



ISSN NO. 2320-5407

Journal Homepage: -[www.journalijar.com](http://www.journalijar.com)

## INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/10120  
DOI URL: <http://dx.doi.org/10.21474/IJAR01/10120>



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ADVANCED RESEARCH (IJAR)  
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Journal Homepage: <http://www.journalijar.com>  
Journal DOI:10.21474/IJAR01

### RESEARCH ARTICLE

#### ASSESS THE KNOWLEDGE AND PERCEPTION ON HUMAN BREAST MILK BANK AMONG POSTNATAL MOTHERS.

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#### Manuscript Info

##### Manuscript History

Received: 01 October 2019

Final Accepted: 03 November 2019

Published: December 2019

##### Key words:-

Human breastmilk bank, Knowledge, Perception, Postnatal Mothers.

#### Abstract

**Background:** Human breast milk is considered as the best source of all nutrients, beyond that it the only living food source for infants especially during the first six months of their life. WHO recommends the exclusive breastfeeding till 6 months of life for all infants and then supplemented breastfeeding is recommended until at least two years of age and it is recognized as globally highly more nutritious. According to the joint statement given by the World Health Organization and United Nations International Children's Emergency Fund (UNICEF) in 1980. The best and essential food for any baby whose own mother's milk is not available is the breast milk from another donating healthy mother. Hence this study focuses on identifying and assessing the knowledge and perception among postnatal mothers about Human Breast Milk Bank establishment and its donation. It aims on describing behaviors, beliefs, and feelings behind Human Milk Bank and its donation by identifying donor's individual, social and environmental features that could affect the donation of human milk. The findings will help to develop health education tools to promote human milk donation by identifying the factors that hinders the human milk donation and rectifying it accordingly.

##### Objectives:

1. To assess knowledge and perception on Human Milk Bank among postnatal mothers.
2. To identify the association of knowledge and perception with selected demographic variables.

**Methods:** The design of the study is cross sectional. The participants who met the inclusion criteria were selected by convenient sampling technique. The total participants included in this study were 100. The data was collected by using structured questionnaire. Statistical methods like frequency and percentage, chi-square test have been used and All statistical analysis has been carried out at 5% level of significant and  $P < 0.05$  has considered as significant.

**Results:** The study concluded that only 19% of the postnatal mothers had adequate knowledge and in regard to

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perception 70% of postnatal mothers had favorable perception. There was no significant association of knowledge and perception with any of the socio-demographic variables.

**Conclusion:** The above results stress the importance of organizing health education to postnatal mothers.

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## Introduction:-

Human breast milk is considered as the best source of all nutrients, beyond that it is the only living food source for infants especially during the first six months of their life.<sup>(1)</sup>

WHO recommends the exclusive breastfeeding till 6 months of life for all infants and then supplemented breastfeeding is recommended until at least two years of age and it is recognized as globally highly nutritious.<sup>(2)</sup>

It is vital because of its bio-active substances like free amino acids, nucleotides, cells, growth factors, enzymes, hormones, pro-biotic bacteria, and prebiotic oligosaccharides that are essential for development of immature immune system and gut micro biome of both full-term and high risk newborns like low birth weight and preterm. It also decreases the incidences of necrotizing enterocolitis, late onset sepsis, retinopathy, food intolerance or mal-absorption, immunodeficiency and improve the neuro-cognitive development. Meanwhile lower the risk of childhood diabetes, obesity compared to those infants fed with formula milk and animal's milk.<sup>(1,3,4,10,12)</sup>

Exclusive breastfeeding is very essential not only for infants but also for mothers as it prevents the risk of breast cancer and enhances the bond between mothers and babies.<sup>(11)</sup>

According to the joint statement given by the World Health Organization and United Nations International Children's Emergency Fund (UNICEF) in 1980. The best and essential food for any baby whose own mother's milk is not available is the breast milk from another donating healthy mother.<sup>(5)</sup>

Breast Milk Donation is recommended and suggested for hospitalized (sick) or preterm babies in which their mothers don't have sufficient milk production (or) underwent any breast surgery in past (or) under any medications like chemotherapy (or) any other condition where mother can't be able to give her breast milk. The Human milk bank receives human milk from donor after screening, then collects, process, pasteurize, store and then distributed to needy.<sup>(6,7,9,12)</sup>

But unfortunately, most of the developing countries including our nation which has highest burden of global neonatal mortality and morbidity rate lag in the implementation of donor breast milk as best alternative choice for vulnerable infants. Breast milk banks aren't a new phenomenon in India, but they are scarce. Even though Asia's first milk bank was set up in Mumbai (Lokmanya Tilak Hospital) in 1989. Currently there are only 60 human milk bank. Whereas Brazil, another developing country, is an international leader with 217 banks and 113 collection centers which has helped to reduce Brazil's infant mortality rate by 73%.<sup>(1,3,8,9)</sup>

Hence this study focuses on identifying and assessing the knowledge and perception among postnatal mothers about Human Breast Milk Bank establishment and its donation. It aims on describing behaviors, beliefs, and feelings behind Human Milk Bank and its donation by identifying donor's individual, social and environmental features that could affect the donation of human milk. The findings will help to develop health education tools to promote human milk donation by identifying the factors that hinders the human milk donation and rectifying it accordingly.

