

Knowledge, attitudes, and breastfeeding practices of postnatal mothers in a tertiary health center

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ABSTRACT

Background: Breastfeeding has several benefits for both the infants and mothers. Despite strong evidences supporting breastfeeding, its prevalence has remained low worldwide. **Objective:** The objective of the study was to examine the knowledge and attitude toward breastfeeding and infant feeding practices among the Indian postnatal mothers. **Materials and Methods:** A cross-sectional descriptive study was carried out among randomly selected postnatal mothers at pediatric outpatient department at a tertiary care center. Data were collected by face-to-face interview using a structured questionnaire. **Results:** Our study showed that a majority of mothers (92%) of mothers were breastfeeders. However, 72% of the mothers were exclusive breastfeeders and 74% of mothers initiated breastfeeding within an hour. While mothers had good knowledge on breastfeeding (11.45±3.45), the average score of the Iowa Infant Feeding Scale (60.45±4.75) indicates neutral attitudes toward breastfeeding. **Conclusion:** Our findings show that though the frequency of exclusive breastfeeding was high compared to other studies, the gap should be filled. Thus, it is important to provide prenatal education to mothers on breastfeeding. We also recommend strengthening the public health education campaigns to promote breastfeeding.

Key words: Breastfeeding, Iowa Infant Feeding Scale, Knowledge, Postnatal mothers

Breastfeeding is a basic human activity, vital to infant, and maternal health and is of immense economic value to households and societies [1]. The World Health Organization recommends that for the first 6 months of life, infants should be exclusively breastfed to achieve optimal growth, development, and health. Thereafter, the infant should receive nutritionally adequate and safe complementary foods, while continuing to breastfeed for up to 2 years or more [2]. Exclusive breastfeeding (EBF) is defined as infant feeding with human milk without the addition of any other liquids or solids [3]. Despite strong evidence in support of EBF for the first 6 months of life, its prevalence has remained low worldwide [4]. In India, breastfeeding appears to be influenced by social, cultural, and economic factors. Poor practices and attitudes toward EBF have been reported to be among the major reasons for poor health outcomes among children, particularly in developing countries [5].

Breastfeeding has declined worldwide in recent years, as a result of urbanization and maternal employment outside the home. Studies in India have also shown decline in breastfeeding trends, especially in urban areas [6]. While a number of studies have assessed knowledge, attitude, and practices of breastfeeding in different parts of the


world, such studies are limited among Indian mothers [7]. Thus, the present study was undertaken to examine the infant feeding practices, knowledge, and attitude toward breastfeeding among Indian postnatal mothers in a tertiary health center.

MATERIALS AND METHODS

The study was a hospital-based cross-sectional study carried out among postnatal mothers who attended immunization clinic and pediatric outpatient department with their children for vaccination and for the treatment of minor illnesses at a tertiary care hospital during the period of 3 months from January to March 2018.

Study participants were selected through random sampling method of the database of children attending the pediatric outpatient department. Those who met the inclusion criteria were interviewed. Mothers of healthy infants aged 6 months, born between 37 and 42 weeks of gestation, and who volunteered to participate, were included in the study. The exclusion criteria were mothers of infants with major birth defects such as cleft lip, cleft palate, Down syndrome, and congenital heart disease.

The sample size was calculated by taking an estimated mean=12.05 and SD=1.74 for knowledge from the previous

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studies with 95% confidence level and $MOE=0.3615$, using formula $N=(Z*SD/MOE)^2$, which came up to 89, so we took 100 cases. The demographic background of mothers such as age, marital status, religion, place of residence, employment, education, family's monthly income, type of delivery, number of deliveries, current breastfeeding practices, exclusive breastfeeding, and initiation of feeding within 30 min was asked.

A structured questionnaire was used to assess knowledge and attitudes toward breastfeeding among postnatal mothers. There were 15 items to measure knowledge of the participants toward breastfeeding. Each item in the knowledge section had three possible responses, namely, "True," "False," and "Not sure." One mark was awarded for every correct response and zero otherwise. Total number of marks in the knowledge section ranged from 0 to 15. This part of the questionnaire was validated.

The Iowa Infant Feeding Attitudes Scale (IIFAS) was used to assess mother's attitudes toward breastfeeding. The scale included 17 attitude items to determine level of agreement to each question. A 5-point Likert scale from "strongly disagree" to "strongly agree" was applied to all questions. Total IIFAS score ranged from 17 to 85 with highest score reflecting more positive attitudes on breastfeeding. Total scores were grouped into three groups: (1) Positive to breastfeeding (70–85), (2) neutral (49–69), and (3) positive to formula feeding (17–48). The Iowa Infant Feeding Attitude Scale is a valid and reliable measure that evaluates breastfeeding knowledge and attitudes in cross-sectional settings [8].

After obtaining ethical committee clearance, written informed consent was obtained from the mothers who were willing to participate in the study. Data were collected through face-to-face interview, in a private room at the treatment facility where the participants were recruited.

