

Original Article

Insights into the Knowledge, Attitude, and Practices of Mothers with Infants under 6 Months at a Tertiary Care Center in Southern Tamil Nadu

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Received: 07 June 2024

Accepted: 26 July 2024

Published: 22 August 2024

DOI

10.25259/ACH_12_2024

Quick Response Code:



ABSTRACT

Objectives: Initiation of breastfeeding shall be done within the 1st h after birth, and exclusive breastfeeding shall be provided for the first 6 months of age. The objective of this study was to analyze and ascertain the knowledge, attitude, and practice of breastfeeding among lactating mothers.

Material and Methods: The present study was a cross-sectional study carried out in the pediatrics department of Sivagangai Medical College, Tamil Nadu. The study was carried out for a period of 3 months between January 2024 and March 2024 among the mothers of infants (0–6 months). Informed consent was obtained from all the mothers included in the study. The data for the study were collected using a pretested structured questionnaire and analyzed using the Statistical Package for the Social Sciences version 26.

Results: Four hundred and sixty-three mothers (92.6%) reported that exclusive breastfeeding is important. Four hundred and eight mothers (81.6%) were aware that breastfeeding should be initiated within 1 h after birth. Four hundred and twenty-two mothers (82.2%) positively agreed that breastfeeding increases mother-child bonding. Four hundred and eighteen mothers (83.6%) reported that breastfeeding should be continued when the baby is ill. Four hundred and five mothers (81%) gave only breast milk as the first feed to the child. Three hundred and eleven mothers (62.2%) reported to have initiated breastfeeding within 1 h of delivery. Two hundred and ninety-eight mothers (59.6%) reported to have drunk 2–3 L of water.

Conclusion: Many participants were found to have adequate knowledge, positive attitudes, and good practice toward breastfeeding. The knowledge regarding expressing and storing breast milk is on the lower side. The proportion who had consulted a lactation consultant/medical advisor regarding lactation was also lesser, and so was the self-reported water consumption among the lactating mothers. This study helps us to assess the breastfeeding rate at the rural level and helps to counsel them regarding the importance of breastfeeding and advise them about methods of breastfeeding, storage of breast milk, and methods to increase milk production and proper ways of attachment, thereby increasing the breastfeeding rate in the population.

Keywords: Breastfeeding, Formula feeds, Exclusive, Knowledge, Attitude, Practice, Barriers

INTRODUCTION

Breastmilk is said to be the ideal food for infants. It is both safe and clean. It also protects against infections as it contains antibodies. Breast milk alone can provide all the nutrients and energy required for the first 6 months, half of the requirements for the second 6 months, and up to one-

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third of the requirements for the 2nd year of life. Intelligence tests had reported that breast-fed infants fared better than the other infants.

Breastfed infants were also less likely to develop obesity and diabetes mellitus in the future. The probability of breast and ovarian cancers is reduced in breast-fed women.^[1] The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) recommend initiation of breastfeeding within the 1st h after birth, exclusively breastfeeding for the first 6 months of age, and continuation of breastfeeding for up to 2 years of age or beyond, in addition to adequate complementary food.^[2,3] For the above to be accomplished, knowledge about breastfeeding is very vital. For the knowledge to culminate in practice, a positive attitude toward breastfeeding is also important.

The present study was conducted to analyze and ascertain the knowledge, attitude, and practice of breastfeeding among lactating mothers. Similar studies have not been conducted in this setting before. The study will shed light on the domain of knowledge about breastfeeding in which the mothers are lacking and also give an idea about the present pattern of breast-feeding practices in the study setting. The study will also try to find the attitudes of mothers toward breastfeeding. All of the above will aid in creating a tailor-made health education campaign for breastfeeding mothers in the study setting.

MATERIAL AND METHODS

The present study was a cross-sectional study carried out in the pediatrics department of Sivagangai Medical College, Tamil Nadu. The study was carried out for a period of 3 months between January 2024 and March 2024 among the mothers of infants (0–6 months). Ethical clearance for the study was obtained from the Institutional Ethics Committee. Informed consent was obtained from all the mothers included in the study.

