



# Knowledge and Attitude about Breast Milk Banking among Final Year B.Sc. Nursing Students

Asha Vinod Bhat<sup>1</sup>

## Abstract

**Background:** Breast Milk is the first food in life which ensures that infants and young children get a healthy and nutritious start in life. In India, most of the mothers are unaware of expression and storage of breast milk, which leads to inadequate provision of mother's milk to the baby resulting in disturbed health status of the child as the mother returns to her employment.

**Objectives:** To assess the knowledge and attitude of B.Sc. Nursing students regarding breast milk banking and to determine the association of knowledge and attitude with selected demographic variables.

**Methods:** Descriptive design was adopted. Data was collected by using a self-administered questionnaire prepared by the researcher from the 110 final year nursing students studying in three different nursing colleges of Belagavi. The sampling technique used for the study was non-probability sampling technique [purposive] 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.

**Keywords:** Knowledge, Attitude, Breast milk bank

## Introduction

India is a developing country and has its own challenges related to health. One among them is having the highest number of low-birth-weight babies and significant mortality and morbidities in very-low-birth-weight (VLBW) population. The prevalence of low-birth-weight babies in various hospitals is 20% with high significance of mortality and morbidity accounting for 26% neonatal deaths according to a UNICEF report in 2016. Feeding these babies with breast milk can significantly reduce the risk of infections.<sup>1</sup>

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 World Health Organization (WHO), American Academy of Pediatrics (AAP) and United Nations Children's Fund recommend that the best alternative to a mother's own breast milk is the milk from a healthy wet nurse or donor human milk (DHM) from a human milk bank (HMB).

---

<sup>1</sup>Department of OBG Nursing, KLE University, Institute of Nursing Sciences, Nehru Nagar, Belagavi, Karnataka India.

**E-mail Id:** ashabhat\_1976@yahoo.com

**Orcid Id:** <http://orcid.org/0000-0002-3020-9900>

**How to cite this article:** Bhat AV. Knowledge and Attitude about Breast Milk Banking among Final Year B.Sc. Nursing Students. *Int J Nurs Midwif Res* 2017; 4(1): 34-39.

**Digital Object Identifier (DOI):** <https://doi.org/10.24321/2455.9318.201706>

**ISSN:** 2455-9318

For LBW babies, mother's own milk may be used in most cases except a few situations such as mother is very sick, or on anticancer or radioactive drug.<sup>2</sup>

The American Academy of Pediatrics found that breastfed premature babies will have significant growth and progress than the formula-fed counterparts. Studies have proven that breastfeeding lowers the risk of having many illnesses in babies and mothers, like asthma, childhood leukemia, and emotional disturbance in children and breast cancer among mothers. Breast milk provides the correct balance of nutrients so that an infant grows into a strong and healthy toddler. Breastfed infants, and those who are fed expressed breast milk, have fewer deaths during the first year and experience fewer illnesses than babies fed with formula.<sup>3</sup>

The first milk bank in Asia under the name of 'Sneha', founded by Dr. Armeda Fernandez, was started in Dharavi, Mumbai, on 27<sup>th</sup> November, 1989. Currently, the number of human milk banks has grown to nearly 14 all over India but the growth of human milk banks has been very slow as compared to the growth of neonatal intensive care units.<sup>1</sup> Infant and Young Child Feeding (IYCF) chapter of Indian Academy of Pediatrics (IAP) and Human Milk Banking Association together formed Infant and Young child Feeding & Human milk Banking Guidelines 2015. The purpose of these guidelines is to ensure quality milk as a safe end product. These guides would help the existing and upcoming human milk banks to ensure the quality of donated human milk.<sup>8</sup>

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.<sup>9</sup>

A descriptive study was done in North Carolina by Bernaix LW et al. to assess the nurses' knowledge and attitude about storage of breast milk. Total 27 nursing staffs were surveyed by using 42 items. Only 46% of respondents reported having received breastfeeding

education in their training programs; 85% had received on-the-job training. The nurses surveyed were involved in breastfeeding support, yet many had incorrect information and negative attitude toward breastfeeding and storage of breast milk.<sup>10</sup>

Nurses act as the backbone of the healthcare delivery system. They take care of people belonging to all age groups across the life cycle. Being a key person 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 B.Sc. 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 B.Sc. Nursing students regarding breast milk banking and determine the association knowledge, attitude with selected demographic variables.

