that there is no commercial infant formula that can equivalent with breast milk. In addition to the suitable amounts of carbohydrate, fat, and protein, it also provides minerals, vitamins, hormones, and digestive enzymes. Breast milk also contains bioactive substances like antibodies and lymphocytes from the mother that helps to the development of the newborn's underdeveloped immune system especially for the preterm and/or low birth weight newborns². Apart from the immune system, other long-term benefits of the use of human breast milk in preterm include but not limited to decreased incidences of retinopathy and necrotizing enterocolitis, better neurocognitive development and lower risk of development of childhood obesity and diabetes³. It has been noted that newborns most susceptible to morbidity and mortality are those at greatest risk of not receiving the lifesaving benefits of breast milk. Therefore, to ensure optimal infant health, survival, nutrition and development the WHO and UNICEF recommended initiating breastfeeding within one hour of birth, exclusive breastfeeding for the first 6 months and continued breastfeeding with complementary feeding for 2 years of age^{4,5}.

It is reported that the infants who were never breastfed faced extra visits to doctors, extra days of hospitalization, and extra prescriptions in the 1st year of life as compared to those exclusively breastfed.⁶ As per 2021 Census, India has the highest number of low birth weight babies and neonatal mortality rate, where 28.7 deaths/1000 live births were reported⁷. It is also reported that breastfeeding is inadequate in India as

only 55% of babies are exclusively breastfed 0-6 months and 41% are able to begin breastfeeding within an hour of birth. According to a study on the cost of not breastfeeding claims that annually inadequate breastfeeding results in 100,000 preventable child deaths (mainly due to diarrhea and pneumonia) in India. The total health system cost of not breastfeeding estimated for India as calculated 732.43 Crore. The World Health Assembly has set a target to increase global exclusive breastfeeding rate from 38% in 2012 to 50% in 2025 globally. To contribute to this goal India has to achieve a 65.7% exclusive breastfeeding rate by 2025 as per the WHO tracking tool⁸. Therefore every mother should breastfeed their infants. But if under certain circumstances such as certain medical conditions or insufficient milk production, mother is unable to feed her infant then donor human breast milk is the next best alternative. Donor mother's milk fed through human milk bank can have great impact on reducing the neonatal mortality rate. In India, although nearly 30 human milk banks are in service to society, the growth is very slow. The main reasons are lack of awareness among community people and the lack of promotion in the industry too⁹.

WHO recommendation states that for infants who cannot receive breast milk from their own mothers, the next preferred option is donated human breast milk. Donated breast milk according to the National Institute of Health and Clinical Excellence (NICE) is breast milk expressed by a mother that is then processed by a donor milk bank for use by a recipient that is not the mother's own baby¹⁰. The use of donor breast milk over infant formulas in vulnerable newborns has been shown to significantly impact on neonatal mortality rates in countries around the world. Therefore, authors intended to conduct a research study on young women

in a view point to assess their knowledge, attitude and perception regarding human breast milk donation as it is necessary for the young generation to have ample comprehension and concept about human breast milk donation.

Material and methods

A cross sectional study design was considered for the present study. 210 young women were recruited by non- probability snowball sampling technique and inclusion criteria included women of age group 18-30years. A self-structured questionnaire containing 12 knowledge questionnaire and a five point likert scale was used for assessment of knowledge and attitude regarding human breast milk donation respectively. Study participants were also asked about their perception regarding breast milk donation and acceptance. An electronic survey was conducted during 20th December 2020 to 02nd January 2021 by google forms. Consent was taken from each participant and data was kept confidential. Data was then analysed by descriptive and inferential statistics in SPSS-20 software.

Results

In the present study total participants were 210 young women. The mean age of participants was 21.5±2.8years with range 18-30years. Half of the participants had completed higher secondary education and more than one third were students and about 22% were in skilled occupation. Majority of study participants (92%) belong to middle class family. 180(85.7%) were Hindus by religion and 188(89.5%) were single. (Refer table 1)

Table 1: Sociodemographic profile of study participants
N=210

| Variable | Frequency (f) | Percentage (%) |
|-------------------------|-------------------|----------------|
| Age | | |
| Less than 20years | 49 | 23.3 |
| 21-25years | 140 | 66.7 |
| 25-30years | 21 | 10 |
| Mean±SD(Range) | 21.47±2.82(18-30) | |
| Educational status | | |
| Higher secondary | 105 | 50 |
| Graduate | 89 | 42.4 |
| Post-graduate and above | 16 | 7.6 |
| Occupation | | |
| Student | 79 | 37.6 |
| Unemployed | 35 | 16.7 |
| Unskilled | 09 | 4.3 |
| Semi-skilled | 41 | 19.5 |
| Skilled | 46 | 21.9 |
| Socioeconomic class | | |
| Low | 08 | 3.8 |
| Middle | 193 | 91.9 |
| High | 09 | 4.3 |
| Religion | | |
| Hinduism | 180 | 85.7 |
| Sikhism | 25 | 11.9 |
| Islam | 04 | 1.9 |
| Christian | 01 | 0.5 |
| Marital status | | |
| Single | 188 | 89.5 |
| Married | 22 | 10.5 |

