

Knowledge, attitude, and perception regarding breastfeeding practices among mothers of Indore city: A cross-sectional study

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ABSTRACT

Introduction: Breast milk is planned for nursing young ones and therefore considered as nature's most precious gift to humankind. However, despite strong evidences in support of breastfeeding, its prevalence has remained low worldwide. **Objective:** The objective of this study is to explore the knowledge, attitude, and perception toward breastfeeding among primigravida mothers and factors determining them. **Materials and Methods:** The study was conducted over 18 months on primigravida mothers admitted in postnatal care ward of tertiary care center of a medical college. Questionnaires were filled by mothers of newborns about various domains such as initiation of feeding, latching, maternal position during breastfeeding, prelacteal, colostrum, exclusive breastfeeding (EBF), and feeding at public places. **Results:** A total of 260 women aged 21–25 years were included in the study. Most of them were the housewives (81.5%), Hindu (95.4%), living in joint family (55.8%), and living in urban area (73.8%). About 90.4% initiated breastfeeding immediately after delivery and mothers have good knowledge on breastfeeding (81.1%). Mothers living in joint family had significantly more knowledge about the EBF and importance of colostrum. The source of their knowledge regarding breastfeeding was mostly medical staff (95.4%). **Conclusion:** The present study found that mothers had satisfactory knowledge regarding breastfeeding. Proper counseling and all level of support should be given to primigravida mothers, and breastfeeding practices can be increased by strengthening the existing program through media support and by removing social taboo regarding breastfeeding.

Key words: Breastfeeding, Colostrum, Infant feeding practices, Knowledge, Neonates

Breast milk offers many potential health benefits and emotional bonding for mother and baby and is considered as nature's most precious gift to humankind. The beneficial effects of breastfeeding depend on the time of initiation, its duration, and the age at which the breastfed child is weaned [1]. As a global public health recommendation, infants should be exclusively breastfed for the first 6 months of life to achieve optimal growth, development, and health [2]. The World Health Organization global database reported that 65% of the world's infant population is aged one or less. Among them, only 35% are exclusively breastfed between birth and 4 months of age [2]. The United Nation's Children Fund in 2012 found that 136.7 million babies were born globally, and of them, only 32.6% were exclusively breastfed up to 6 months of age [3].

Exclusive breastfeeding (EBF) reduces infant deaths, caused by common childhood illness such as diarrhea and pneumonia, fastens recovery during illness, and helps in birth spacing. Studies have shown that breastfed babies are more intelligent than formula-fed babies [4]. The American Academy of Pediatrics recommends EBF for 6 months, followed by continued breastfeeding for at least 12 months as complementary foods

are introduced at 6 months of age [5]. Breastfeeding practices vary among different regions and communities. Various cultural norms, myths, painful breastfeeding experiences, and lack of appropriate knowledge can lead to lack of breastfeeding practice and premature introduction of inappropriate foods. This can result in some complications such as diarrhea, poor infant's growth, and decrease in the production of breast milk and disrupt the birth spacing effect of breastfeeding.

Very few women in India have access to counseling services on infant and young child feeding (IYCF). Despite many awareness programs given to the nursing mothers, high rate of ill breastfeeding practices is observed. Hence, there is an increased need to identify the factors responsible for obstructing EBF practice. The present study is designed to explore the knowledge, attitude, and perception toward breastfeeding among primigravida mothers and factors that determine them.

MATERIALS AND METHODS

This cross-sectional study was conducted over 18 months (February 2015–July 2016) on primigravida mothers admitted in

postnatal care (PNC) ward of a medical college, Indore. The study protocol was reviewed by the Ethical committee of Institutional Review Board and was granted ethical clearance. Informed consent was obtained from all the participants.

All primigravida mothers, aged between 21 and 25 years, admitted to the medical college, and delivered a healthy baby (weight >2.0 kg) were included in the study. Very low birth weight babies, sick babies admitted to neonatal intensive care unit, babies in which breastfeeding was contraindicated, and whose mothers did not give consent were excluded from the study. A sample size of 260 was selected for the study. The sample size was calculated using the following formula: $n = (Z^2 \times P(1-P))/e^2$. Here, Z = desired confidence level ($Z=1.96$ for 95% CI), P is expected true proportion, and e is desired precision = For a 95% CI of $\pm 10\%$, $e = 0.1/1.96 = 0.051$. For expecting 80% proportion of the population having some knowledge about breastfeeding, sample size came out was 236. Expecting the 10% withdrawal or exclusion, the final sample size selected was 260.

