

Original Research Article

An assessment of knowledge and practices of breastfeeding among mothers having child less than 2 years of age in a city of central Uttar Pradesh, India

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ABSTRACT

Background: Breastmilk is the natural first food for babies which provides all the energy and nutrients that the infant needs for the first few months of life. More than two thirds of the 2.4 million child deaths occurring each year in India are related to inappropriate infant feeding practices. Initiation of breastfeeding within 1 hour of birth in central Indian states is among the lowest. The situation in central Indian states especially Uttar Pradesh is worse than the rest of India which is usually attributed to prevalent socio-economic and cultural factors.

Methods: A cross-sectional descriptive study that was conducted among 144 mothers visiting a tertiary care hospital in Lucknow, Uttar Pradesh, India over a period of nine months using a questionnaire-based interview.

Results: The study found that majority of subjects has good knowledge about breastfeeding. 92.4% mothers reported knowledge of putting the baby on the breast within an hour of birth. 65% had the correct breastfeeding position knowledge. Majority were aware that breastfeeding protects from various infections and that colostrum or first milk serves as the first immunization for the baby. 90.3% knew the correct definition of complementary feeding. Most of the subjects planned to breastfeed their baby for a year or more (86.8%).

Conclusions: Majority mothers had good knowledge of breastfeeding and complementary feeding and good breastfeeding practices were being followed. This study brought out that educated mothers had better breastfeeding knowledge and practices, thus highlighting to the importance of formal education in mothers.

Keywords: Breastfeeding, Complementary feeding, Knowledge, Attitude, Practice

INTRODUCTION

Breastmilk is the natural first food for babies. It provides all the energy and nutrients that the infant needs for the first few months of life. It continues to provide up to half or more of the child's nutritional needs during the second half of the first year, and up to one third during the second year of life. Breastmilk promotes sensory and cognitive development, and protects the infant against infectious and chronic diseases. Exclusive breastfeeding reduces infant mortality due to common childhood

illnesses such as diarrhoea, pneumonia, and helps for a quicker recovery during illness.¹

The beneficial effects of breastfeeding depend on its initiation, duration, and the age at which the breastfed child starts on complementary feeds. Only 55 percent children under six months are exclusively breastfed in India. Also, initiation of breastfeeding within 1 hour of birth in central Indian states is among the lowest.² In India cessation of breastfeeding in rural areas are not attributed only to medical reasons but appears to be

shaped by the beliefs of a community, which are further influenced by social, cultural and educational and economic factors. Successful breastfeeding depends not only on mother's education but also on support and motivation from family members and health care professionals.³ This study was done to assess knowledge and practices of breastfeeding and knowledge of complementary feeding among mothers having child less than 2 years of age.

Objectives

Objectives were to assess knowledge and practices of breastfeeding and complementary feeding among mothers having child less than 2 years of age in a city of central Uttar Pradesh, India.

METHODS

This cross-sectional observational study was conducted using a questionnaire-based interview over a period of nine months from April to December 2019. All the mothers visiting our tertiary care hospital in the Lucknow city of Uttar Pradesh, India were eligible for study. Written consent was taken from all the participants.

After obtaining the consent of mothers for the study, a structured interview for thirty minutes was conducted about their knowledge of breastfeeding, various problems faced by them and the help they obtained for those issues. The interview also included questionnaires with multiple choice questions about knowledge and practices of breastfeeding. The questions under breastfeeding knowledge and practices were used to develop a scaled scoring system to categorize the grade of subjects as good, fair or poor at the start of study. The individual responses obtained from the mothers were analysed to

score them as per the scoring system. Finally, the scores obtained for knowledge were statistically correlated with the breastfeeding practices. The demographic factors were also studied to evaluate for factors affecting breastfeeding knowledges and practices.

The data was collected in a standard proforma, it was coded using the MS Excel software program and analysed using the Statistical Package for Social Sciences (SPSS; IBM Inc.) version 23 for windows. Frequency and percentages were used for representation of categorical data. Chi-squared (χ^2) test was conducted to find association between breastfeeding knowledge with practice. Logistic regression analysis was done to find out factors affecting breastfeeding knowledge. P value of <0.05 was considered significant.