The sample size was fixed at 500, and a convenient sampling technique was used. All the mothers with infants aged 0–6 months who had attended the outpatient department (OPD), immunization OPD, and were admitted to the postnatal wards during the study period were approached for participation in the study.

Lactating mothers with chronic illnesses such as cancer, hepatitis B, hepatitis C, human immunodeficiency virus/acquired immunodeficiency syndrome, or on anti retroviral therapy (ART) or antipsychotic drugs; mothers on top-up formula feeds or cow's milk; babies with cleft lip or palate; Down's syndrome; congenital heart disease; or any major congenital anomalies; mothers with preterm babies or twin babies; and babies admitted to the neonatal intensive care unit were excluded from the study. Those who were not willing to participate were also excluded from the study.

The data for the study were collected using a pretested, structured questionnaire. The questions included the general information, including the age of the mothers collected as completed age, educational qualification collected as either illiterate, studied up to high school, graduate or postgraduate, occupation of the mother collected as homemaker or employed, and the type of family recorded as nuclear or joint. The information regarding the receipt of antenatal care was sought and recorded as yes or no. The mode of delivery was recorded as either vaginal delivery or cesarean section. The information about whether counseling for breastfeeding was provided in the antenatal period or not was recorded.

The knowledge domain consisted of ten questions, and all the questions were of multiple-choice types. The correct answer, if provided, was scored with a one, and the wrong answer was a zero. The attitude domain also consisted of ten questions with options for agree, unsure, and disagree. The practice part also consisted of ten questions, and all the questions here were also of the multiple-choice type.

The collected data were entered into Microsoft Excel 2019, and a master chart was created. The master chart was then loaded onto the Statistical Package for the Social Sciences version 26 for statistical analysis. The qualitative data were expressed using frequency and percentage, and the quantitative data were expressed using mean and standard deviation. Pie charts and bar diagrams were used to represent the results pictographically.

RESULTS

Among the 500 participants, 281 (56.2%) mothers were of age 19–25 years, followed by 160 mothers (32%) of age 26–30 years. Two hundred and thirty-three mothers (46.6%) had studied up to high school, followed by 164 mothers (32.8%) who were graduates. Three hundred and eighty-five mothers (77%) were homemakers, and 265 mothers (53%) belonged to nuclear families. Four hundred and seventy-eight mothers (95.6%) reported to have received antenatal care, and for 265 mothers (53%), the annual family income was 1 lakh to 2 lakh rupees. Three hundred and nine mothers (61.8%) had only one child, followed by 149 mothers (29.8%) who had two children. The last delivery was vaginal in 324 mothers (64.8%) and cesarean in 176 mothers (35.2%). One hundred and eighty-eight mothers (37.6%) reported to have received counseling about breastfeeding during the antenatal period [Table 1].

About 463 mothers (92.6%) reported that exclusive breastfeeding (EBF) is important. Three hundred and ninety-seven mothers (79.4%) reported colostrum to be immunologically beneficial to the child. Four hundred and fifty-nine mothers (91.8%) answered that EBF improves immunity. Four hundred and eight mothers (81.6%) were aware that breastfeeding should

Table 1: Sociodemographic characteristics of participants.

Variables		Frequency (n=500)	Percentage (%)
Age group (in years)	19-25	281	56.2
	26-30	160	32
	31-35	42	8.4
	36-40	17	3.4
Education	Illiterate	73	14.6
	Up to high school	233	46.6
	Graduate	164	32.8
	Post graduate	30	6
Occupation	Home maker	385	77
	Employed	115	23
Family type	Nuclear	265	53
	Joint	235	47
Received antenatal care	Yes	478	95.6
	No	22	4.4
Annual family income (in rupees)	<1,00,000	141	28.2
	1,00,000 – 2,00,000	265	53
	>2,00,000	94	18.8
Number of children	1	309	61.8
	2	149	29.8
	3	37	7.4
	4	5	1
Type of delivery	Vaginal	324	64.8
	Caesarean	176	35.2
Counselling about breast feeding	Yes	188	37.6
	No	312	62.4

