

“A STUDY TO ASSESS THE KNOWLEDGE AND ATTITUDE REGARDING HUMAN MILK BANKING AMONG FINAL YEAR NURSING STUDENTS IN SELECTED NURSING COLLEGE OF MORADABAD.”

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ABSTRACT

Background: Breast milk is an important first food of infant's life which provide a nutritious and healthy start for the his/her life. In India majority of the mothers are not aware of breast milk expression, storage, donation of breast milk which hinders the provision of breast milk to the baby and results in disturbed health status of a child as mother get back to her job.

Objectives: To assess the knowledge and attitude regarding human breast milk banking among final year nursing students. To determine the association between knowledge and attitude with selected demographic variables.

Methods: A non-experimental descriptive study design was adopted. Data was collected by using a self-administered questionnaire and structured checklist prepared by the researcher from the 130 final year nursing students studying in nursing college of Moradabad. The sampling technique used for the study was non-probability purposive sampling technique and data was summarized and evaluated by differential and inferential statistics.

Results: There was hundred percent response rate. Of the total students, 64% students had average Knowledge, 33% had good knowledge and 3% had poor knowledge. Regarding the attitude, majority of students had positive attitude (88.2%) and (11.8%) had neutral attitude.

Key words: Human milk bank.

Introduction:

Breastfeeding is the best method of infant feeding because human milk continues to be the only milk which is tailor-made and uniquely suited to the human infant. All mothers should be encouraged to breast-feed their infants. When a mother, for some reason, is unable to feed her infant directly, her breast milk should be expressed and fed to the infant. If mother's own milk is unavailable or insufficient, the next best option is to use pasteurized donor human milk (PDHM). India faces its own unique challenges, having the highest number of low birth weight babies, and significant mortality and morbidity in very low birth weight (VLBW) population. In our country, the burden of low birth weight babies in various hospitals is about 20% with significant mortality and morbidities.^{1,2} Feeding these babies with breast milk can significantly reduce

the risk of infections. Hence the Government, health experts and the civil society must work together to propagate the concept of human milk banking for the sake of thousands of low birth weight and preterm babies.

A human milk bank or breast milk bank is a service which collects, screens, processes, and dispenses by prescription human milk donated by nursing mothers who are not biologically related to the recipient infant. The optimum nutrition for newborn infants is breastfeeding, if possible, for the first year.³ Human milk banks offer a solution to the mothers that cannot supply their own breast milk to their child, for reasons such as a baby being at risk of getting diseases and infections from a mother with certain diseases, or when a child is hospitalized at birth due to very low birth weight (and thus at risk for conditions such as necrotizing enterocolitis), and the mother cannot provide her own milk during the extended stay for reasons such as living far from the hospital.⁴

Breast milk donation has been an age-old practice. In earlier times, a woman, who was referred to as a wet nurse, used to breastfeed an unrelated infant directly. Today, this practice has been revolutionized by making it safer for the child and the volunteer.

Instead of feeding directly, the breast milk is collected by milk banks and kept sterilized. The milk undergoes pasteurization and is stored at low temperatures. The entire procedure is carried out in a systematic manner and involves proper assessment and screening of the mother before the milk is collected. By doing so, it is ensured that the volunteer's health is not put at stake. Mothers who lose their babies after birth can be active volunteers in breast milk donation.

Breast milk banks play an important role in preserving a newborn life. The human milk collected in these banks is extensively used in Neonatal Intensive Care Units (NICU) for babies who are premature or are born with diseases like short-gut syndrome, mal-absorption or immune deficiencies.

A study was conducted by Pantazi et al. from London, England, regarding support for mothers to provide breast milk. Out of 55 staffs, 53% of pediatric staff had received no training in breastfeeding during or after nursing school. 22% of neonatal staff had no relevant training, yet they frequently were asked to help mothers in providing breast milk for their infants. Some respondents demonstrated lack of relevant knowledge including the importance of breast milk, ideal frequencies for milk expression, and the potential to establish lactation at any time.⁵

A quantitative approach with non-experimental exploratory research design was conducted to assess the knowledge and attitude regarding the storage of breast milk for the infants. 60 staff nurses were selected by non-probability convenient sampling technique. Data was collected using a structured questionnaire containing 40 multiple choice questions for knowledge and a rating scale with 20 items for attitude assessment and the data was analyzed using descriptive and inferential statistics. Study findings revealed that 15% staff nurses had poor knowledge, 66.66% had average knowledge and 18.37% had good knowledge. In case of attitude 68.33%, 3.33%, 28.33% have positive, negative and neutral attitude respectively among the staff nurses regarding storage of breast milk. A weak correlation (0.2) was found between knowledge and attitude. Religion had a significant relationship with knowledge whereas age and source of knowledge had a high degree of significance with attitude (at $p < 0.05$ level). It was concluded that staff nurses had average knowledge with a positive attitude towards the storage of breast milk. An information booklet was developed and distributed to the staff nurses for further reference.⁶

Nurses are the pillar of the healthcare delivery system. They take care of people belonging to all age groups across the life cycle. Being an important part of healthcare delivery system, he/she has to educate the

mothers about breast feeding, its importance, benefits, storage and so on. Nurses working in NICU, PICU and maternity wards must know the concept of storing breast milk.