RESULTS

A total of 144 mothers were interviewed. 48 mothers (33.3%) were in the age group 20-25 years, 60 (41.7%) were in the age group 26-30 years and rest of the subjects i.e. 36 (25%) were in the aged more than 30 years. Majority of the babies [80 (55.6%)] were in the age group of less than 6 months followed by 30 (20.8%) in the age range 6-12 months, 22 (15.3%) in 13-18 months and 12 (8.33%) being in 19-24 months age group. The family income of majority of subjects (69.4%) were in the category 25001–50000 (rs/month) followed by 33 (22.9%) being in <25000 (rs/month). Vaginal delivery [85(59.0%)] was more common than Caesarean section [54(37.5%)]. The education status of majority participants was post-graduation [62 (43.1%)] followed by graduate [49 (34%)] and secondary level [27 (18.8%)]. All the studied subjects 144 (100%) had institutional delivery. The demographic details of participants in the study are elucidated in Table 1.

Table 1: Demographic details.

S. no.	Parameters	Frequency (n=144)	Percentage
1	Mother's age in Years	<19	0
		20–25	48
		26–30	60
		>30	36
2	Baby's age in months	<6	80
		6-12	30
		13-18	22
		19-24	12
3	Family income in Rs/month	<25000	33
		25001–50000	100
		50001–100000	11
4	Religion	Hindu	136
		Muslim	4
		Sikhs	1
		Christian	2
		Jain	0
		Buddhist	1

Continued.

S. no.	Parameters		Frequency (n=144)	Percentage
5	Education	No formal education	4	2.8
		Primary	2	1.4
		Secondary	27	18.8
		Graduate	49	34.0
		Post graduate	62	43.1
6	Employment	Employed	16	11.1
		Homemaker	128	88.8
7	Gravida	Primigravida	68	47.2
		Multigravida	76	52.8
8	Gestation	Term	107	74.3
		Preterm	37	25.7
9	Type of delivery	Normal	85	59.0
		Caesarean	54	37.5
		Instrumental	5	3.5
10	Place of delivery	Home	0	0.0
		Institutional	144	100.0
11	Background	Rural	44	30.6
		Urban	100	69.4
		No	17	11.8

Table 2: Knowledge about breastfeeding.

S. no.	Questions	Yes (n=144)	Percentage
1	It is correct to put the baby on the breastfeed within one hour after birth	133	92.4
2	An infant in the first six months need water and/or other drinks in addition to breast milk	10	6.9
3	Infants who are not breastfed have more episodes of diarrhoea?	107	74.3
4	A mother can produce sufficient breast milk if she breastfeeds her baby frequently	130	90.3
5	Breast milk contains antibodies that protect against diseases, especially against diarrhoea, respiratory and ear infections	134	93.1
6	Colostrum or first milk serves as the first immunization for the baby	137	95.1
7	Colostrum is the first breast milk that should be given to the baby	130	90.3
8	Colostrum is important for the baby to maintain immunity	126	87.5
9	Breastfeeding be continued up to 2 years	131	91.0
10	Exclusive breast milk be given during first 6 months	133	92.4

Table 1: Breastfeeding practices.

S. no.	Questions and options to choose from	(n=144)	Percentage	
1	When did you start to feed your baby?	Immediately after birth	62	43.1
		Within the first 2 hours of birth	47	32.6
		After more than 2 hours of birth	17	11.8
		On the second day of birth	16	11.1
		Cannot remember	1	0.7
2	Do you receive information about breastfeeding prior to delivery?	105	72.9	
3	Where from you got knowledge about breastfeeding?	Elders at home	88	61.1
		Multimedia	21	14.6
		Others	18	12.5
4	Do you believe it was helpful information?	127	88.1	
5	How often do you breastfeed your baby daily?	< 6 to 8 times	13	9.0
		6 to 8 times	12	8.3
		> 8 times	16	11.1
		As often as the baby wants	97	67.4

Continued.

S. no.	Questions and options to choose from	(n=144)	Percentage	
6	What is the length of time for each breastfeeding?	Less than half an hour	15	10.4
		Half an hour	39	27.1
		More than half an hour	30	20.8
		I don't count	50	34.7
		Breastfeeding when asleep	4	2.8
7	For what period of time you intend to breastfeed a baby (in months)?	≥ 6	6	4.2
		7 to 12	10	6.9
		13 to 18	20	13.9
		19 to 24	105	72.9

Table 2 shows the distribution of subjects on the basis of their knowledge about breastfeeding.

Table 3 shows the distribution of subjects on the basis of breastfeeding practices.

Table 4 shows the association between breastfeeding knowledge with practice and the association was found to be statistically significant (P=0.05).

Table 4: Association between breastfeeding knowledge with practice.