be initiated within 1 h after birth. Four hundred and thirty-one mothers (86.2%) were aware of the fact that breastfeeding prevents infections such as diarrhea and pneumonia in children. Three hundred and fifty-four mothers (70.8%) stated EBF to be done for 6 months. Two hundred and eighty-nine mothers (57.8%) only knew that breast milk could be expressed and stored. Two hundred and forty-four mothers (48.8%) reported that one can assess the adequacy of breastfeeding when the baby passes urine more than 5 times a day. Three hundred and eighty-one mothers (76.2%) had known that frequent suckling improved milk production. Three hundred and ninety-one mothers (78.2%) knew that the weight gain pattern of a breastfed infant would vary from that of a formula-fed infant [Table 2].

Three hundred and twelve mothers (62.4%) agreed that breastfeeding can be continued up to 2 years of age, and 160 mothers (32%) were unsure about it. Two hundred and ninety-five mothers (59%) were positive about providing breastmilk on demand, and only 34 mothers (6.8%) disagreed. Two hundred and seventy-two mothers (54.5%) agreed that pre-lacteal feed should never be given to the baby, while 110 mothers (22%) were of the opinion that it should be given. Four hundred and three mothers (80.6%) were positive about following the vaccination schedule. One hundred and seventy-eight mothers (35.6%) had a positive attitude toward breastfeeding the child when the child was having a diarrheal episode, and 133 mothers (26.6%) disagreed with the statement. Three hundred and one mothers (60.2%) believed breastfeeding to be better than formula feeding, while 50 mothers (10%) disagreed with the fact. Three hundred and

Table 2: Distribution according to answer to knowledge-based questions.

Sno	Statement	N	%
1	Exclusive breast feeding is important	463	92.6
2	Colostrum is immunologically beneficial to the child	397	79.4
3	Exclusive breast feeding improves immunity	459	91.8
4	It is important to initiate breast feeding within 1 hour after birth	408	81.6
5	Exclusive breast feeding can prevent the child from diarrhoea and pneumonia	431	86.2
6	Exclusive breast feeding is to be done for 6 months	354	70.8
7	In case of working mother, expressing breast milk and storing the milk aids in exclusive breast feeding	289	57.8
8	In case of adequate breast-feeding baby passes urine for more than 5 times in a day	244	48.8
9	Frequent suckling improves milk production	381	76.2
10	Weight gain of breast-fed infants differ from formula fed infants	391	78.2

thirty-nine mothers (67.8%) were of the opinion that health and hygiene are important for breastfeeding, and 139 mothers (27.8%) disagreed about it. Two hundred and fourteen mothers (42.8%) agreed that breastfeeding does not cause any change in body shape, while 139 mothers (27.8%) were of the opinion that it causes some changes. Four hundred and twenty-two mothers (82.2%) positively agreed that breastfeeding increases mother-child bonding. Four hundred and eighteen mothers (83.6%) reported breastfeeding to be continued when the baby is ill [Table 3].

One hundred and sixty-five mothers (33%) reported having taken advice from the lactation counselor or medical advisor regarding lactation. One hundred and twenty-four mothers (24.8%) had provided pre-lacteal feeds to the infants. Four hundred and five mothers (81%) gave only breast milk as the first feed to the child. Three hundred and eleven mothers (62.2%) were reported to have initiated breastfeeding within 1 h of delivery, and 51 mothers (10.2%) initiated only after 24 h. Two hundred and ninety-six mothers (49.6%) reported having breastfed the baby on demand. Two hundred and forty-eight mothers (49.6%) reported that they emptied one breast before using the other. One hundred and forty-eight mothers (29.6%) followed dietary restrictions while breastfeeding their children. Four hundred and three mothers (82.6%) reported to have used galactagogues. Fenugreek (33.4%) was the most commonly used galactagogue, followed by garlic (22.8%). One hundred and seventeen (23.4%) reported to have drunk water <2 L per day, and 298 (59.6%) reported to have drunk 2–3 L. Four hundred and forty-one mothers (88.2%) were reported to have followed proper latching and attachment [Table 4 and Figure 1].

