Original Article

Knowledge, Attitude and Practices Among Mothers of Infants Regarding Breastfeeding

Shema Raj Manjapallikkunnel; MBBS[1], Anjana Nalinakumari Kesavan Nair; M.D., DNB[2], Chintha Sujatha; M.D.[3]

1 Meditrina Hospital, Thiruvananthapuram, India
2 Sree Mookambika Institute of Medical Sciences, Kulashekharam, India
3 Government Medical College, Thiruvananthapuram, India

Received February 2023; Revised and accepted August 2023

Abstract

Objective: This study aims at understanding the level of knowledge, attitude, and practice of breastfeeding among mothers and the factors associated with good knowledge about breastfeeding.

Materials and methods: A cross-sectional study among 251 mothers of infants admitted in the pediatric wards of SAT Hospital, Thiruvananthapuram was conducted during November-December 2019. The mothers of infants born between 37 and 42 weeks of gestation and without major birth defects were included in the study. The data were entered into an MS Excel sheet and analyzed using Statistical Package of Social Sciences version 26.0. Significance of association was tested using Chi-square test and multivariate analysis was done using binary logistic regression test.

Results: The mean age of the participants was 26.25 (SD 4) years. On multivariable analysis, higher education and older age were found to be significantly associated with good knowledge. Independent sample T-Test results show that there was a statistically significant difference between the mean age of mothers with good knowledge (26.4(±4), 25.14(±3.7)), p-0.015 and statistically significant association was found between the mean attitude scores (34.07(5.58)) with current breastfeeding practices (p=0.002). Chi-square test shows that exclusive breastfeeding was significantly associated with the mother's age (p=0.006); 64.2% of women practicing exclusive breastfeeding were less than 25 years of age. This study also demonstrated a significant association between the initiation of breastfeeding within an hour and exclusive breastfeeding (p=0.003).

Conclusion: This study shows that mothers with higher age and higher educational qualifications were significantly associated with good knowledge about breastfeeding. Even though mothers have good knowledge, nearly half the mothers only exclusively breastfeed their infants for six months. Improving the educational qualification of women and increasing awareness about the benefits of breastfeeding among young women will promote breastfeeding practices.

Keywords: Knowledge; Attitude; Practice; Breastfeeding; Kerala

Introduction

Breastfeeding is considered the most cost-effective public health measure that has a significant impact on the morbidity and mortality of infants in developing countries (1). According to the WHO, Breastfeeding is equally beneficial for the mother and the infant (21). These benefits and advantages of breastfeeding

Correspondence:
Shema Raj Manjapallikkunnel
Email: shemarajmanjappallikkunnel@gmail.com

have been widely studied (3). Decreased risks of breast cancer, ovarian cancer, postpartum depression, hypertension, cardiovascular disease, type 2 diabetes mellitus, etc are maternal benefits of breastfeeding. The health problems associated with lack of breastfeeding is well known and includes higher rates of necrotizing enterocolitis and infections, and lower scores of neurodevelopmental tests (4). The secretory IgA of breast milk protects the ears, nose, throat, and digestive tract and also reduces the intensity of diseases such as diarrhea, respiratory tract infections, otitis media, bacterial meningitis, and urinary tract infection in infants (5, 6).

Globally, the prevalence of exclusive breastfeeding (EBF) is 30-50% but in India, it is 54.9% (2). According to India's National Family Health Survey 5 (NFHS-5) (2019-2020), in Kerala only 55.5% of infants were exclusively breastfed for six months. Though these figures are marginally better than the previous survey in 2015-2016 (53%), the fact remains that only about 50% of infants receive optimal breastfeeding (7). Other studies from south India show similar results. A study done in rural areas of the Kancheepuram district, showed the prevalence of exclusive breastfeeding to be 38.8% and in rural Mysore, 48.5% practiced EBF for the first 6 months of the infant's life (8, 9). All major health organizations recommend breastfeeding as the optimal source of infant nutrition, with EBF recommended for the first six months of life (10). According to the WHO and UNICEF, EBF for 6 months is the single most effective child survival intervention which reduces both infant mortality and under-five mortality rates in India (11). World Health Organization and UNICEF launched the Baby-Friendly Hospital Initiative (BFHI) in 1991 to increase breastfeeding rates around the world (12).

Successful breastfeeding is achieved through information, education, and communication strategies aimed at behavior change. Family and friends are the main source of information to mothers, which is often inadequate[11] and the practice of breastfeeding is influenced by various social, cultural, and religious beliefs. However, there were only a few reported studies using the IIFAS (Iowa Infant Feeding Attitudes Scale) from India, which may be different from other cultures (13). This study aims at understanding the level of knowledge and attitude towards breastfeeding in mothers which influence the practice of breastfeeding.