Even though this concept of breast milk banking is a familiar topic for Indian mothers, it is the duty of nurses to give education to working mothers about storage of breast milk. Final year nursing students are the future staff nurses who can take up this topic seriously and teach mothers. This study is aimed to understand the students' existing knowledge and attitude regarding breast milk banking, so additional knowledge can be given if it is required in future. The objectives of the study were to assess the knowledge and attitude of final year nursing students regarding breast milk banking and determine the association knowledge, attitude with selected demographic variables.

Material and Methods

Quantitative non-experimental research approach was adopted in this study. Descriptive study design was used to conduct the study. Nursing college of Moradabad was selected purposively for the study. All final year nursing students, who gave consent to participate in the study, were included for study. Nonprobability purposive sampling technique was used to select the sample. The sample size was 130 final year nursing.

The research tools used for the study were a self reporting questionnaire and 4-point Likert scale to assess the attitude regarding storage, expression, milk donation and wet nursing. The self-reporting questionnaire was used to assess the knowledge regarding constituents of breast milk, importance, storage, breast milk banking, and option for preserving the milk in working woman.

Categories of knowledge score

Category	Poor	Average	Good
Score	0-8	9-16	17-25

Each correct answer was awarded a score of 1 mark and for wrong answer, 0.

Categorization of Attitude Scores: Four-Point Likert Scale (18 Items, 17 Positive, One Negative)

S. NO	Question	Strongly agree	Agree	Disagree	Strongly disagree
		4	3	2	1

S.NO	Category	Score
1.	Negative attitude	1-24
2.	Neutral attitude	25-48
3.	Positive attitude	49-72

The tool was validated by four experts and it was found to be reliable (0.82). Ethical clearance was obtained from Institutional Ethical Committee (IEC). The collected data was summarized and tabulated by descriptive statistics such as mean, median, standard deviation, correlation and inferential statistics.

Results and Discussion : The results were discussed under four sections.

Section I: Demographic Variables

With regard to their age, majority (78%) of the students were between 20 and 22 years of age, 73.8% were females and 70.6% of the students belonged to Hindu religion, 61.1 students belonged to rural areas. Considering their awareness regarding breast milk banking, majority 61.9% were aware with regard to the source of information 65.9% got information through internet.

Section II: Knowledge and Attitude

Assessment Scores Out of total students, 02% had good knowledge, 54% had average knowledge and 44% had poor knowledge (Figure. 1). The mean score of knowledge was 9.6 ± 3.46 With regard to the attitude, 80.76% of students had positive attitude and 19.23% were with neutral attitude (Figure. 2). The mean attitude score was 52.6 ± 4.46 .

Section III: Correlation between Knowledge and Attitude

The present study results showed a positive correlation ($r=0.27286$) between knowledge and attitude.

Section IV: Association between knowledge with selected demographic variables were computed (Table 1)

Table 2 shows the association between knowledge and age of the sample with regard to breast milk banking. Rest of the demographic variables like gender, religion, awareness about BMB, source of information and attended training are not associated.

Association between attitude and selected demographic variables were computed (Table 3)

Table 2 shows the association between attitude and attending any awareness program of the sample with regard to breast milk banking. Rest of the demographic variables like age, gender, religion, awareness about BMB and source of information are not associated.

Table 1. Mean, Standard Deviation, Possible Range of Scores and Obtained Range of Scores in terms of the Knowledge and Attitude of Students

	Mean score	Standard deviation	Possible range of Scores	Obtained Score
Knowledge	9.6	3.46	1-25	2% Good Knowledge 54% Average Knowledge, 44% poor knowledge
Attitude	52.6	4.46	1-72	80.76% Positive attitude 19.23% Neutral