## Objectives:-

1. To assess knowledge and perception on Human Milk Bank among postnatal mothers.
2. To identify the association of knowledge and perception with selected demographic variables.

**Methodology:-****Study design:**

Cross sectional study

**Inclusion criteria:**

Postnatal mothers in Women and Children Hospital JIPMER

**Exclusion criteria:**

Mothers who are sick during the data collection procedure

**Sampling population:**

Postnatal mothers who are admitted in Women and Children Hospital JIPMER .

**Sample size: 100****Sampling technique:**

Convenience sampling technique.

**Tool description:**

structured questionnaire was used to collect data from postnatal mothers.

**The Questionnaire had 3 sections. They are:**

Section – A: Socio-Demographic Data

Section-B: Knowledge on human breast milk bank.

Section-C: Perception on human breast milk bank.

**Study procedure:**

The study was conducted after approval from IEC (Human studies), JIPMER. The participants who met the inclusion criteria were selected by convenient sampling technique. The total participants included in this study were 100.

After getting informed written consent from the postnatal mothers, a structured questionnaire was administered to them to assess their knowledge and perception about human breast milk bank. In which it had 16 knowledge questions [multiple choice questions] and 13 perception questions and instructed them to mark the correct answer.

In knowledge questionnaire the correct answer was scored as 1 and the wrong answer as 0. In perception questionnaire, the response options for each question was strongly agree, agree, not sure, disagree and strongly disagree.

**Parameters studied:****Independent variable:**

1. Age
2. Education
3. Religion
4. Type of family
5. Monthly income of family
6. Domicile

**Outcome variables:**

Level of Knowledge and perception on human milk bank.

**Confounding and interacting variables:**

NIL

**Statistical test used for data analysis:**

The distributions of socio-demographic characteristics were expressed as frequency and percentage. The knowledge level was categorized into inadequate, moderate and adequate based on the scores and it was expressed in

frequency and percentage. Perception level was categorized into unfavorable, average and favorable based on the scores and it was expressed in frequency and percentage. The association of level of knowledge & perception categories with demographic variables was carried out by using chi-square test. All statistical analysis has been carried out at 5% level of significant and  $P < 0.05$  has considered as significant.

**Results:-**

**Table 1:-** Distribution of socio-demographic variables of postnatal mothers **N=100**

Variable	Category	Frequency(N)	Percentage(%)
Age in years	20-30	90	90%
	31-40	10	10%
Domicile	Rural	73	73%
	Semi-urban	0	0%
	Urban	27	27%
Education	Illiterate	23	23%
	6 <sup>th</sup> -10 <sup>th</sup>	20	20%
	11 <sup>th</sup> -12 <sup>th</sup>	25	25%
	Graduate	32	32%
Type of family	Nuclear	36	36%
	Joint	64	64%
	Extended	0	0%
Monthly income of family	≤2000	32	32%
	2001-5000	19	19%
	5001-10,000	21	21%
	>10,000	28	28%

**Table 2:-** Knowledge level of postnatal mothers: **N=100**

Groups	Knowledge score	Frequency(NO)	Percentage(%)
Postnatal mothers	Inadequate (0-50%)	29	29%
	Moderate (51-75%)	52	52%
	Adequate (>75%)	19	19%

**Table 3:-** Perception level of postnatal mothers: **N=100**

Groups	Perception score	Frequency(NO)	Percentage(%)
Postnatal mothers	Unfavorable (0-50%)	1	1%
	Average (51-75%)	29	29%
	Favorable (75-100%)	70	70%

**Table 4:-** Association between knowledge and perception of postnatal mothers with socio demographic variables: **N=100**

S.I.No	Variables	N	Knowledge score			P value	Perception score			P value
			inadequate	moderate	adequate		unfavorable	average	Favorable	
1	Age in years 20-30 31-40	9	26	45	19	0.24	1	27	62	0.748
		0	3	7	0		0	2	8	
2	Domicile Rural Semi-urban Urban	7	23	36	14	0.06	1	19	53	0.83
		3	0	0	0		0	0	0	
		0	6	16	5		0	10	17	
		2								

