

## Assessment of knowledge regarding breastfeeding mothers in the immediate postpartum period

**Sharanabasavesh Mangalgi, Manasa Sudheendra**

From Department of Paediatrics, M. S. Ramaiah Medical College, Bengaluru, Karnataka, India

**Correspondence to:** Dr. Sharanabasavesh Mangalgi, Department of Paediatrics, M. S. Ramaiah Medical College, New BEL Road, MSR Nagar, MSRIT Post, Bengaluru - 560 024, Karnataka, India. Phone +91-9880088185. E-mail: sharanmm@yahoo.co.in

Received – 15 December 2016

Initial Review – 09 January 2017

Published Online – 22 February 2017

### ABSTRACT

**Objectives:** To assess the knowledge of mothers regarding breastfeeding in the immediate postpartum period.

**Materials and Methods:** The study was conducted in a tertiary care teaching hospital. The postnatal mothers included in the study were interviewed with a predetermined questionnaire regarding the knowledge of breastfeeding and its importance.

**Results:** A total of 97 mothers were interviewed, of which 69 were delivered normally and 28 by cesarean section. 51 mothers were primigravida and 46 mothers were multigravida. 80 mothers were in the age group of 20-30 years and 34 mothers came from joint family. Around 62.9% mothers had an overall good knowledge score. 100% of the mothers in the study knew the correct position of breastfeeding, 99% of mothers knew breast milk is better than commercial baby food and bottle feeding and had to breastfeed during the night. 96.9% knew they had to inform the doctor about lactation status before obtaining prescriptions for drugs or consumption of drugs. 50.5% had knowledge regarding expressed milk. 35.1% knew about the benefits of breastfeeding to themselves, contraceptive effect of was known in 21.6% mothers. **Conclusions:** Health-care professionals should ensure proper initiation of breastfeeding following childbirth in all institutionalized deliveries. Irrespective of the parity status, counseling must be provided to all mothers regarding feeding. Knowledge regarding expressed breast milk its technique and storage needs to be impressed on as this becomes a crucial factor in working women.

**Key words:** *Breastfeeding, Knowledge, Postnatal mothers*

Under nutrition is estimated to cause 3.1 million child deaths annually or 45% of all the child deaths. Infant and young child feeding (IYCF) is a key area to improve child survival and promote healthy growth and development with the first 2 years being vital as appropriate nutrition reduces morbidity and mortality. Optimal breastfeeding could save over 800,000 under five child lives every year. Hence, breastfeeding is an important step in reducing the infant mortality and morbidity [1]. Breastfeeding is needed for the physiological and psychological needs of an infant [2]. Breastfeeding is a vital intervention for reducing infant mortality and helps in providing optimal growth and development of children [3]. However, wrong breastfeeding practices due to lack of knowledge are widespread. Suboptimal breastfeeding, more so nonexclusive breastfeeding (EBF) in the first 6 months of life, results in 1.4 million deaths and 10% of the disease burden in children younger than 5 years of age [3]. More than 15% of 24 lakhs child deaths could be avoided in India by optimal breastfeeding practices [4]. Infants who are not breastfed are 6-10 times more likely to die within the 1<sup>st</sup> month of life than infants who are breastfed [5,6]. 16% of neonatal deaths could be saved if all infants were breastfed from day 1 and 22% if breastfeeding started within the 1<sup>st</sup> h [7]. Optimum growth can be achieved by EBF to infants till 6 months of age as per the World Health Organization (WHO) recommendations [8].