## Materials and Methods

Quantitative non-experimental research approach was adopted in this study. Descriptive study design was used to conduct the study. Three nursing colleges of Belagavi, Karnataka, were selected purposively for the study. All final year B.Sc. Nursing students, who gave consent to participate in the study, were included for study. Non-probability purposive sampling technique was used to select the sample. The sample size was 110 final year B.Sc. Nursing students (College I -21, College II -33 and College III -56).

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.

### Categorisation of Knowledge Score

Category	Poor	Average	Good
Score	0-8	9-16	17-24

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

### Categorization of Attitude Scores: Four-Point Likert Scale (14 Items, 13 Positive, One Negative)

S. No.	Question	Strongly Agree	Agree	Disagree	Strongly Disagree
		4	3	2	1

S. No.	Category	Score
1	Negative Attitude	1-19
2	Neutral Attitude	20-38
3	Positive Attitude	39-56

The tool was validated by four experts and it was found to be reliable (0.81). 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 (89%) of the students were between 20 and 22 years of age, 85.46% were females and 60% of the students belonged to Hindu religion. Considering their awareness regarding breast

milk banking, majority 57% were not aware with regard to the source of information 42% got information through magazines.

#### Section II: Knowledge and Attitude Assessment Scores

Out of total students, 33% had good knowledge, 64% had average knowledge and 3.4% had poor knowledge (Figure. 1). The mean score of knowledge was 14.43±3.36

With regard to the attitude, 88.2% of students had positive attitude and 11.8% were with neutral attitude (Figure. 2). The mean attitude score was 45.1±5.33 (Table 2).

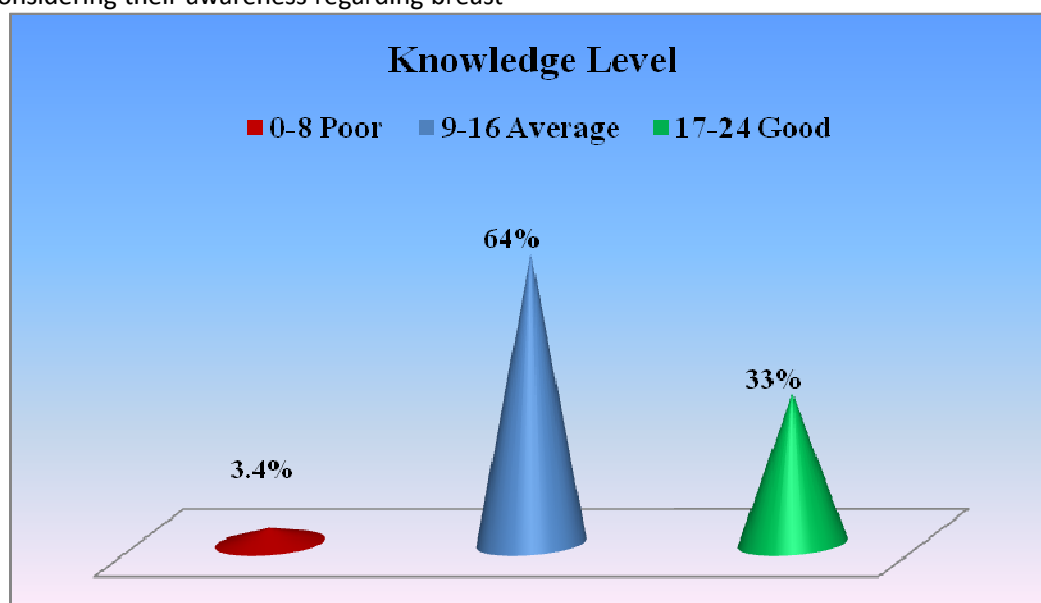


Figure 1.A Cone Diagram representing the Knowledge Scores of Final Year BSc. Nursing Students regarding Breast Milk Banking