		7								
3	<b>Education</b>									
	Illiterate	2	9	9	5		1	7	15	
	6 <sup>th</sup> -10 <sup>th</sup>	3	6	11	3	0.72	0	3	17	0.41
	11 <sup>th</sup> -12 <sup>th</sup>	2	8	13	4	0	0	9	16	8
	Graduate	0	6	19	7		0	10	22	
		2								
		5								
		3								
		2								
4	<b>Typeoffamily</b>									
	Nucl	3	9	20	7		1	6	29	0.06
	ear	6	20	32	12	0.79	0	23	41	0
	Joint	6	0	0	0	7	0	0	0	
	Exte	4								
	nded	0								
5	<b>Monthlyinco</b>	3								
	<b>me</b>	2								
	<b>offamily</b>	1	12	15	5		0	10	22	0.57
	≤2000	9	5	9	5		0	4	15	0
	2001-5000	2	6	10	5	0.69	1	7	13	
	5000-10,000	1	6	18	4	8	0	8	20	
	>10,000	2								
		8								

### Discussion:-

**The first objective of the study was to assess the knowledge and perception on Human Milk Bank among postnatal mothers.**

Among postnatal mothers only 19% had adequate knowledge, 52% had moderate knowledge and 29% of them had inadequate knowledge and in regard to perception 70% of the postnatal mothers had favorable perception, 29% of them had average perception and 1% had unfavorable perception.

### The above findings were supported by the following studies:

Goodfellow HE, Reimers P, Ballard K, Coutsoydis A (2016)<sup>(13)</sup> conducted a study in south Africa to determine the mothers perception of breast feeding and community-based human milk banks. Through convenient sampling a total of 40 mothers were interviewed. The results showed that only 58% of women were willing to donate the breast milk, only 30% were willing to feed their baby with donated milk and only 57.5% considered the idea of setting up community based human milk bank.

Leung J, Yau S (2015)<sup>(6)</sup> conducted a study in Hong Kong to explore the perceptions on breast milk donation and establishment of breast milk bank among breast feeding mothers. A qualitative descriptive study was adopted. Through purposive sampling 10 participants were selected. The data were collected through in-depth face-to-face and semi-structured interviews. The results showed that most of the breast feeding mothers welcomed the idea of breast milk donation and the establishment of breast milk bank.

Alencar L, Seid I (2009)<sup>(14)</sup> conducted an exploratory, descriptive and cross-sectional study among 36 women in the age group of 14 to 33 years who were breast milk donors in Brazil. The objective was to describe the characteristics of donation behavior and to identify the reasons, beliefs and feelings relative to breast milk donation practice. Through convenient sampling the samples were selected and data were collected through interview method. The results showed that 91.7% of the mothers thought that breast milk donation experience is positive. The most frequently reported reasons for donating breast milk were altruism and excess milk production.

Iloh K, Osuorah C, Ndu I, et al. (2018)<sup>(1)</sup> conducted a study in south-east Nigeria to determine the perception and acceptability of donor breast milk among mothers. It is a cross-sectional multi-center study in which the data was collected using pretested questionnaire among 1235 selected mothers by using purposive and convenient sampling

method. Results showed that 39% (480/1225) of them heard about it, whereas only 10% had adequate knowledge about the concept and policy of donor milk and 60% of them were willing to donate and use the donor breast milk.

**The second objective of the study was to identify the association of knowledge and perception with selected demographic variables:**

The current study findings revealed that there was no significant association of knowledge and perception with any of the selected demographic variables among postnatal mothers.

**The above findings were supported by the following studies:**

Ghuge S, Aghamkar J, Salvi R (2018)<sup>(7)</sup> conducted a study in Maharashtra to determine the knowledge and attitude towards human milk bank among postnatal mothers. The research design was one group pretest posttest quasi experimental design. Descriptive research approach has been carried out. By using non-probability convenience sampling technique a total of 60 postnatal mothers were included in this study and the data has been collected through structured knowledge and attitude questionnaires. The results concluded that there was no significant association between the baseline variables with knowledge, attitude scores and the demographic variables.

**Summary:**

The study concluded that only 19% of the postnatal mothers had adequate knowledge and in regard to perception 70% of postnatal mothers had favorable perception. There was no significant association of knowledge and perception with any of the socio-demographic variables.

**Conclusion:-**

The above results stress the importance of organizing health education to postnatal mothers, broadcasting about human milk bank in antenatal OPD, postnatal ward & NICU will enhance their knowledge and increase the number of donors. Handouts stressing the importance of human milk donation should be provided to all postnatal mother

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