Under five mortality worldwide in 2008 was estimated to be 8.795 million, among these, pneumonia accounted for 18%, 1.575 million deaths and diarrhea for 15%, 1.336 million deaths [9]. Human milk represents a very valuable weapon for enhancing the immature immunologic system of the new born and for strengthening its deficient host defense mechanisms against infective or other foreign agents [10]. Breastfeeding helps in reduction of incidence of pneumonia and diarrhea and thereby helps in reducing mortality in under five children. Promotion of early initiation of breastfeeding has the potential to make a major contribution to the achievement of the child survival millennium development goal [7]. Hence, the assessment of knowledge and the use of the acquired data in changing our existing program is essential to improve neonatal and under five morbidity and mortality rates. The purpose of this study was to assess the knowledge of breastfeeding in the postnatal mothers in this part of the country and develop measures to improve on it.

### MATERIALS AND METHODS

This study was conducted at a tertiary care center. The study was approved by the Institutional Ethics Committee. Informed consent was taken from all the mothers included in the study. Sample size

was calculated to be 97. All mothers in the immediate postpartum period who gave the consent were included in the study. Mothers who refused to give consent were excluded from the study. No mothers refused to participate in the study. The study was conducted for 2 months. A structured pretest questionnaire was designed and validated. The questionnaire was based on data given in "TYCF" by the WHO. This questionnaire was read out by the investigator to the mother and responses were recorded. The data were entered in Microsoft Excel and analyzed using SPSS version 18.0 (International Business Machines Corporation, Chicago, IL, USA). The responses for each question are summarized using frequency and percentage. Qualitative parameters are expressed in proportion and for testing the differences in proportions Chi-square test was employed.

## RESULTS

A total of 97 mothers were included in the study. Detail of the mothers regarding age, education, occupation, type of family, per capital income, parity, antenatal care and mode of delivery are given in Table 1. 29 questions based on breastfeeding knowledge were asked to the mothers and their knowledge were assessed and compared with their details (Table 2). Knowledge above 60% was considered in our study as good awareness and below 60% was considered as poor awareness. 61 (62.9%) of the mothers had good awareness (>60%) while 36 (37.1%) mothers had poor awareness (<60%).

Among the 51 primi mothers, 36 (70.6%) knew about the duration of EBF, 26 (51%) mothers knew about total duration of continuation of breastfeeding. Among the multipara mothers, 34 (73.9%) knew about the duration of EBF, 23 (50%) mothers knew about total duration of continuation of breastfeeding.

About the time of first feed after delivery 40 (58%) mothers in vaginal delivery group and 13 (46.4%) in lower segment cesarean section (LSCS) delivery group were aware about the time of first feed if the baby is delivered by vaginal route. If the baby is delivered by LSCS about the time of first feed after delivery 26 (37.5%) mothers in vaginal delivery group and 13 (82.1%) in LSCS delivery group were aware about the time of first feed.

## DISCUSSION

In this study, the adequate knowledge of postnatal mothers regarding breastfeeding was present in 62.9%. Kishore et al. found that 39% of the mothers had satisfactory knowledge about the breastfeeding [11]. In this study, it was observed that correct knowledge about the time of initiation of breastfeeding in mothers delivered by vaginal delivery and cesarean section (C-section) was present in 54.6% and 50.5%, respectively. In a study by Ekambaram et al., this knowledge was 76.9% and 65.2%, respectively [12]. Chaudhury et al. found that only 10% of the mothers had the correct knowledge regarding initiation of breastfeeding [13]. In a study from New Delhi, authors found that 15% of the mothers initiated breastfeeding within 2 h [14]. In Vadodara city, study has shown 32.6% of the mothers initiated breastfeeding within 1 h of delivery in a tertiary care hospital [15].