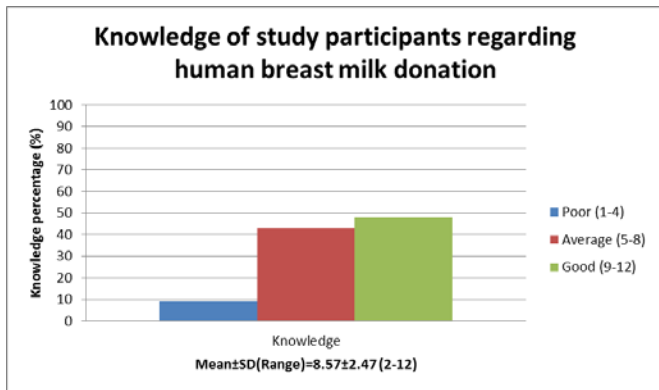


Figure 1: Knowledge percentage of study participants regarding human breast milk donation

Figure 1 depicts that more around 101(48.1%) of study participants had good knowledge about human breast milk donation whereas, 90(42.9%) participants demonstrated average knowledge and only 19(9%) had poor knowledge regarding human breast milk donation.

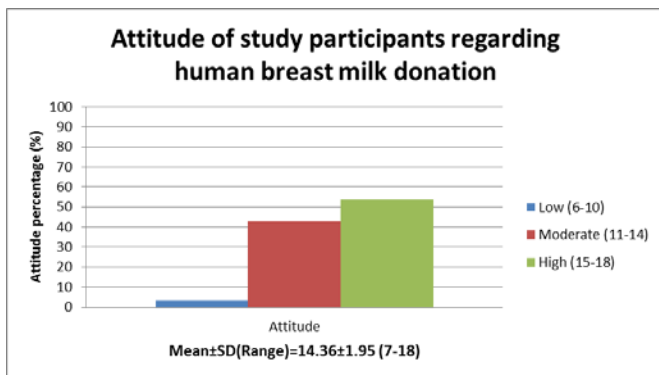


Figure 2: Attitude percentage of study participants regarding human breast milk donation

Figure 2 depicts that 113(53.8%) of study participants had high attitude about human breast milk donation whereas, 90(42.9%) participants demonstrated moderate attitude and only 7 (3.3%) had low attitude regarding human breast milk donation. Association between knowledge and attitude about human breast milk donation was found statistically significant at p value <0.05. (Refer table 2)

Table 2: Association of knowledge with attitude of study participants regarding human breast milk donation

| Attitude | Knowledge | | | Chi-square (df) P value |
|-----------------|-------------|----------------|--------------|----------------------------|
| | Poor (n=19) | Average (n=90) | Good (n=101) | |
| Low (n=7) | 03 | 01 | 03 | 17.8 (4) 0.001 |
| Moderate (n=90) | 11 | 44 | 35 | |
| High (n=113) | 05 | 45 | 63 | |

Table 3 depicts perception of participants about acceptance and donation of human breast milk. The prime reasons for acceptance of human donor's breast milk included sick mothers (72.9%), inadequate breast milk (61.4%), unsafe breast feeding (53.3%), insufficient weight gain (33.8%), mother unavailable (16.2%) and expensive infant formula (14.8%). Participants also reported that prime cause of not accepting donor's breast milk is fear of transmission of infections (67%). It was seen that 65.7% participants would like to donate breast milk in future to help a child in need. However 5.7% will never donate breast milk in future. (Refer table 3).

Table 3: Perception regarding human breast milk donation and acceptance

N=210

| Variable | Frequency (f)* | Percentage (%) |
|---|----------------|----------------|
| Reasons for Acceptance of human breast milk | 153 | 72.9 |
| Mother is sick and cannot breast feed | 129 | 61.4 |
| Inadequate breast milk | 112 | 53.3 |
| Mothers breast milk is not safe for baby | 71 | 33.8 |
| Baby is not gaining weight because of inadequate milk | 34 | 16.2 |
| Mother is not around and baby is crying | 31 | 14.8 |
| Infant formula is expensive | 45 | 21.4 |
| Other unspecified reasons | | |
| Reasons against Donor's Breast Milk acceptance | 140 | 67 |
| Concerns about transmission of infections like HIV, Hepatitis B and C | 82 | 39.2 |
| Not sure its hygienically prepared | 70 | 33.5 |
| Social and societal fear/ stigma | 64 | 30.6 |
| Donor milk is not culturally/ religiously accepted | 56 | 26.8 |
| Fear of transmission of bad genetic traits | 41 | 19.6 |
| Fear of spouse and in-laws | 36 | 17.2 |
| Preference of infant formula over Donor milk | | |
| Reasons for willingness to donate breast milk: | 138 | 65.7 |
| To help a child in need | 129 | 61.4 |
| To support the promotion of health of children | 109 | 51.9 |
| Breast milk is the best source of food for baby | 62 | 29.5 |
| To support other mothers | 12 | 5.7 |
| Actually, I do not want to donate breast milk ever. | | |