Grade	Knowledge	Practice	P value
Good	135((93.7%))	123(85.4%)	0.05
Fair	9(6.2%)	20(13.8%)	
Poor	0(0.0%)	1(0.6%)	

Table 5: Association of the factors that affect breastfeeding knowledge.

S. no	Parameters		Good	Fair	Poor	P value
1	Mother Age in Years	<19	0	0	0	0.147
		20–25	43	5	0	
		26–30	59	1	0	
		>30	33	3	0	
2	Family income in Rs/month	<25000	31	2	0	0.660
		25001–50000	93	7	0	
		50001–100000	11	0	0	
3	Religion	Hindu	129	7	0	0.053
		Muslim	3	1	0	
		Sikhs	1	0	0	
		Christian	1	1	0	
		Jain	0	0	0	
		Buddhist	1	0	0	
4	Education	No formal education	4	0	0	0.014
		Primary	1	1	0	
		Secondary	23	4	0	
		Graduate	46	3	0	
		Post graduate	61	1	0	
5	Employment	Employed	15	1	0	0.66
		Homemaker	120	8	0	
6	Baby Age	<6	75	5	0	0.653
		6-12	27	3	0	
		13-18	21	1	0	
		19-24	12	0	0	
7	Gravida	Primi	63	5	0	0.605
		Multigravida	72	4	0	
8	Type of delivery	Normal	78	7	0	0.472
		Caesarean	52	2	0	

Continued.

S. no	Parameters		Good	Fair	Poor	P value
		Instrumental	5	0	0	
9	Gestation	Term	101	6	0	0.588
		Preterm	34	3	0	
10	Background	Rural	41	3	0	0.852
		Urban	94	6	0	

Table 5 show the association of the factors that affect breastfeeding knowledge among participants with grading and found that level of education was associated significantly with breastfeeding knowledge ($p=0.014$) rest other factors were associated insignificantly ($p>0.05$).

DISCUSSION

This study was done to analyse the knowledge of mothers towards breastfeeding and the practices employed to assess for knowledge gaps and formulate ways to address them. Majority [133 mothers (92.4%)] of subjects had the knowledge of putting the baby on the breastfeed within an hour of birth; of which 109 mothers (75.69%) reported breastfeeding the baby within 2 hours of birth. As per United nations children's fund (UNICEF) only 45% of world's newborn and 42% of newborns in South-Asia are put to breast within an hour of birth.⁴ The most recent demographic health surveillance report in Bangladesh shows that only a half of the mothers start breastfeeding within one hour of birth.⁵ The better results in our study was attributed to the fact that subjects had 100% institutional delivery. 133 (92.4%) mothers also had correct knowledge that infants in their first six months of age do not need water and/or other drinks in addition to breast milk. Of these, 130 participants (90.3%) knew that mothers can produce sufficient breast milk if she breastfeeds her baby frequently. Ketbi et al reported that 81.2% mother knew this fact.⁶ Choudhary et al found that knowledge and advantages of exclusive breastfeeding duration in mothers was 59.1% and 50.2% respectively.⁷ Ulak et al in their study report that 79% babies were introduced to other foods (semi/solid or animal milk) before six months of age and the main reason was assumed insufficient breast milk production.⁸

Infants acquire immune protection from breast milk lymphocytes that originate from the gut and upper respiratory mucosa of the mother. These maternal cells have important roles in the protection and education of the developing immune system of the neonate.⁹ In this study, when asked about knowledge of mother regarding colostrum or first milk serves as the first immunization for the baby, 137 (95.1%) had the correct response. About 74.3% of the mothers (107 out of 144) in this study knew that infants who are not breastfed have more episodes of diarrhoea. 134 (93.1%) reported knowledge of breast milk contains antibodies that protect against diseases, especially against diarrhoea, respiratory and ear infections. Similar results were reported by Ahmed et al who found that 76.7% mothers had correct knowledge

about the colostrum and 79.2% knew about the necessity of giving colostrum.¹⁰ Joshi et al found in their study that 74% of women had heard about colostrum.¹¹ Rahalkar et al find that in 90% cases mother had given colostrum.¹² Kakati et al conclude that 21% of mothers in urban areas had discarded colostrum but in rural areas it was 29.5%.¹³ Sriram et al reported that 90.67% of mothers think that colostrum is good for baby.¹⁴ In 62 (43.1%) of our subjects breastfeeding was started immediately after birth; 47 (32.6%) babies were fed within the first two hours and in 16 (11.1%) it was started on second day. Rahalkar et al and Sultania et al reported that only 50.6% and 45% babies were breastfed within an hour respectively.^{12,15}