**Table 1: Baseline parameters and correlation with percentage of right answers**

Parameters	Awareness<60%	Awareness>60%	Total (97)
Age			
<20 years	3 (30)	7 (70)	10
20-30 years	31 (38.8)	49 (61.3)	80
>30 years	2 (28.6)	5 (71.4)	7
Education			
Up to 7 <sup>th</sup> standard	10 (52.6)	9 (47.4)	19
Up to 12 <sup>th</sup> standard	18 (33.3)	36 (66.7)	54
Graduate	8 (33.33)	16 (66.7)	24
Occupation			
House wife	23 (35.9)	41 (64.1)	64
Professional	2 (18.2)	9 (81.8)	11
Others	11 (50)	11 (50)	22
Family			
Nuclear	22 (34.9)	41 (65.1)	63
Joint	14 (41.2)	20 (58.8)	34
Per capita income (per month)			
<1500	5 (27.8)	13 (72.2)	18
1500-3000	20 (35.7)	36 (64.2)	56
>3000	11 (47.9)	12 (52.1)	23
Parity			
Primipara	22 (43.1)	29 (56.9)	51
Multipara	14 (30.4)	32 (69.6)	46
Antenatal care			
Tertiary care	25 (33.3)	50 (66.7)	75
Others	11 (50)	11 (50)	22
Mode of delivery			
Vaginal	30 (43.5)	39 (56.5)	69
C-section	6 (21.4)	22 (78.6)	28

C-section: Cesarean section

In a Nigerian study, mothers with secondary education initiated breastfeeding in 1 h, avoided prelacteal feeding and practiced EBF for 6 months, while below secondary level education strongly contributed to the prelacteal feeding and failure of EBF [16]. Similarly in our study, it was seen that the knowledge increases with education status, knowledge of above 60% was seen in 47.4% and 66.7% who have studied up to 7<sup>th</sup> and 12<sup>th</sup> standard, respectively. However, education beyond 12<sup>th</sup> standard did not show any increase in the level of knowledge.

In our study, correct knowledge regarding prelacteal feeding in vaginal delivery and in cesarean was present in 89.7% and 78.4% of postnatal mothers, respectively. In the study by Ekambaram et al., correct knowledge regarding prelacteal feeding in mothers with vaginal delivery and cesarean was present in 85.9% and 84.8% of postnatal mothers, respectively [12]. In a study conducted by Chaudhury et al., only 10% of the mothers had appropriate knowledge about prelacteal feeds [13]. In our study, 72.2% mothers knew about EBF and 50.5% knew about the correct knowledge about continuing breastfeeding duration. In a study by Ekambaram et al., 87.1% mothers knew correctly

**Table 2: Percentages of awareness as per the questionnaire**

Question	Aware (%)	Unaware (%)
Time of first feed in vaginal delivery	53 (54.6)	44 (45.4)
Time of first feed in C-section	49 (50.5)	48 (49.5)
Prelacteal feeds in vaginal delivery	87 (89.7)	10 (10.3)
Prelacteal feeds in C-section	76 (78.4)	21 (21.6)
Number of feeds in 24 h	92 (94.8)	5 (5.2)
Feeding at night	96 (99)	1 (1)
Interval between feeds	91 (93.8)	6 (6.2)
Duration of feed	82 (84.5)	15 (15.5)
Breastfeeding or formula feeds	96 (99)	1 (1)
Breastfeeding or bottle feeding	96 (99)	1 (1)
Feeding first yellow milk	76 (78.4)	21 (21.6)
Importance of first yellow milk	34 (35.1)	63 (64.9)
EBF duration	70 (72.2)	27 (27.8)
Continuing breastfeeding duration	49 (50.5)	48 (49.5)
Water in first 6 months	69 (71.1)	28 (28.9)
Expressed breast milk	49 (50.5)	48 (49.5)
Technique of expressing breast milk	48 (49.5)	49 (50.5)
Storage of expressed breast milk	22 (22.7)	75 (77.3)
Benefits of breastfeeding to baby	79 (81.4)	18 (18.6)
Benefits of breastfeeding to mother	37 (38.1)	60 (61.9)
Effect of smoking on breastfeeding	1 (1.1)	96 (99)
Effect of oral contraceptive pills on breastfeeding	21 (21.6)	76 (78.4)
Contraceptive advantage of breastfeeding	13 (13.4)	84 (86.6)
Position of breastfeeding	97 (100)	0 (0)
Informing doctor before taking drugs during breastfeeding	94 (96.9)	3 (3.1)
Breastfeeding when mother is sick	40 (41.2)	57 (58.8)
Breastfeeding when baby has fever	80 (82.5)	17 (17.5)
Breastfeeding when baby has diarrhea	77 (79.4)	20 (20.6)
Breastfeeding when baby has vomiting	77 (79.4)	20 (20.6)