| | | |
|--|-----|------|
| Reasons for unwillingness to donate breast milk | | |
| | 105 | 52.8 |
| Fear of not having enough breast milk for own baby | 103 | 51.8 |
| Spouse and family may not like it | 94 | 47.2 |
| Against religion/traditions / customs | 89 | 44.7 |
| Indians do not like the idea of breast milk donation | 31 | 15.6 |
| May cause Breast sagging | | |

* multiple responses are allowed

Discussion

Mother's breast milk is the best available source of nutrients of newborns and infants. It is even more essential for sick babies and those born premature. Mother's milk gives them a better chance of survival and early discharge from the hospital. Therefore, World health organization has recommended providing exclusive breast feeding till 6 month of the age and till 2 years as supplementary feeding. However some mothers are unable to breast feed the baby due to certain conditions. In such cases donor's breast milk is the next best alternative.

In India there are over 1.4 million deaths of children under the age of five and almost fifty percent of those cases are babies under 28 days. Breast milk plays a prime role in preventing these deaths. In India, the first human milk bank was started on 27th November 1989 in Sion Hospital, Mumbai. This was also Asia's first milk bank back in the day. Thirty years later, India currently has only 30 operational human milk banks. These milk banks, as numbered as they are, cannot fulfil the true requirement of donated breast milk for infants in need. Biggest reason is being the lack of awareness surrounding the practice of Breast Milk Donation & the use of Donated Breast Milk¹¹. Therefore it is really necessary for the Indian women to

understand the concept of breast milk donation so that the statistics of infant mortality and morbidity can be decreases predominantly.

Present study was conducted on 210 young women to assess their knowledge, attitude and perception about human breast milk donation and acceptance. Young women of age group 18-30 years were recruited by non-probability snowball sampling. This study revealed that majority of young women (48.1%) demonstrated good knowledge about human breast milk donation and only 9% showed poor knowledge about human breast milk donation. Discussing about attitude of participants regarding human breast milk donation, it was found that more than half of participants i.e. 113(53.8%) had high positive attitude and 90 (42.9%) expressed moderate attitude about human breast milk donation. However 7(3.3%) participants demonstrated low attitude regarding human breast milk donation. It was found that knowledge and attitude of participants about human breast milk donation was statistically associated at p value 0.001. On a contrary, a study done by Kaur M et al (2019) on 200 parous women found that majority of the subjects had inadequate knowledge (56.5%) and neutral attitude (66.5%)⁹.

It was revealed in the present study that majority of young women perceive that reasons for donation of

human breast milk particularly includes women's willing to help a child in need and for health promotion of infant. However 12(5.7%) refused to donate breast milk in future. Study participants also believe that causes of unwillingness for donation of breast milk includes fear of not getting enough milk to own infant, fear of spouse/family and religious and traditional beliefs. It was also recognised that young women belief that parents prefer human donor's breast milk for the infant due to inadequate breast milk production, sick mothers, unsafe breast feeding etc. A study conducted by Melwani V et al (2018) on 350 Antenatal and Postnatal women of Bhopal, India found that willingness to accept the milk was 85.4% and to donate was 84.9% in study participants¹². It was highlighted that main ground for not accepting donor's breast milk to a baby in need included fear of infectious diseases like HIV, Hepatitis B and C etc., hygiene issues, societal stigma, no acceptance in culture/religion and even fear of transmission of bad genital traits. Similar results was found by a study conducted by Senol D K (2015) et al on Muslim mothers, reported that 45.9% women believe that human donor's breast milk acceptance is against religious rules and by 23.6% women believe that it has risk of infectious diseases¹³.

Conclusion

Our study found that, majority of young women had good knowledge and high attitude as well as satisfactory perception regarding donation and acceptance of human breast milk. However some of the participants had denying perception regarding donor's breast milk. It may be due to lack of knowledge or due to cultural and religious restraints. Therefore it is prime requisite to educate the younger generation about concept of human breast milk donation, breast milk banking and its benefits for infants.

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