Materials and methods

A cross-sectional study among 251 mothers of infants admitted in the pediatric wards of SAT Hospital, Thiruvananthapuram was conducted after obtaining HEC clearance with HEC.no.09/47/2019/MCT during November-December 2019. The mothers of infants born between 37 and 42 weeks of gestation and without major birth defects were included in the study. Mothers who were not willing were excluded from the study. The sample size was calculated using the formula for proportion, using the prevalence of exclusive breastfeeding in the previous study, which was found to be 35%, and assuming an absolute precision of 5%, at 95% confidence level, the sample size was estimated as 251 (11). The study participants were selected through consecutive sampling till the sample size was met.

After obtaining permission from hospital authorities, consent was taken from mothers and, data were collected using a direct interviewer-administered structured questionnaire which included sociodemographic details, and questions about knowledge, attitude and, the practice of breastfeeding. The knowledge domain consists of 14 items, questions regarding attitude were adapted from IIFAS (Iowa Infant Feeding Attitude Scale) with 12 items and 3 questions were about the practice of breastfeeding. IIFAS is a valid and reliable tool used to evaluate attitude towards breastfeeding in cross-cultural settings. The data were entered into an MS Excel sheet and analyzed using Statistical Package of Social Sciences version 26.0. Bivariate analysis was done using Chi square test and Independent sample T-Test. Multivariate analysis was done using binary logistic regression test , $p<0.05$ was considered significant.

Results

The mean age of the participants was 26.25 (SD 4) years and the median income was 500 (1000, 500). All of them were married. Most of the women belonged to the age group of 20-25 (n=119) and the majority had an income of less than 2500 rupees. 73.3% of mothers resided in urban areas but only a total of 15.2% were working women and the remaining were homemakers. The details of socio-demographic characters are given in table 1.

Mothers' knowledge about breastfeeding

The knowledge domain consisting of 14 questions was assigned one mark for each right answer and zero mark for wrong answers.

Table 1: Sociodemographic characteristics of participants

	Group	n	%
Age in years	</=19	4	1.6
	20-25	119	47.4
	26-30	95	37.8
	>31	33	13.1
Income	</=2500	235	93.6
	>2500	16	6.4
Marital status	Married	251	100
Religion	Hindu	156	62.2
	Islam	54	21.5
	Christian	37	14.7
	Others	4	1.6
Place of residence	Rural	184	73.3
	Urban	67	26.7
Employment	Employed	28	11.2
	Manual laborer	10	4.0
	Home maker	213	84.9
Education	Primary	72	28.7
	Secondary	92	36.7
	Degree and above	87	34.7
Type of delivery	Normal vaginal	130	51.8
	Caesarian	121	48.2
Gravida	Primi	105	41.8
	Multi	146	58.2

The mean knowledge score was 10.4 (SD 1.59). More than 70% score was considered as good knowledge and the rest as poor knowledge. The study shows that 76.9% of mothers had good knowledge about breastfeeding. The questions in the knowledge domain and their percentage are given in table 2.

Attitude towards breastfeeding

The attitude of mothers was analyzed using a questionnaire adapted from the Iowa Infant Feeding Attitude Scale (IIFAS). It consisted of twelve questions out of which five questions favor breastfeeding. There were three possible responses - agree, neutral, and disagree scored as 5, 3, and 1 respectively. Questions favoring formula feed were reverse-scored. The total scores range from 12 -60. Higher scores (48-60) reflect a positive attitude towards breastfeeding, scores between (35-48)show a neutral attitude and lower scores (12-34) favor a positive attitude towards formula feeding. The questions regarding attitude and their frequencies are given in table 3.

Practice of breastfeeding

In the present study, the majority of the mothers (90.4%) were breastfeeding their infants, but only 55.4% of the mothers were practicing exclusive breastfeeding.82.9% of mothers initiated breastfeeding within an hour of delivery. Chi-square test shows that exclusive breastfeeding was significantly associated with the mother's age (p=0.006); 64.2% of women practicing exclusive breastfeeding were less than 25 years of age. This study also demonstrated a significant association between the initiation of breastfeeding within an hour and exclusive breastfeeding (p=0.003). Table 4 demonstrates the factors associated with good knowledge in the present study.