EBF: Exclusive breastfeeding, C-section: Cesarean section

the duration of EBF, but 41.9% mother had correct knowledge regarding duration of continuing breastfeeding [12]. In another study conducted in Egypt by Mohammed et al., 33.6% knew about the duration of EBF [17]. Chaudhury et al. showed that only 15% knew about EBF [13].

Chaudhury et al. found that 25% had an idea on importance of colostrums [13]. In this study, 35.1% had an idea about the importance of colostrums; however, 78.4% mothers told that colostrum should be fed to the baby while 13.4% mothers had the knowledge about the contraceptive advantage of breastfeeding. Ekambaram et al. found that 33% of the mothers knew the contraceptive advantage of breastfeeding [12]. In our study, most of the mothers (99%) were in favor of feeding breast milk over commercially available formula feeds. Furthermore, the majority of 99% considered direct feeding from the breast over bottle feeding. Gover et al., in their study in East Delhi, found that 71.7% mothers agreed that breastfeeding protects from infection and is

the healthiest food [18]. In a study by Vijayalakshmi et al., 82.8% answered false to the statement that formula feed is as healthy as breastfeeding [19].

Regarding expressed breast milk, only 50.5% knew about expressed breast milk and its technique was known to 49.5% of them. It was only 22.7% mothers knew about the correct method of storage of expressed breast milk. In a study conducted in Maharashtra regarding expression of breast milk by Prabhu et al., it was found that 93.7% knew about expressed breast milk, 17.89% knew about the technique and 35.78% knew about the storage method [20]. 71.1% of the mothers knew that water should not be given during the first 6 months which is similar to the finding in the study by Ekambaram et al., in which 84% of the mothers knew the same [12]. In this study, 100% of the mothers knew about the positioning of the mother and the baby during feeding. However, in a study conducted in Egypt, it is shown that only 80.3% knew the appropriate positioning for feeding [21].

While 96.9% of mothers had the knowledge of informing the doctor about the lactation before obtaining the prescription for medicines, only 41.2% were of the opinion to continue breastfeeding even during the sickness of mother. Ekambaram et al. showed only 71% of the mothers informed doctors about lactation status before obtaining prescription for medicine and similar to our study, 50% of them continued feeding even during the sickness of the mother.

When breastfeeding during simple illness of baby was asked, 82.5% mother wanted to feed the baby if the baby had fever, cough, and cold but 79.4% were willing to feed the baby during diarrhea and vomiting. A study conducted by Kaur et al. revealed that 85.5% mothers continued breastfeeding during diarrhea [22] and another study by Choube et al. showed 62.1% believed breast milk to be the ideal fluid to be given during episodes of diarrhea [23].

Although good number of mothers (81.4%) knew about the benefit of breastfeeding to baby, only 38.1% knew about the benefits to the mother. Informing the mother about the benefits of breastfeeding to herself such as reduced bleeding in the postpartum period and reduced risk of breast cancer will motivate mothers further to breastfeed their children. A correlation between the mode of delivery and time of initiation in both modes of delivery was done. It was found that 53.6% mothers who delivered through C-section did not know when to initiate feeding in vaginal deliveries as compared to 17.9% who delivered through C-section and did not know when to initiate feeding in C-section. When the parity and the duration of exclusive and continuing feeding was correlated, it was found that 26.1% and 50% of multiparas had inadequate knowledge regarding exclusive and continuing breastfeeding, respectively.