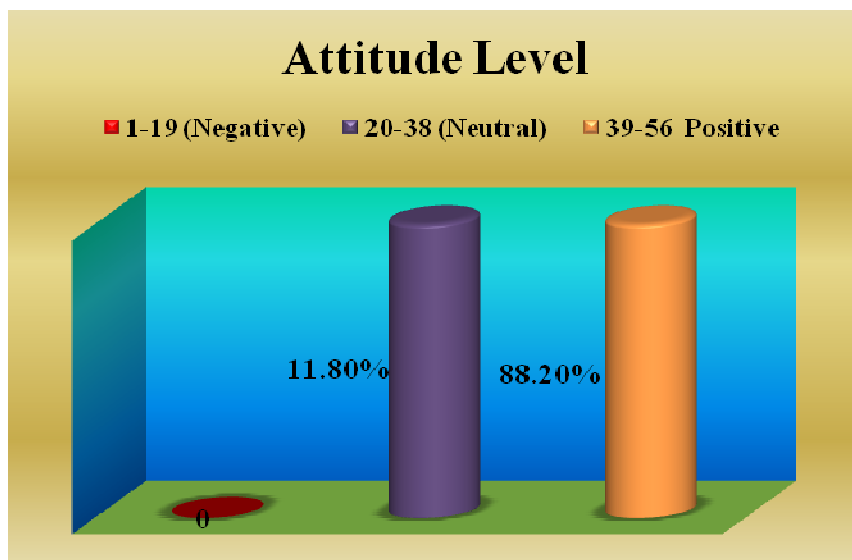


Figure 2.A Cylindrical Bar Diagram representing the Attitude of Final Year BSc. Nursing Students regarding Breast Milk Banking

### Section III: Correlation between Knowledge and Attitude

The present study results showed a positive correlation (r=0.2566) 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 Scores
Knowledge	14.43	3.36	0-24	33% Good Knowledge 67% Average Knowledge
Attitude	45.1	5.33	1-56	88.2% Positive attitude 11.8% Neutral

n=110

Table 2. Association between Knowledge with selected Demographic Variables

S. No	Demographic Data	No. Of Samples			Total	Percentage	Inference
		0-8	Sep-16	17-24			
1	<b>Age (Yrs)</b>						$X^2=-103.29$
	20 To 22	2	0	33	35	31.82	Df=4
	23 To 24	2	8	2	12	10.9	P>0.05
	25 To 26	1	62	0	63	57.28	S
	Total				<b>110</b>	100	
2	<b>Gender</b>						$X^2=0.588$
	Female	3	60	30	93	84.54	Df=2
	Male	0	11	6	17	15.46	P>0.05
					<b>110</b>	100	Na
3	<b>Religion</b>						$X^2=8.69$
	Hindu	2	47	16	65	59.1	Df=6

	Muslim	0	0	1	1	0.9	P>0.05
	Christian	2	21	18	41	37.28	Na
	Others	0	3	0	3	2.72	
					<b>110</b>	100	
4	<b>Awareness About Bmb</b>						$X^2=1.697$
	Yes	2	31	12	45	40.9	Df=2
	No	2	38	25	65	59.1	P>0.05
					<b>110</b>	<b>100</b>	Na
5	<b>Source Of Information</b>						$X^2= -8.521$
	Relatives	1	6	7	14	12.72	Df=6
	Magazine	1	12	13	26	23.63	P>0.05
	Tv	0	14	25	39	35.46	Na
	Internet	2	19	10	31	28.18	
					<b>110</b>	100	
6	<b>Attended Any Training</b>						$X^2=3.623$
	Yes	0	6	0	6	5.46	Df=2
	No	4	64	36	104	94.54	P>0.05
					<b>110</b>	100	Na