All mothers satisfying the inclusion criteria were approached for the study. Participants were interviewed using a semi-structured questionnaire. The questionnaire was prepared in both the languages (English and Hindi). The questionnaires were filled by the investigator for both literate and illiterate mothers to maintain uniformity of data collection. The first set of questions was about demography, followed by a set of questions including knowledge, attitude, and perception about breastfeeding. Questions were asked about various domains such as initiation of feeding, latching, maternal position during breastfeeding, prelacteal, colostrum, EBF, and feeding at public places. All mothers participating in the study were given appropriate knowledge about the importance of colostrum, EBF, correct method, and position and frequency of breastfeeding after completing the questionnaire.

Data were entered into the Microsoft Excel spreadsheet. SPSS software for Windows (version 23.0, Chicago, Inc.) was used for all the analyses. Qualitative data were presented by frequency distribution. Chi-square test was used to compare between more than one proportion. A statistically significant level was considered when $p < 0.05$.

RESULTS

A total of 260 women were assessed for knowledge, attitude, and perception regarding breastfeeding. The age of women was ranged from 21 to 25 years. The demographic profile of mothers is shown in Table 1. Maximum number of studied subjects had completed education till high school (27.7%). Most of them were the housewife (81.5%), Hindu (95.4%), living in joint family (55.8%), and living in urban area (73.8%). Majority of the mothers 63.07% were belonging to socioeconomically classification II as per the modified Prasad classification [6] (Table 1).

Among 260 neonates born during the study period, 131 (50.4%) were males and 129 (49.6%) were females. Most of the neonates (157, 60.3%) had a birth weight of >2.5 kg and remaining 103 (39.62%) had a birth weight between 2 and 2.49 kg.

Table 1: Demographic profile of mothers (n=260)

Variables	Number (%)
Education	
Illiterate	20 (7.7)
Primary and middle school	70 (26.9)
High school	72 (27.7)
Higher secondary	50 (21.5)
Graduate	37 (19.2)
Postgraduate	11 (8.7)
Working status of mother	
Working	48 (18.5)
Housewife	212 (81.5)
Religion	
Hindu	248 (95.4)
Muslim	9 (3.5)
Others	3 (1.2)
Type of family	
Joint	145 (55.8)
Nuclear	115 (44.2)
Residence	
Urban	192 (73.8)
Rural	68 (26.2)
Socioeconomic status	
V	0 (0)
IV	1 (0.38)
III	25 (9.61)
II	164 (63.07)
I	70 (26.9)

Mothers were asked about the diet requirement of neonates from birth to 6 months of age. Most of the studied subjects (81.1%) told that only breast milk is required, 14.6% told only when milk secretion is adequate/good 0.8% told they do not know, 3.5% women said that additional warm water is also required during warm weather, and 0.7% said that they do not know. There was no significant association of knowledge of EBF with the education of mother and place of living ($p > 0.05$). Mothers living in the joint family had significantly more knowledge about the EBF ($p < 0.0001$) (Table 2).

Studied subjects were asked about the knowledge regarding top feeding and colostrum. No significant association between type of family, place of living, and education of mother was observed with the knowledge of mother about the requirement of top feed and importance of colostrum during the first 6 months. Mothers living in a joint family had higher perception toward the importance of colostrum than mother belonging to the nuclear family. The difference was statistically significant (Table 3).

When asked about the meaning of EBF, the majority (84.5%) of them answered correctly. About the duration, 45.4% answered that breastfeeding can be done up to 2 years. The proper knowledge about latching was not present in the mothers, and 100% of them agreed that proper latching means that the baby should be in comfortable position. When asked about their source of knowledge, 95.4% mothers got knowledge from medical staff

Table 2: Association of knowledge related to breastfeeding with other factors

Knowledge about breastfeeding					
Variables	Yes always (%)	Only if secretions are good (%)	Requires additional warm water (%)	Do not know (%)	p value
Maternal education					
Illiterate or primary passed	71 (78.9)	13 (14.4)	5 (5.6)	1 (1.1)	0.564
High school and above	140 (82.4)	25 (14.7)	4 (2.4)	1 (0.6)	
Place of living					
Rural	55 (80.9)	11 (16.2)	2 (2.9)	0 (0.0)	0.817
Urban	156 (81.2)	27 (14.1)	7 (3.6)	2 (1.0)	
Type of family					
Nuclear	84 (73.0)	28 (24.3)	1 (0.9)	2 (1.7)	<0.0001
Joint	127 (87.6)	10 (6.9)	8 (5.5)	0 (0.0)	