Factors determining attitude levels towards breastfeeding is demonstrated in Table 5. Independent sample T-Test results show that there was a statistically significant difference between the mean age of mothers with good knowledge and poor knowledge levels (26.4(±4), 25.14 (±3.7)), p =0.015.

Table 2: Knowledge of mothers regarding breastfeeding

Mothers' knowledge regarding breastfeeding	True		False		Don't know	
	n	%	n	%	n	%
Colustrum is first milk.	204	81.3	8	3.2	39	15.5
Colustrum is important for baby to maintain immunity.	209	83.3	4	1.6	38	15.1
Burping should be one after each feed.	244	97.2	4	1.6	3	1.2
Breastfeeding should be continued upto two years.	242	96.4	4	1.6	5	2.0
Lactating mothers should take healthy food to improve secretion of milk.	247	98.4	4	1.6	0	0
During breastfeeding the mother should sit comfortably.	245	97.6	4	1.6	2	0.8
During breastfeeding mother should maintain eye to eye contact and talk with the baby	235	93.6	4	1.6	12	4.8
Wash each breast with warm water before breastfeeding.	221	88	4	1.6	26	10.5
Awakening the baby while breastfeeding	239	95.2	5	2.0	7	2.8
Breastfeeding helps in mother and child bonding.	248	98.8	2	0.8	1	0.4
Breastfeeding can prevent diseases affecting the breast.	231	92.0	2	0.8	18	7.2
Breastfeeding affects the beauty of feeding mothers.	39	15.5	161	64.1	51	20.3
Mothers should not feed the child when the child has diarrhoea.	37	14.7	149	59.4	65	28.5
Stop breastfeeding when you start weaning.	20	8	202	29	29	11.6

Table 3: Attitude of mothers towards breastfeeding

Attitude of mothers towards breastfeeding	Disagree		Neutral		Agree	
	n	%	n	%	n	%
The benefit of breast milk last only as long as the baby s breastfed.	163	64.9	25	10	63	25.1
Formula feeding is more convenient than breastfeeding.	183	72.9	31	12.9	37	14.7
Formula fed babies are more likely to be overfed than breastfed babies.	110	43.8	57	22.7	84	33.5
Mothers who formula feed miss one of the great joys of motherhood.	42	16.7	18	7.2	191	76.1
Women should not breastfeed in public places such as restaurants.	158	62.9	32	12.7	61	24.3
Breastfed babies are healthier than formula fed babies.	71	28.3	15	6	165	65.7
Breast milk is more easily digested than formula feed.	47	18.7	27	10.8	177	70.5
Formula is as healthy for an infant as breast milk.	165	65.7	31	12.4	55	21.9
Breast milk is cheaper than formula.	56	22.3	31	12.4	164	65.3
A mother who occasionally drinks alcohol should not breastfeed her baby.	37	14.7	50	19.9	164	65.3
Breast milk is lacking in iron.	149	59.4	53	21.1	49	19.5
Formula feed is better if mother plans to go back to work.	68	27.1	67	26.7	116	46.2

Independent sample T-test shows a statistically significant association between the mean attitude scores (34.07(5.58)) with current breastfeeding practices (p=0.002) (Table 6).

Discussion

This study aims at understanding the level of knowledge, attitude, and practice of breastfeeding among mothers and the factors associated with good knowledge about breastfeeding. In this study, 76.9% of mothers had good knowledge regarding breastfeeding. A study conducted in a similar setting in semi-urban Nigeria also shows comparable results (71.3%) (14). All of the women in this study were married and the majority (93.6%) had an income of less than 2500 rupees, were residents of rural areas (73.3%), and were homemakers (84.9%). These factors did not have an association with knowledge levels in mothers. 80.4% of the study participants had an educational qualification of degree and above which showed a significant association with good knowledge towards breastfeeding. The higher age of mothers also was a protective factor for good knowledge about breastfeeding. The study shows that 84.4% of mothers above 25 years of age had good knowledge. Slightly more than half (51.8%) of the mothers had a vaginal delivery and the remaining were caesarian sections. There was no demonstrable relationship between the mode of delivery and knowledge levels in mothers. Another factor related to good knowledge was parity, where 82.9% of multi-gravidas had good knowledge and multiparity is a protective factor for good knowledge. Studies like Ferreira et al also demonstrate multiparity as a protective factor for adherence to breastfeeding (15). On multivariable analysis, higher education and older age were found to be significantly associated with good knowledge.