A predominant majority of mothers (91%) knew that breastfeeding should be continued for 2 years and 105 (72.9%) intended to breastfeed up to 24 months. These findings were consistent with study by Chaudhary et al that found 75% mothers were aware that they should continue breastfeeding till the age of 2 years.¹⁶ The majority of these mothers [45(31%)] were in the age group of 26-30 years. Mohsin et al finds in their study that 62.3% mothers continued breast feeding till 2 years of age.¹⁷ In contrast Ketbi et al finds only 33.9% mothers reported that baby should receive breastmilk for at least 24 months [6] and Parikh et al reported that in semi tribal Gujrat only 6% of mother knew regarding continuation of breastfeeding till two years of age.¹⁸

In this study 130 (90.3%) mother knew about complementary feeding and majority 110 (76.4%) knew about the type of food that can be given to the infant. Berisha et al in their study concluded that 88.4% of mothers had knowledge of complementary feeding.¹⁹ Similarly Jain et al found that more than 83.75% of mother studied had knowledge about complementary feeding.²⁰ The knowledge regarding suitable age for starting complementary feed 131(91%) mothers said it should be after 6 months. These were similar to those reported by Ketbi et al who found 86.1% mother reported that complementary feed should be introduced at 6 months of age.⁶ Rahalkar et al reported that in 84% babies complementary feeding was started after 6 months.¹² Meshram et al in their study found 58% of infants (6-11 months) received complementary feeding at 6-9 months of age.²¹ Berisha et al found in their study that 61.9% mother had the knowledge that complementary food should be given to the infants after 6 months.¹⁹

This study graded the participant's answer to the questions regarding breastfeeding knowledge, practice and complementary feeding knowledge and found that a total of 135 (93.7%) mothers had good breastfeeding knowledge, 9 (6.2%) had fair knowledge and no subject achieved poor grade in breastfeeding knowledge. In breastfeeding practice 123 (85.4%) mothers were found to adopt good breastfeeding practices, 20 (13.8%) adopted fair practices and only 1 (0.6%) adopted poor practices. Ketbi et al found in their study that 51.2% mothers had good breastfeeding knowledge, 43.3% had fair knowledge, and only 19 5.5% had poor knowledge. On practices front only 27.8% mothers were found to adopt good breastfeeding practices, 38.2% adopted fair practices, and 34% adopted poor practices.⁶ Study by Jain et al found >83.75% of the mothers showed good knowledge about breastfeeding and complementary feeding.²⁰ The assessment of complementary feeding knowledge found 110 (76.3%) participants had good, 33 (22.9%) had fair and 1 (0.6%) mother had poor complementary feeding knowledge. Berisha et al found overall, 88.4% of respondents had good knowledge of complementary feeding, whereas only 38.4% of mothers had good practices regarding time of starting complementary feeding.¹⁹ However, Memon et al concluded that majority mothers had insufficient knowledge.²²

The factors that affect breastfeeding knowledge among participants were studied and it was found that level of education was associated significantly with breastfeeding knowledge ($p=0.014$). Similar findings were reported by Ketbi et al who found significant association between breastfeeding knowledge and education background, employment status and monthly family income.⁶ Memon et al also reported that breastfeeding practices was found to be statistically significantly affected by their breastfeeding knowledge ($p=0.05$). Girish et al concluded that there is significant association between practice and exposure to breastfeeding education.²³ However, in contrast no significant association was found between breastfeeding practice and breastfeeding knowledge in study by Mbada et al.²⁴ However as per a study by Amin et al, irrespective of educational status, mothers under study had several misconceptions towards breastfeeding.²⁵

CONCLUSION

In this study of 144 mothers about breastfeeding knowledge, practice and complementary feeding knowledge it was evident that breastfeeding and complementary feeding knowledge and breastfeeding practices in central India was good. Majority of mothers [109(75.7%)] had breastfed their babies either immediately or within first two hours. Majority also had correct knowledge that colostrum or first milk serves as the first immunization for the baby, breastfeeding protects from diarrhoea, respiratory and ear infection. and

infant do not need water and/or other drinks in addition to breast milk for first six months.

The findings of this study showed that formally educated mother has got better breastfeeding knowledge so the importance of formal education is evident. During antenatal visits health care providers should provide comprehensive breastfeeding education to all women. Factors that may limit the generalization of this study is referral bias to this tertiary care hospital in central India as 77% of the sample had higher education level. Further studies on a larger sample size with wide population base is needed for validation and consolidation of the findings of this study.

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