Table 3: Association of knowledge about top feeding and colostrum with other factors

Variables	Knowledge about top feeding			Knowledge about colostrum		
	Not required	Required	p value	Important	Not important	p value
Maternal education						
Illiterate or primary passed	55 (66.1)	35 (37.9)	0.249	76 (84.4)	14 (15.6)	0.07
High school and above	116 (68.2)	54 (31.8)		156 (91.8)	14 (8.2)	
Place of living						
Rural	48 (70.6)	20 (29.4)	0.330	60 (88.2)	8 (11.8)	0.758
Urban	123 (64.1)	69 (35.9)		172 (89.6)	20 (10.4)	
Type of family						
Nuclear	82 (71.3)	33 (28.7)	0.09	97 (84.3)	18 (15.7)	0.024
Joint	89 (61.4)	56 (38.6)		135 (93.1)	10 (6.9)	

and 89.2% of mother agreed that colostrum is important for baby. Regarding latching technique and source of knowledge, studied subjects answered with multiple options (Table 4).

Most of the mothers, i.e., 99.2% preferred sitting position for feeding their babies, 94.6% do not have a schedule for feeding, they feed their babies as and when demand comes, 90.8% of the mothers stated that they had initiated breastfeeding within an hour of delivery, 92.7% accepted that breastfeeding makes them felt special, 50% mothers have a private place in the home for breastfeeding, and 59.2% did not face difficulty while feeding in public place. There was a significantly higher number of housewives who feel difficulty in breastfeeding in public places ($p=0.002$) (Table 5).

When asked about the pre-lacteal feed, 13.5% of mothers said that it can be given to the baby. Perception toward the pre-lacteal feed has no association with the education of mother, place of living, and type of family in our study. Almost all (99.2%) mothers thought that breastfeeding increases mother-baby bonding, while 68.8% of mother thought that it is a method of natural contraception. When asked about the continuation of breastfeeding during their sickness, 94.6% said that it should be continued during sickness.

DISCUSSION

Optimal IYCF practices are fundamental in ensuring appropriate growth and development [7,8]. According to the IYCF, 2006

guidelines, Government of India recommends that initiation of breastfeeding should begin immediately after birth, preferably within 1 h [9]. Inappropriate breastfeeding and complementary feeding practices, coupled with high rates of infectious diseases, have, however, been identified as the major immediate causes of malnutrition during the first 2 years of life.

In our study, 81% of women had knowledge that only breast milk is sufficient for initial 6 months. According to the National Family Health Survey (NFHS-3), EBF upto 6 months of age was only 46.3% [10]. Jain *et al.* in 2006 conducted a similar study and found that only 10% of mothers practice EBF [11]. In our study, only 5.5% of mother knew exact definition of EBF and 65.8% of mothers knew the fact that no top feed is required for initial 6 months. EBF is the most effective intervention to promote infant nutrition and to decrease the morbidity and mortality among them. Mothers should be educated during the antenatal period regarding the undisputed effect of feeding. They should be trained about the technique of breastfeeding to newborn.

Almost all mothers (99.2%) thought that breastfeeding increases mother-baby bonding while 68.8% of mother thought that it is natural contraceptive. Mohammed *et al.* found that about 77% of the mothers knew that breastfeeding strengthens the relationship between mother and her baby [12]. Our study found medical staff (95.4%) as their source of knowledge regarding breastfeeding. The result of our study was similar to the studies

Table 4: Knowledge related to breastfeeding among studied subjects (n=260)

Variables	Number (%)
Meaning of exclusive breastfeeding	
Taking only breast milk	220 (84.5)
Breast milk with medication	14 (5.5)
Breast milk with top milk	20 (7.6)
Breast milk with water	6 (2.4)
Duration of breastfeeding	
Up to 4–6 months	86 (33.1)
Up to 1 year of age	45 (17.3)
Up to 2 years	118 (45.4)
Up to 5 years	11 (4.2)
Proper latching	
Baby is in comfortable position	260 (100)
Swallowing sound heard	236 (90.8)
When fed mouth is wide open	142 (54.6)
Only upper areola visualized	58 (22.3)
Source of information regarding breastfeeding	
Doctor/nurses	248 (95.4)
Family member	200 (90.8)
Media	146 (56.2)
Importance of colostrum	
Important	232 (89.2)
Not Important	28 (9.8)