Table 4: Factors associated with good knowledge

	Category	Good knowledge (%)	Poor knowledge (%)	p-value	OR (95%CI)
Age category	Less than 25 years	85 (69.1)	38 (30.9)	0.004	0.41 (0.22-0.76)
	More than 25 years	108 (84.4)	20 (15.6)		
Income	</=2500	181 (77.0)	54 (23.0)	0.853	1.11 (0.34-3.60)
	>2500	12 (75.0)	4 (25.0)		
Place of residence	Rural	145 (78.8)	39 (21.2)	0.234	1.47 (0.77-2.78)
	Urban	48 (71.6)	19 (28.4)		
Employment status	Employed	31 (81.6)	7 (18.4)	0.457	1.39 (0.57-3.35)
	Unemployed	162 (76.1)	51 (23.9)		
Educational status	Primary and secondary	49 (68.1)	23 (31.9)	0.035	0.51 (0.27-0.96)
	Degree and above	144 (80.4)	35 (19.6)		
Type of delivery	Normal	103 (79.2)	27 (20.8)	0.362	1.31 (0.73-2.36)
	Caesarian	90 (74.4)	31 (25.6)		
Parity	Primi	72 (68.6)	33 (31.4)	0.008	0.45 (0.24-0.81)
	Multi	121 (82.9)	25 (17.1)		

Table 5: Sociodemographic factors and attitude scores

Demographic variables	Group	Mean (SD)	p-value
Age	</=25 years	33.30 (6.18)	0.268
	>25 years	34.11 (5.35)	
Income	<2500	33.78 (5.76)	0.879
	>2500	35.50 (6.17)	
Employment	Employed	33.58 (5.26)	0.877
	Home makers	33.74 (5.87)	
Education	Primary and secondary	34.17 (6.21)	0.431
	Degree and above	33.53 (5.59)	
Place of residence	Rural	34.22 (6.05)	0.022
	Urban	32.33 (4.69)	
Type of delivery	Normal vaginal	34.02 (5.95)	0.391
	Caesarian	33.39 (5.58)	
Parity	Primi	34.10 (5.81)	0.375
	Multi	33.44 (5.75)	

Table 6: Results of binary logistic regression

	Adjusted OR	95% CI	p
Multi-parity	0.585	0.305-1.123	0.107
Educational category (Degree and above)	0.528	0.280-0.996	0.049
Age category (>25 years)	0.510	0.262-0.992	0.047

Nagelkerke r^2=0.088

Regarding the attitude of mothers, the median score was 34 which shows a neutral attitude towards breastfeeding .55.8% of mothers had a positive attitude towards formula feed followed by 42.6% of mothers having a neutral attitude and only 1.6 % of mothers had a positive attitude towards breastfeeding. This study shows that there is a statistically significant association between mean attitude scores and the place of residence (p=0.022). Mothers from rural areas had a higher mean IIFAS score than those from urban areas. This is different from a previous study which shows a significant association between higher IIFAS scores among urban mothers, but similar results were obtained in the case of elder mothers and homemakers showing higher attitude scores (13).

The practice of breastfeeding is influenced by both the level of knowledge as well as their attitude toward breastfeeding. The present study shows that only 55.4% of mothers with good knowledge exclusively breastfed their babies, which was less than a study conducted at a tertiary care hospital (70.4%) in central Kerala by Joseph et al. (7) but higher than similar studies by Mathew et al (16), Umadevi et al. (8) and Vijayalakshmi et al (13) which were 42%, 38.8%, and 27% respectively. Exclusive breastfeeding was also significantly associated with the mother's age; 64.2% of women practicing exclusive breastfeeding were less than 25 years of age (p=0.006). About 9.6% of the women discontinued breastfeeding their infants which is in discordance with WHO recommendations where breastfeeding has to be continued up to 2 years of age (4, 17). According to this study, 82.9% of mothers initiated breastfeeding within an hour of delivery. This is similar to a study conducted at a tertiary care center in central Kerala, with a similar sample size (80.9%) (7) and very much greater than the study by Vijayalakshmi et al which was only 36.9% (13). This study also demonstrated a significant association between the initiation of breastfeeding within an hour and exclusive breastfeeding (p=0.003). This study shows that mothers have good knowledge, neutral attitude, and exclusive breastfeeding practices which need further improvement. These findings are consistent with studies in similar settings (13).

Conclusion

The findings of the study show that there was a statistically significant association between good knowledge and higher age group as well as higher educational qualification. Even though mothers have good knowledge, nearly half of the mothers only exclusively breastfed their infants for six months. Hence it is important to provide education to improve knowledge about breastfeeding in younger mothers and those with lower educational qualifications that can bring about positive changes in attitude towards breastfeeding and improve the practice of exclusive breastfeeding.