The data were analyzed using statistical software SPSS-20 and results were presented in tables. Data on maternal sociodemographic characteristics were summarized using frequency and percentage. The respondents rating of questionnaire items regarding knowledge and attitude about breastfeeding were summarized using mean and standard deviation. The relationship between IIFAS scores and sociodemographic variables was tested using Chi-square test. The significance level for all statistical analysis was set at 0.05.

RESULTS

The present study included 100 postnatal mothers. The majority of mothers were in the age group of 20–25 years (76%). Most of the study subjects (72%) had family income of >10,000/month. Since our study group consisted of mothers from urban area and most of the mothers were working, high income can be explained. The number of mothers from urban background was 92. Percentage of mothers who were employed was 64%. Most of the mothers were literate (94%) and in that, 56% of mothers had education of PUC and above. The mode of delivery was equally distributed

among the study group. The majority were primi mothers (56%). The frequency of EBF in our study group was found to be 72%. Breastfeeding was initiated within the 1st h of life by 84 mothers (Table 1).

Table 2 shows mothers' knowledge toward breastfeeding. The majority of the mothers agreed that colostrum is first breast milk (92%) and is important to maintain the immunity of the baby. While, 85% of mothers feel that EBF should be done during the first 6 months of life, only 68% stated that breastfeeding should be continued up to 2 years. Similarly, most of the mothers were aware of the importance of burping after each fed (88%) and had knowledge regarding comfortable position and eye-to-eye contact while feeding (91%). The majority of the mothers feel that breastfeeding helps in increasing mother and infant bonding (95%), while 88% of mothers knew that breastfeeding can decrease the diseases affecting breast. While 62 mothers did not agree that breastfeeding should not be given when child has diarrhea, 38 mothers felt that breastfeeding should not be given while child has diarrhea. Mean knowledge score among mothers was 11.45 ± 3.45 .

Table 1: Sociodemographic characteristics of the participants (n=100)

Demographic variables	Group	Frequency	Percentage
Age in years	20–25	76	76
	26–30	18	18
	>31	6	6
Income (in rupees)	<5000	12	12
	5000–10,000	16	16
	>10,000	72	72
Marital status	Married	100	100
Religion	Hindu	82	82
	Muslim	18	18
Background	Urban	92	92
	Rural	8	8
Employment	Employee	64	64
	Homemaker	36	36
Education	Illiterate	6	6
	Primary	14	14
	Secondary	24	24
	PUC	44	44
Type of delivery	Degree and above	12	12
	Normal	54	54
	Cesarean	46	46
Gravida	Primi	56	56
	Multigravida	44	44
Current breastfeeding practices	Yes	86	86
	No	14	14
Exclusive breastfeeding	Yes	72	72
	No	28	18
Breastfeeding initiation within an hour	Yes	74	74
	No	26	26

Table 2: Mother’s knowledge regarding breastfeeding

Variable	True	False
Colostrum is first breast milk	92	8
Colostrum is important for the baby to maintain immunity	92	8
Burping should be done after each feed	88	12
Exclusive breast milk should be given during the first 6 months	85	15
Breastfeeding should be continued up to 2 years	68	32
During breastfeeding mother should sit comfortably	100	100
During breastfeeding mother should maintain eye-to-eye contact with baby	91	9
Wash each breast with warm water before breastfeeding	86	14
Awakening the baby while breastfeeding	60	40
Breastfeeding helps in mother and child bonding	95	5
Breastfeeding can prevent diseases affecting breast	88	12
Breastfeeding affects the beauty of feeding mothers	40	60
Mother should not feed the child when she has diarrhea	38	62
Stop breastfeeding when you start weaning	62	38
Mean knowledge score = 11.45±3.45		

Table 3: Mother’s attitude toward breastfeeding on IIFA scale

Variables	Disagree	Neutral	Agree
Benefits of breast milk last as long as the baby is breast fed	62	18	20
Formula feeding is more convenient than breastfeeding	88	8	4
Breastfeeding increases mothers infant bonding	4	18	78
Breast milk is lacking in iron	24	52	24
Formula-fed babies are more likely to be overfed than breastfed babies	72	18	10
Formula feeding is better choice if the mother plans to go back to work	62	8	30
Mothers who formula feed miss one of the great joys of motherhood	24	12	64
Women should not breastfeed in public places such as restaurant	82	10	8
Breastfed babies are healthier than formula-fed babies	17	8	75
Breastfed babies are likely to be overfed than formula-fed babies	26	14	60
Fathers feel left out if mother breastfeeds	82	14	4
Breast milk is the ideal food for babies	6	2	92
Breast milk is more easily digested than formula	12	2	86
Formula is as healthy for an infant as breast milk	88	4	8
Breastfeeding is more convenient than formula	10	6	84
Breastfeeding is cheaper than formula	7	3	90

Regarding the attitude of the mothers toward breastfeeding, the majority of the participants agreed that breastfeeding is more

Table 4: Difference in demographic factors and total attitude scores (n=100)