Table 5: Attitude of mothers regarding breastfeeding practice

Variables	Number (%)
Preferred position of breastfeeding	
Sitting	258 (99.2)
Lying	26 (10)
Frequency of breastfeeding	
On demand	246 (94.6)
1–5 times a day	0 (0)
6–10 times a day	12 (4.61)
11–15 times a day	2 (0.76)
Time of initiation of breastfeeding after delivery	
Within 1 h after baby birth	236 (90.8)
1–2 h after birth	24 (9.2)
2–24 h after birth	0
More than 24 h after birth	0 (0)
Any private places for breastfeeding at home	
Yes	130 (50)
No	130 (50)
Breastfeeding makes you feel important	
Yes	241 (92.7)
No	19 (7.3)
Breastfeeding in public places	
Feels difficult	106 (40.8)
No	154 (59.2)

conducted by Mbada *et al.* [13] and Jain *et al.* [11], where they reported 88% and 57% of mothers told hospital as their source of

information. Ahmed *et al.* found that 45.2% of mothers received knowledge from their family members [14].

When asked about proper latching or positioning technique, 99.2% of mothers do not know proper technique and told their baby should be in comfortable position. In one of the studies, Chaudhary *et al.* found that 60% of mothers were practicing inappropriate attachment and positioning technique of breastfeeding [15]. Sitting upright in a breast-to-baby latch-on and holding baby in a cradle is considered as the mainstream and traditional approach in breastfeeding.

In our study, 89.2% of mothers answered that colostrum is very important to the baby and should be fed. The results of our study were similar to the findings of Thakur *et al.*, Takalkar *et al.*, and Parmar *et al.* [16–18]. In contrast, a study by Taja *et al.* [19] found that only 22.7% of mothers of a district of Madhya Pradesh had given colostrum to their baby. Sharma *et al.* [20] and Kapil *et al.* [21] have also reported that most of the mothers were not aware about the beneficial effect of colostrum. This variation between various studies may be due to the different types of customs prevalent in India as sociocultural factors influence these practices and vary from region to region. The other reason could be the presence of greater awareness regarding colostrum among our study subjects, and this might be due to the greater awareness of health workers in our area.

According to Penders *et al.* [22], pre-lacteal feeds are not recommended for the infants because of their resulting effect on the onset of lactation and on perinatal morbidity and mortality. In our study, only 13.2% of mothers perceived that pre-lacteal should be given to baby. However, in practice, >60% of newborns received pre-lacteal feeds in previous studies from different regions of India [18,20]. The most important reason cited was family customs and relatives' advice. It is a very common belief that child takes care of the person who gives pre-lacteal feed to the child. Majority of the mothers (94.6%) perceived that breastfeeding should be continued during their sickness, whereas in a study conducted by Mohammed *et al.*, 83.4% of mothers said that breastfeeding should be avoided during mothers' illness [12].

In our study, 90.8% of mothers initiated breastfeeding within 1 h of delivery, whereas Dandekar *et al.* study showed that only 41.6% of mothers initiated breastfeeding within 1 h after delivery [23]. Wagh *et al.* found that about 80.48% of mothers initiated breastfeeding within ½ h after the delivery [24]. Vyas *et al.* reported that initiation of breastfeeding within an hour was practiced by only a few mothers (21.37%) [25]. The 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 restriction. According to the NFHS-3, the initiation of breastfeeding within 1 h of birth is only 24.5% [10].

In the present study, 94.6% of mothers believed in demand feeding. Vyas *et al.* conducted a similar study and they found that 89.2% of mothers practiced demand feeding [25]. Mohammed *et al.* reported that 95.8% of the mothers fed their child on

demand [12]. In our study, 99.2% of mothers preferred sitting position for breastfeeding. A similar type of study was done by Mbada *et al.* [13] and found that sitting on a chair for breastfeeding was more preferred (62.4%).

There were few limitations of the present study. First, our study was a cross-sectional study; hence, it was difficult to generalize the findings of the study. Hence, further qualitative studies such as focus group interviews should be conducted at a community level to identify barriers to promote breastfeeding among Indian mothers. Second, being a questionnaire study, respondents may understand in a different way for each question, and subsequent reply is based on their own interpretation of the question, reflecting the inherent limitations of such studies.

CONCLUSION

The present study found that mothers had satisfactory knowledge regarding breastfeeding and the mothers do not even consider alternative to this. Mothers living in the joint family had significantly more knowledge about the EBF. However, some attitudes and practices of the mothers were suboptimal, which can be enhanced through proper counseling, family interventions, and public health education campaigns and by strengthening the existing program. There is a need for improving strategies for maternal care during the antenatal and postnatal periods.

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