DISCUSSION

The WHO and the UNICEF recommend initiation of breastfeeding within the 1st h after birth, exclusively

Table 3: Distribution according to answer to attitude-based questions.

Sno	Statement	Agree		Unsure		Disagree	
		N	%	N	%	N	%
1	Breastfeeding shall be continued up to 2 years	312	62.4	160	32	28	5.6
2	Breastfeeding shall be done on demand	295	59	171	34.2	34	6.8
3	Pre-lacteal feeds to babies shall not be given	272	54.5	118	23.6	110	22
4	Vaccination schedule shall be followed	403	80.6	47	9.4	50	10
5	Breastfeeding shall be done even when the child is having diarrhoeal episodes	178	35.6	189	37.8	133	26.6
6	Breast feeding is better than formula feeding	301	60.2	149	29.8	50	10
7	Health and hygiene are important for breast feeding	339	67.8	112	22.4	49	9.8
8	Breastfeeding shall not cause change in body shape	214	42.8	147	29.4	139	27.8
9	Breastfeeding increases mother and child bonding	422	84.4	67	13.4	11	2.2
10	Breastfeeding shall be continued during baby's illness	418	83.6	75	15	7	1.4

Table 4: Distribution according to answers to practice-based questions.

Sno	Statement	Response	
		N	%
1	Took advice from lactation counsellor/ medical advisor regarding lactation	Yes	165 33
		No	335 67
2	Gave pre-lacteal feeds to infants	Yes	124 24.8
		No	376 75.2
3	Type of first feed given to the child	Breast milk	405 81
		Honey / sugar water	95 19.2
4	Time of initiation of breast feeding	With in an hour	311 62.2
		1 to 6 hours	138 27.6
		After 24 hours	51 10.2
5	How frequently do you breast feed?	On demand	296 59.2
		At specific intervals	180 36
		At random	24 4.8
6	Do u Completely empty the breast on one side before using another breast?	Yes	248 49.6
		No	252 50.4
7	Do you have any diet restrictions?	Yes	148 29.6
		No	352 70.4
8	Do you take any galactagogues	Yes	403 82.6
		No	97 17.4
9	Amount of water taken during 1 st week of delivery	< 2 litres	117 23.4
		2-3 litres	298 59.6
		>3 litres	85 17
10	Whether proper latching and attachment is followed	Yes	441 88.2
		No	59 11.8

breastfeeding for the first 6 months of age, and continuation of breastfeeding for up to 2 years of age or beyond, in addition to adequate complementary foods.^[2,3] The present study was conducted to analyze and ascertain the knowledge, attitude, and practice of breastfeeding among lactating mothers.

The present study was a cross-sectional study carried out in the pediatrics department of Sivagangai Medical College, Tamil Nadu, for 3 months. All the mothers with infants aged 0–6 months who had attended the OPD, immunization OPD, and were admitted to the postnatal wards during the study period were approached for participation in the study.

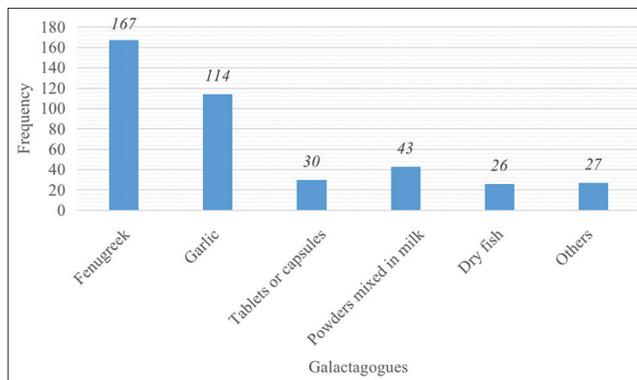


Figure 1: Bar chart showing distribution according to the type of galactagogue used.

Ethical clearance was obtained from the Institutional Ethics Committee, and informed consent was obtained from all the participants included in the study.