Conflict of Interests

Authors declare no conflict of interests.

Acknowledgments

We extend our sincere gratitude to Dr. Sourav. B, Dr. Varna.M.Nair, Dr.Shahin.S and, Dr. Shamnad. S who helped in data collection for this study.

References

1. Leshi,OO, Samuel F, Ajakaye M O. (2016). Breastfeeding Knowledge, Attitude and Intention among Female Young Adults in Ibadan, Nigeria. *Open Journal of Nursing*,*2016;6*(1),11-23.
2. Pareek S. Exclusive breastfeeding in India: An ultimate need of infants. NPT. 2019;6(1):4-6.
3. Karimi B, Zarei Sani M, Ghorbani R, Danai N, The Pregnant Mothers' Knowledge About Breastfeeding in Semnan, Iran, Middle East *Journal of Rehabilitation and Health Studies*, 2014; 1(1): 1-6
4. Bellù R, Condò M. Breastfeeding promotion: evidence and problems. Pediatr Med Chir. 2017;39(2):156.
5. Alimoradi F, Javadi M, Barikani A, Kalantari N, Ahmadi M. An Overview of Importance of Breastfeeding. J Compr Ped [Internet]. 2014;5(2). Available from: https://brieflands.com/articles/jcp-19784.html#abstract
6. Dukuzumuremyi JPC, Acheampong K, Abesig J, Luo J. Knowledge, attitude, and practice of exclusive breastfeeding among mothers in East Africa: a systematic review. Int Breastfeed J. 2020;15(1):70.
7. Joseph R, John JJ, David A, Sankar L, Darvin D, Yashik M. Potential Determinants and Effects of Exclusive Breastfeeding Among Infants at a Tertiary Care Center, Kerala, India. Cureus. 2022;14(3):e23185.
8. Umadevi R, Patel RG. Prevalence of exclusive breastfeeding among rural women in KancheepuramDistrict, Tamil Nadu. Indian Journal of Forensic and Community Medicine. 2017;4 (4):277-279.
9. Nishimura H, Krupp K, Gowda S, Srinivas V, Arun A, Madhivanan P. Determinants of exclusive breastfeeding in rural South India. Int Breastfeed J. 2018;13:40.
10. Gebretsadik GG, Tadesse Z, Mamo L, Adhanu AK, Mulugeta A. Knowledge, attitude, and determinants of exclusive breastfeeding during COVID-19 pandemic among lactating mothers in Mekelle, Tigrai: a cross sectional study. BMC Pregnancy Childbirth. 2022;22(1):850.
11. Rudrappa S, Raju HNY, Kavya MY. To study the knowledge, attitude and practice of breastfeeding among postnatal mothers in a tertiary care center of South India. Indian Journal of Child Health. 2020;7(3):113–6.
12. Pérez-Escamilla R, Martinez JL, Segura-Pérez S. Impact of the Baby-friendly Hospital Initiative on breastfeeding and child health outcomes: a systematic review. Matern Child Nutr. 2016;12(3):402-17.
13. 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.
14. Mbada CE, Olowookere AE, Faronbi JO, Oyinlola-Aromolaran FC, Faremi FA, Ogundele AO, et al. Knowledge, attitude and techniques of breastfeeding among Nigerian mothers from a semi-urban community. BMC Res Notes. 2013;6:552.
15. Ferreira HLOC, Oliveira MF, Bernardo EBR, Almeida PC, Aquino PS, Pinheiro AKB. Factors Associated with Adherence to the Exclusive Breastfeeding. Cien Saude Colet. 2018;23(3):683-690.
16. Mathew AC, Benny JK, Philip DM, Dhanya C, Joy M, Sandhiya V, Ramesh S, Neelakandan K. Socio-Demographic and Clinical Correlates of Exclusive Breastfeeding practices up to Six Months of Age. Nepal J Epidemiol. 2019;9(3):772-780.
17. Dallak AM , Al-Rabeei NA , Yassein Ahmed Aljahmi YA. Breastfeeding Knowledge, Attitude, and Practices among Mothers Attending Health Centers in Sana'a City. ARC Journal of Public Health and Community Medicine [Internet]. 2016 [cited 2022 Oct 31];1(2). Available from: https://www.arcjournals.org/pdfs/ajphcm/v1-i2/3.pdf

Citation: Manjapallikkunnel SR, Nair ANK, Sujatha C. **Knowledge, Attitude and Practices Among Mothers of Infants Regarding Breastfeeding.**
J Family Reprod Health 2023; 17(3): 136-41.