n=130

Table 2. Association between Knowledge with selected Demographic Variables

S.No	Demographic Data	No. Of Samples			Total	Percentage	Inference
		0-8	9-16	17-25			
1	Age (Years)						p-value (Fisher's Exact test)
	20-22	47	53	0	100	76.9	0.3**
	23-24	8	9	0	17	13.1	p>0.5
	25-26	0	5	2	7	5.4	NS
	>26	3	3	0	6	4.6	
	Total				130	100	
2	Gender						p-value (Fisher's Exact test)
	Female	40	53	0	93	71.5	.07**
	Male	18	17	2	37	28.5	p> 0.5
	Total				130	100	NS
3.	Religion						p-value (Fisher's exact)
	Hindu	44	47	0	91	70	0.6*
	Muslim	14	17	2	31	23.9	p<0.5
	Jain	0	0	0	0	0	NA
	Christian	0	6	0	6	4.6	
	Others	0	2	0	2	1.5	
	Total				130	100	
4.	Habitat						p-value (Fisher's exact)
	Urban	36	27	1	64	49.2	0.1
	Rural	22	43	1	66	50.8	p>0.5
	Total				130		NA
5.	Awareness about HMB						p- value (Fisher's exact)
	Yes	34	42	2	78	60	.03
	No	24	28	0	52	40	p < 0.5
	Total				130	100	S
6.	Source of information						p- value (Fisher's exact)
	Relatives	6	8	1	15	19.2	.09*
	Mass media	10	13	0	23	29.5	p<.05
	Internet	14	17	1	32	41	NS
	Others	4	4	0	8	10.6	
	Total				78	100	
7.	Attended any training						p-value (Fisher's Exact)
	Yes	0	5	1	6	4.6	.007*
	No	58	65	1	124	95.4	p<.05
	Total				130	100	S

n=130

Table 3. Association between attitude and selected demographic variables

S. No	Demographic Data	No. Of Samples			Total	Percentage	Inference
		Negative	Neutral	Positive			
1	Age (Years)						p-value (Fisher's Exact)
	20-22	0	21	79	100	76.9	0.001**
	23-24	0	2	17	19	14.6	p>0.5
	25-26	0	1	6	7	5.4	S
	>26	0	1	3	4	3.1	
	Total				130	100	
2	Gender						p-value (Fisher's Exact)
	Female	0	14	76	90	69.2	.15**
	Male	0	11	29	40	30.8	p>0.5
	Total				130	100	NA
3.	Religion						p-value (Fisher's Exact)
	Hindu	0	17	72	89	68.5	.09**
	Muslim	0	8	25	33	25.4	p>0.5
	Jain	0	0	0	0	0	NS
	Christian	0	0	6	6	4.6	
	Others	0	0	2	2	1.5	
	Total				130	100	
4.	Habitat						p-value (Fisher's Exact)
	Urban	0	8	45	53	40.8	.4**
	Rural	0	17	60	77	59.2	p>0.5
	Total				130	100	NA
5.	Awareness about HMB						p-value (Fisher's Exact)
	Yes	0	8	70	78	60	.002
	No	0	17	35	52	40	p>0.5
	Total				130	100	S
6.	Source of information						p-value (Fisher's Exact)
	Relatives	0	4	27	21	26.9	0.7
	Mass media	0	1	13	14	17.9	p>0.5
	Internet	0	2	24	26	33.3	NS
	Others	0	1	16	17	13.1	
	Total				78	100	
7.	Attended any training						p-value (Fisher's Exact)
	Yes	0	5	1	6	4.6	0.009*

	No	0	20	104	124	95.4	p> 0.5
	Total				130	100	S

Discussion

In the present study, the researcher found that total 2% students had good knowledge, 54% students had average knowledge and 44% had poor knowledge. With regard to attitude, majority of students had positive attitude (80.76%) and 18.23% had neutral attitude. This finding is supported by a similar study conducted by Asha Bhat et al. at Belagavi India nursing students view of human milk banking. The findings of the study revealed that 64% were had average knowledge regarding milk banking, 33% were having good knowledge and 3% were having poor knowledge. Regarding the attitude, majority of students had positive attitude (88.2%) and (11.8%) had neutral attitude. This shows that the knowledge regarding human milk banking in students is average.⁷

Conclusion

World Health Organization recommends that infants should be exclusively breast feed for first six months of life to achieve optimal growth and development. Some of the successful breastfeeding mothers produce breast milk more than the amount needed for their babies. These breastfeeding mothers welcomed the idea of breast milk donation and the establishment of breast milk bank; at the same time, some mothers are perceived to have insufficient milk production.⁸

Conditions like preterm infants or those with severe medical conditions, or when the mothers are ill or under tremendous stress prevent infants from receiving their own mother's milk. Therefore, breast milk donation can serve as a bridge to satisfy the needs of these infants and compensate for the inadequate supply from their mothers.⁹

Therefore, human milk bank donor milk is an option when the infant cannot be breastfed and/or when the mother's own expressed milk is unavailable. Thus, nurses are recommended to increase their knowledge and have positive attitude towards breastfeeding to encourage mothers to continue breastfeeding and monitor the human milk bank in the future. Nurses also play an important role in the promotion of arousing the public attention about the establishment of breast milk bank. Healthcare professionals should also receive more knowledge or training in breastfeeding as well as about breast milk donation and breast milk bank establishment. It will help in improving the health of the newborn and reducing infant mortality rate (IMR). Thus, this study addresses the need for improving the knowledge and attitude regarding human milk banking.

Conflict of Interest: None

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