In the present study, almost nine in ten respondents said that exclusive breastfeeding is important. In a study by Newby *et al.*, 85% reported breast milk as the appropriate food for infants, which was similar to the present study.^[4] In the present study, the participants had adequate knowledge in most of the domains of breastfeeding. Suarez Cotelo *et al.* reported that knowledge regarding breastfeeding is vital as it can influence both the intention and type of feeding of the newborn.^[5] Basrowi *et al.* reported that mothers have good knowledge regarding breastfeeding.^[6] Altamimi *et al.* reported satisfactory knowledge among lactating mothers regarding breastfeeding.^[7] Khasawneh *et al.*^[8] reported that 78% of their participants had good knowledge about breastfeeding.^[9] Abdulahi *et al.* reported that half of their participants had adequate knowledge about breastfeeding.^[10] Yakubu *et al.* reported that many mothers have good knowledge about breastfeeding.^[11]

Many mothers lacked the knowledge that breast milk could be expressed and stored. Addressing this knowledge will be very important, as many working women will find it difficult to breastfeed when they resume working.^[7] Usually, the babies have to rely on formula feeds. To overcome it, all mothers should be taught how to express and store breast milk.

In the present study, most women had a positive attitude toward breastfeeding and its practices. Balogun *et al.* reported that more than two-thirds of the women had a positive attitude toward EBF in their study.^[12] Yakubu *et al.*^[11] reported the thought that alteration of breast figure following breastfeeding was one of the barriers to breastfeeding. One of the important barriers to breastfeeding could be the attitude of the mother toward breastfeeding. A study reported that mothers feel EBF to be more hard work than formula feeding.^[12] Altamimi *et al.* reported mothers have a good attitude toward breastfeeding.^[7] Khasawneh *et al.* reported that 72% of their participants had a positive attitude toward

breastfeeding.^[8] Yakubu *et al.* also reported a positive attitude toward breastfeeding among the mothers.^[11]

One of the pitfalls with regard to practice in the present study was that only a few consulted lactation consultants or medical advisors regarding lactation. In a study by Sabo *et al.*, more than half reported having given pre-lacteal feeds to the baby.^[13] The proportion was lower in the present study, as only about 20% reported having received pre-lacteal feeds. Most women had provided breast milk as the first food to the child. Sabo *et al.* reported that among the participants, 60% had started breastfeeding immediately after delivery.^[13] A similar proportion was also documented by Yakubu *et al.*^[11] In the present study, a similar proportion reported having initiated breastfeeding within 1 h of birth. Omar *et al.* reported cesarean sections as a barrier to the early initiation of breastfeeding.^[9] Almost eight in ten participants reported having consumed galactagogues in one form or another. The self-reported water consumption per day was also on the lower side among the study participants.

The strengths of the study were that it explored the knowledge, attitude, and practice among the mothers who are practicing breastfeeding at present, and the recall bias will be lessened as the events of the study have taken place just now. The limitations were that the results had to be generalized with caution. A multicenter study with the same objective will provide a more generalizable result.

CONCLUSION

Many participants were found to have adequate knowledge, positive attitudes, and good practice toward breastfeeding. The knowledge regarding expressing and storing of breastmilk is on the lower side. The proportion who had consulted a lactation consultant/medical advisor regarding lactation was also lesser, and so was the self-reported water consumption among the lactating mothers. This study helps us to assess the breastfeeding rate at the rural level and helps to counsel them regarding the importance of breastfeeding and advise them about methods of breastfeeding, storage of breast milk, and methods to increase milk production and proper ways of attachment, thereby increasing the breastfeeding rate in the population.

Ethical approval

The research/study was approved by the Institutional Review Board at Government Sivagangai Medical College, number ME5/24/2023, dated December 27, 2023.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript, and no images were manipulated using AI.

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How to cite this article: Shunmugavel S, Elango S, Baskaran V, Jeyaraman B. Insights into the Knowledge, Attitudes, and Practices of Mothers with Infants under 6 Months at a Tertiary Care Center in Southern Tamil Nadu. *Ann Child Health*. 2024;1:32-7. doi: 10.25259/ACH_12_2024