The following are the positive highlights of the study: The knowledge about correct position of breastfeeding, breast milk being better than commercial baby food, breastfeeding being better than bottle feeding, to breastfeed during the night and to inform the doctor about lactation status before obtaining prescriptions for drugs or consumption of drugs was almost 99 to 100%. It is of paramount importance to note the lack of knowledge in the

following: Only around 50% knew when to give the first feed and duration of continuing breastfeeding. Inadequate knowledge regarding expressed milk, its technique and storage are a major concern specially in working mothers. 38.1% mothers knew about the benefits of breastfeeding to themselves. Regarding the effect of smoking and oral contraceptive pill usage during lactation awareness was poor in the mothers. Good number of mothers discontinued feeding when they were sick and around half of the multiparas even with previous children are unaware of continuing feeding practices.

In light of the above-mentioned lacuna, antenatal counseling regarding breastfeeding assumes an important role in providing adequate nutrition to the growing child. Health-care professionals should ensure proper initiation of feeding following childbirth in all institutionalized deliveries. Irrespective of the parity status, counseling must be provided to all mothers regarding feeding. Knowledge regarding expressed breast milk, the technique of expression and storage has to be impressed on further as this becomes a crucial factor in working women. Family planning counseling and the availability of different forms of contraception and the effect of oral contraceptive pills must be informed to the mother and an educated choice regarding the method of contraception must be done with support from the health-care professionals.

The limitation of this study is that it assessed the knowledge of the mothers and practice was not assessed. Due to the presence of various barriers between knowledge and practice, studies assessing the practice of mothers can be taken up and the barriers can be studied and overcome to improve feeding practices. As this study was for a small sample size, the correlation between demographic factors could not be assessed. Similar studies with larger samples can be conducted to bring out various demographic factors which impact the knowledge and practice of breastfeeding.

## CONCLUSION

This study highlights the overall knowledge about the breastfeeding. Good number of mothers had knowledge in certain aspects of breastfeeding such as correct position, breast milk is better than commercial baby food, and night feeding, which is very encouraging. There were certain important areas where the knowledge was alarmingly lacking like the timing of first feed, duration of continuing breastfeeding, benefits of breastfeeding to themselves and need to continue feeding during maternal illness. Knowledge regarding expressed breast milk, the technique of expression and storage has to be impressed on further as this becomes a crucial factor in working women.

## REFERENCES

1. Infant and Young Child Feeding; Fact Sheet N. 342, Updated January; 2016. Available from: <http://www.who.int/mediacentre/factsheets/fs342/en>. [Last accessed on 2016 May 03].
2. Subbiah N. A study to assess the knowledge, attitude, practice and problems of postnatal mothers regarding breastfeeding. *Nurs J India*. 2003;94(8):177-9.
3. Gupta A, Arora V. The State of World's Breastfeeding - Tracking