n=110

Table 3.Association between attitude and selected demographic variables

S. No	Demographic Data	No. of Samples			Total	Percentage	Inference
		0-8	Sep-16	17-24			
1	<b>Age (Yrs)</b>						$X^2=-2.245$
	20 to 22	0	10	88	98	89.19	df=4
	23 to 24	0	3	9	12	10.9	P>0.05
	25 to 26	0	0	0	0	0	NA
	TOTAL				<b>110</b>	100	
2	<b>Gender</b>						$X^2=0.827$
	Female	0	11	84	95	86.37	df=2
	Male	0	3	12	15	13.63	P>0.05
	TOTAL				<b>110</b>	100	NA
3	<b>Religion</b>						$X^2=1.559$
	Hindu	0	8	57	65	59.1	df=6
	Muslim	0	0	2	2	1.8	P>0.05
	Christian	0	5	30	35	31.8	NA
	Others	0	0	8	8	7.3	
					<b>110</b>	100	
4	<b>Awareness about BMB</b>						$X^2=0.861$
	Yes	0	4	43	47	42.72	df=2
	No	0	9	54	63	57.28	P>0.05
					<b>110</b>	<b>100</b>	NA
5	<b>Source of Information</b>						$X^2= -7.018$
	Relatives	0	9	4	13	11.81	df=6
	Magazine	0	10	20	30	27.27	P>0.05
	TV	0	17	14	31	28.2	NA
	Internet	0	22	14	36	32.72	
					<b>110</b>	100	
6	<b>Attended any Training</b>						$X^2=19.76$
	Yes	0	2	3	5	4.55	df=2
	No	0	2	103	105	95.45	P>0.05 Significant

n=110

## Discussion

In the present study, the researcher found that total 33% students had good knowledge, 64% students had average knowledge and 3.4% had poor knowledge. With regard to attitude, majority of students had positive attitude (88.2%) and 11.8% had neutral attitude. This finding is supported by a similar study conducted by Ekşioğlu A et al. at Turkey mothers' views of milk banking. The findings of the study revealed that 41.6% were aware of milk banking, 71.3% were willing to receive milk bank services and 68.8% were willing to donate breast milk. 62.2% of those who did not want to make donation stated risk of contagion as a reason, 8.2% of the participants had worked as wet-nurses before. This shows that the knowledge regarding human milk banking in mothers is good.<sup>5</sup>

## Conclusion

World Health Organisation 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.<sup>6</sup>

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.<sup>7</sup>

Therefore, banked 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 of breastfeeding to encourage mothers to continue breastfeeding and monitor the breast 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. Thus, the current study addresses the need for improving the knowledge and attitude regarding breast milk banking.

**Conflict of Interest:** None

## References

1. American Academy of Paediatrics Policy Statement. Breastfeeding and the use of human milk. Paediatrics Feb2005; 115(2): P 496-506.
2. Dr. Sapna Samant, Text book of breast feeding, 1<sup>st</sup> ed, New Delhi, Sterling publishers private limited, 1998, P 1-72.
3. Hamosh M, Ellis LA, Pollock DR, Henderson TR, Hamosh P. Breastfeeding and the working mother: effect of time and temperature of short-term storage on proteolysis, lipolysis, and bacterial growth in milk. Paediatrics Apr 1996; 97(4): 492-8.
4. Ays,eGürol, HavaÖzkan, Ayda C, Turkish women's knowledge and viewsregarding mother's milk banking: Collegian (2014) 21, 239-244.
5. Ekşioğlu A, Yeşil Y, Çeber E T: Mother's view of milk banking: sample of Izmir.Turk PediatriArs. 2015 Jun; 50(2): 83-89.
6. Walker, M. (2011).Breastfeeding Management for the Clinician. Burlington, USA: Jones and Bartlett Publisher. (text Book).
7. Kim, J. H., & Unger, S. (2010). Human milk banking. Pediatrics and Child Health, 15(9), 595-598.
8. Infant and Young child Feeding & Human Milk Banking Guideline 2015-available from www.iapindia.org, cited on 13.05.2017.
9. Pantazi M., Jaeger M.C., & Lawson M., Staff support for mothers to provide breast milk in paediatric hospitals and neonatal units. Journal of Human Lactation, Jun 1998, 14(4), P: 291-296
10. Bernaix LW., Schmidt CA., Arrizola M., Iovinelli D. and Medina Poelinez, Success of a Lactation Education Program on NICU Nurses' Knowledge and Attitudes. Journal of Obstetric, Gynaecologic, & Neonatal Nursing, Feb 2008, Vol 37(5): P 436-445.

Date of Submission: 23<sup>rd</sup> Feb. 2017

Date of Acceptance: 26<sup>th</sup> May 2017