Demographic variables	Group	Mean (SD)	RR (CI)	P-value
Age in years	<25	59.45 (4.90)	2 (1.3–2.9)	<0.001
	>25	62.24 (5.56)		
Religion	Hindu	59.20 (4.87)	2.4 (1.6–3.8)	>0.05
	Muslim	59.36 (4.78)		
Background	Urban	63.50 (5.27)	4.8 (2.5–9.5)	<0.001
	Rural	58.24 (4.56)		
Income	<5000	57.25 (4.56)	0.2 (0.17–0.50)	<0.001
	>5000	63.80 (5.46)		
Employment	Employed	59.56 (5.20)	1.3 (0.9–1.8)	>0.05
	Homemakers	58.30 (4.50)		
Education	Illiterate	57.52 (4.20)	0.1 (0.07–0.3)	<0.001
	Literate	61.20 (5.15)		
Type of delivery	Normal	58.60 (4.54)	1.1 (0.8–1.4)	>0.05
	Cesarean	59.97 (5.22)		
Gravida	Primi	58.91 (4.76)	1.1 (0.8–1.5)	>0.05
	Multipara	60.20 (4.90)		
Current breastfeeding practices	Yes	62.54 (5.20)	3 (1.8–4.8)	<0.01
	No	57.20 (4.50)		
feeding	Yes	59.60 (4.94)	1.6 (1.1–2.3)	<0.001
	No	57.20 (4.50)		
Breastfeeding initiation within an hour	Yes	60.20 (4.95)	2.7 (1.7–4.2)	<0.01
	No	58.67 (4.38)		

convenient than formula feeding (88%) and increases mother and infant bonding (78%). While 30% of mothers felt that formula feeding could be a better option if mothers want to go back to work, 75% of them agreed that breastfeeding babies are healthier than formula-fed babies (Table 3).

Mothers aged above 25 years and from high-income group, had higher IIFAS scores (62.24 and 63.80, respectively) indicating more favorable attitudes toward breastfeeding (p<0.001). Higher attitude scores were observed among mothers from urban background and higher education which were 63.50 and 61.20, respectively (p<0.001). While the mode of delivery and religion of mothers did not have much influence on attitude scores, mothers with breastfeeding initiation within the 1st h of birth and exclusive breastfeeding had higher attitude scores (59.60 and 60.20, respectively), (p<0.001) (Table 4).

DISCUSSION

This study was one of the few studies done in India for assessing the knowledge and attitude toward breastfeeding among postnatal mothers using internationally standardized tool (IIFAS). In the present study, majority (72%) of the mothers gave EBF to their infants; however, 85% of mothers

were aware of EBF. These findings are supported by the previous studies from different parts of the world [9-11]. However, high prevalence of EBF at 6 months of age (72%) was substantially higher than the previous studies from India (27% and 16.5%) [9,12].

Early complementary feeding and top feeds were given by 28% of mothers and the reasons given were insufficient milk, and the thought that breastfeeding alone is insufficient for a growing baby. This finding was similar to those found in other studies [9,13]. In a recent evaluation of the Millennium Development Goals (MDGs), EBF for 6 months was considered as one of the most effective interventions to achieve MDG-4 [14].

According to Infant and Young Child Feeding (IYFC, 2006) guidelines, Government of India recommends that initiation of breastfeeding should begin immediately after birth, preferably within 1 h [15]. In the present study, 74% of the mothers stated that they had initiated breastfeeding within an hour. Most common reasons for delay in initiation of breastfeeding as cited by the mothers were delay in shifting the mothers from labor room; babies were in neonatal ICU, cesarean section, and family restrictions. However, this frequency is higher than the studies conducted from different parts of the world (38% and 53%) [15,16]. The results were similar to a study done in Nigeria (72.2%) [17].

In the present study, 68% of mothers felt that they should continue breastfeeding till the age of 2 years. This finding is consistent with a study done in India where 75% of mothers were aware that they should continue breastfeeding till the age of 2 years [18]. Mothers who breastfed at 6 months had a higher average score (59.60±4.94) on the IIFAS than their non-breastfeeding counterparts and significant difference was observed ($p < 0.001$). The previous studies also have shown that mothers who do not breastfeed have negative attitudes toward breastfeeding [19].

Maternal education has been described as one of the strongest determinants of the practice of EBF. Total attitude score was significantly higher among educated mothers as compared to illiterate mothers (61.20±5.15 and 57.52±4.52). However, contrasting results were noted in study done by Poreddi *et al.* where illiterate mothers had higher attitude scores [9]. Mothers with higher family income had better attitude scores in our study (63.80±5.46). The difference was found to be significant when compared to mothers with low income. The findings were similar to a study done by Poreddi *et al.* In the present study, mothers aged more than 25 years had more positive attitudes when compared to younger mothers. This finding is consistent with the previous studies that showed higher rates of awareness of EBF among older mothers [20]. No difference in attitude scores was found among working mothers and homemakers in our study. However, few studies have shown that homemaker mothers had higher positive attitude toward breastfeeding [20]. The

limitation of study may be, it was done for a shorter duration of period. More evidence may be collected with larger number of study group.

CONCLUSION

The present study concludes that the mothers have a very good knowledge and neutral attitudes toward breastfeeding. Although the frequency of exclusive breastfeeding is high in our study, the gap has to be filled. Thus, it is important to provide prenatal education to mothers and fathers on breastfeeding. We also recommend strengthening the public health education campaigns to promote breastfeeding.

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