- Implementation of the Global Strategy for Infant and Young Child Feeding. International Baby Food Action Network (IBFAN), Asia Pacific. South Asia Report. February; 2007.
4. Gupta A, Arora V, Bhatt B. The State of World's Breastfeeding: India Report Card 2006. India: International Baby Food Action Network (IBFAN), Asia Pacific; 2006.
5. Effect of breastfeeding on infant and child mortality due to infectious diseases in less developed countries: A pooled analysis. WHO collaborative study team on the role of breastfeeding on the prevention of infant mortality. *Lancet*. 2000;355(9202):451-5.
6. Bahl R, Frost C, Kirkwood BR, Edmond K, Martines J, Bhandari N, et al. Infant feeding patterns and risks of death and hospitalization in the first half of infancy: Multicentre cohort study. *Bull World Health Organ*. 2005;83(6):418-26.
7. Edmond KM, Zandoh C, Quigley MA, Etego SA, Agyei SO, Kirkwood BR. Delayed breastfeeding initiation increases risk of neonatal mortality. *Pediatrics*. 2006;117(3):380-6.
8. WHO. The Optimal Duration of Exclusive Breastfeeding: Report of an Expert Consultation 2001. Geneva, Switzerland: World Health Organization. Available from: [http://www.who.int/nutrition/publications/infantfeeding/WHO\\_NHD\\_01.09/en/index.html](http://www.who.int/nutrition/publications/infantfeeding/WHO_NHD_01.09/en/index.html). [Last accessed on 2016 Dec 10].
9. Black RE, Cousens S, Johnson HL, Lawn JE, Rudan I, Bassani DG, et al. Global, regional, and national causes of child mortality in 2008: A systematic analysis. *Lancet*. 2010;375(9730):1969-87.
10. Xanthou M. Immune protection of human milk. *Biol Neonate*. 1998;74(1):121-33.
11. Kishore MS, Kumar P, Aggarwal AK. Breastfeeding knowledge and practices amongst mothers in a rural population of North India: A community-based study. *J Trop Pediatr*. 2009;55(3):183-8.
12. Ekambaram M, Bhat BV, Ahamed MA. Knowledge, attitude and practice of breastfeeding among postnatal mothers. *Curr Pediatr Res*. 2010;14(2):2010-07-2010-2.
13. Chaudhury RN, Shah T, Raja S. Knowledge and practice of mothers regarding breastfeeding: A hospital based study. *Health Renaiss*. 2011;9(3):194-200.
14. Saxena P. Contemporary breastfeeding practices - A hospital based study. *Indian J Prev Soc Med*. 2006;37(3-4):171.
15. Shwetali B, Pooja P, Neha K, Amit D, Rahul P. Knowledge, attitude and practice of postnatal mothers for early initiation of breastfeeding in the obstetric wards of a tertiary care hospital of Vadodara city. *Nat J Community Med*. 2012;3(2):305-9.
16. Ogunlesi TA. Maternal socio-demographic factors influencing the initiation and exclusivity of breastfeeding in a Nigerian semi-urban setting. *Matern Child Health J*. 2010;14(3):459-65.
17. Mohammed ES, Ghazawy ER, Hassan EE. Knowledge, attitude, and practices of breastfeeding and weaning among mothers of children up to 2 years old in a rural area in El-Minia governorate, Egypt. *J Family Med Prim Care*. 2014;3(2):136-40.
18. Gover VL, Praggi C, Aggarwal OP. Breastfeeding in a rural area of East Delhi. *Health Popul Perspect Issues*. 1997;20(2):49-56.
19. Vijayalakshmi P, Susheela T, Mythili D. Knowledge, attitudes, and breast feeding practices of postnatal mothers: A cross sectional survey. *Int J Health Sci (Qassim)*. 2015;9(4):364-74.
20. Prabhu PM, Radhe BK, Naik JD, Brahmanekar TR, Behere VS. Knowledge, attitude and practice of expression of breast milk among mothers in Western Maharashtra. *J Med Sci Clin Res*. 2016;4(1):8828-34.
21. Mahmoud NA, Megahed NM, Essam MM, Ibraheem MM, Belal Marrouf O, Hussein EK, et al. Assessment of knowledge and practice of proper breastfeeding among mothers attending - El-Shohada primary health care units, Ismailia City. *Int J Health Sci*. 2014;2(1):70-8.
22. Kaur A, Chowdhury S, Kumar R. Mothers' beliefs and practices regarding prevention and management of diarrheal diseases. *Indian Pediatr*. 1994;31(1):55-7.
23. Choube A, Bahal SP, Srivastava A, Sharma M. Knowledge and child care practices regarding childhood diarrhoea - A cross sectional study. *Indian J Community Health*. 2014;26(3):285-91.

*Funding: None; Conflict of Interest: None Stated.*

**How to cite this article:** Mangalgi S, Sudheendra M. Assessment of knowledge regarding breastfeeding in mothers in the immediate postpartum period. *Indian J Child Health*. 2017; 4(2):252-255.