International Journal of Community Medicine and Public Health
Raveendran A et al. Int J Community Med Public Health. 2020 Feb;7(2):532-536
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20200421

Original Research Article

Prevalence and determinants of exclusive breastfeeding among urban mothers of Central Kerala

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Received: 08 January 2020
Revised: 21 January 2020
Accepted: 22 January 2020

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ABSTRACT

Background: Breastfeeding is accepted as the natural form of infant feeding. The world health organization recommends exclusive breastfeeding of infants for first six months of age. The primary objective of the present study is to estimate the prevalence of exclusive breastfeeding and the secondary objectives were to identify factors influencing exclusive breastfeeding.
Methods: A cross-sectional study was conducted among all mother infant pairs of 6-12 months age enlisted in the updated MCH register of KMCH center, Ettumanoor. Data was collected using a semi structured interview schedule. Factors related to exclusive breastfeeding were analysed by bivariate and multivariate analysis using SPSS version19.0.
Results: Prevalence of exclusive breastfeeding was 21.9% with a median duration of four months. Multivariate logistic regression analysis revealed that maternal education, working mother, advice on exclusive breast feeding during antenatal visits and length of breast-feeding session were independently associated with exclusive breastfeeding. Inadequacy of breast milk was the major reason for non-exclusive breastfeeding.
Conclusions: Prevalence of exclusive breastfeeding is low in this particular area. Hence promotion of exclusive breastfeeding and focus on factors affecting them is highly warranted in this area.

Keywords: Determinants, Exclusive breastfeeding, Kerala, Prevalence

INTRODUCTION

Breastfeeding is the nature's way of providing all the essential nutrients for the healthy growth and development for an infant in an easily digestible and absorbable form.[1] Introduction of other foods during the first six months not only predisposes infant to infections, but also leads to problem of malnutrition.[2,3] So World Health Organization (WHO) recommends exclusive breastfeeding up to six months of age. Exclusive breastfeeding is defined by WHO as practice of feeding only breast milk and allows the baby to receive vitamins, minerals or medicines, but water, breast milk substitutes, other liquids and solid foods are excluded. The practice of exclusive breast feeding depends on many factors.[4] A thorough knowledge of these factors is very essential because it identifies areas of improvement for the promotion of exclusive breast feeding.

Kerala is a state with good health indicators.[5] Although breastfeeding is nearly universal, the practice of exclusive breastfeeding is particularly low in Kerala.[6] Recent studies indicate that the prevalence of malnutrition as well as infections among infants is on the rise in Central Kerala.[6,7] Low prevalence of exclusive breast feeding may be one of the factors leading to the rise of

malnutrition and infections among infants.[8] Not much data on this is available regarding this especially from central Kerala. It is against this background that the present study attempts to find out the prevalence of exclusive breastfeeding and factors influencing it among mother infant pairs of Ettumanoor block, Kottayam district.

METHODS

A community based cross-sectional study was conducted in Ettumanoor Panchayat, Kottayam district, Kerala after obtaining approval from College Ethics Committee. Ettumanoor Panchayat was the field practice area of Kottayam Medical College Urban Health Center. The study period was one year from January 2012 to January 2013. All mother infant pairs (infants aged 6-12 months along with their mothers) as enlisted in the updated MCH register of KMCH Centre Ettumanoor were included in the study. Preterm infants, infants born in multiple gestation, infants with congenital malformation and infants diagnosed with immunologic problems were excluded from the study. The calculated minimum sample size was 184. The sample size was calculated using stat calc function of Epi Info version 3.5.1. Prevalence of EBF was taken as 22.3 and an absolute precision of 6% was applied.[9] All mothers were interviewed using pre tested semi structured interview schedule by home visits. Details of the study were explained to each respondent and written consent was obtained to participate in the study. Data was collected regarding the basic sociodemographic details; type and duration of breast feeding given to the child, the time of initiation of breast feeding. Those mothers who are missed at the first contact were interviewed by repeated visits. Exclusive breast feeding was defined as infants who receive only breast milk (including expressed breast milk) and no water or other fluids (juice, non-human milk) or foods for six months, but allows the baby to receive vitamins, minerals or medicines.[4]

Statistical analysis

Data was coded and entered in MS excel and analysed using SPSS version 19.0. The association was determined using chi square test and significance was considered if P value <0.05 at 95% confidence interval.

RESULTS

Out of the total 238 mother infant pairs registered with the KMCH center 18 were excluded. Five were not available even after three repeated visits. A total of 215 mother infant pairs were studied. The mean maternal age was 29.2 (SD 4.34) and mean infant age was 8.87 (SD 2.076). The child sex ratio was 919.6. All the mothers were literate and majority had an education of high school or above (98.6%). Majority (82.4%) belonged to middle class family as per Modified Kuppuswamy scale for socioeconomic classification.[10] All the mothers underwent institutional delivery. Maternal and infant characteristic of study population was summarized in Table 1.

Table 1: Maternal and infant characteristics.

Characteristics		N	%
Maternal			
Age in years	20-29	140	65.1
	≥30	75	34.9
Education	High school education (up to 12th)	138	64.1
	Graduate and above	77	35.9
Occupation	Non-working	166	77.2
	Working	49	22.8
Place of delivery	Government hospital	88	40.9
	Private hospital	127	59.1
Socioeconomic status (Kuppuswamy scale)	Upper class	18	8.3
	Upper middle	87	40.5
	Lower middle	90	41.9
	Upper lower	20	9.3
Type of family	Nuclear family	23	10.7
	Joint family	192	89.3
Infant			
Age	6-9 months	96	44.7
	9-12 months	119	55.3
Gender	Male	112	52.1
	Female	103	47.9
Initiation of breast feeding	<1 hour	127	59.06
	>1 hour	88	40.94

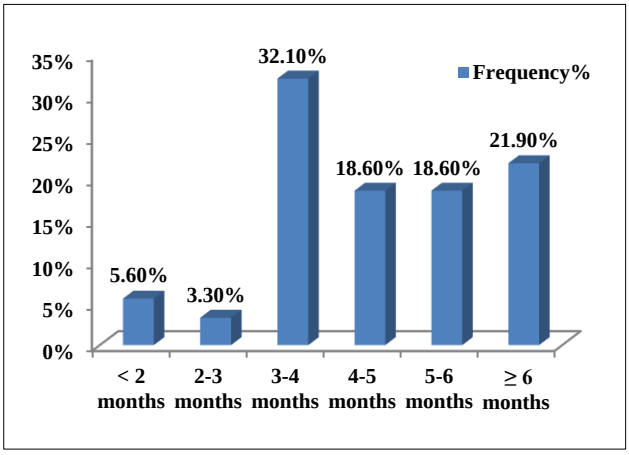

Figure 1: Duration of exclusive breast feeding among study population.

The prevalence of exclusive breastfeeding for six months was 21.9% (Figure 1). The mean duration of exclusive breast feeding was 4.1 months. Maternal education, maternal occupation, advice on exclusive breasting feeding during antenatal visits, problems in initiation of breast feeding and length of breast-feeding session were found to be significantly associated with exclusive

breastfeeding. These factors found significant in univariate analysis were subjected to binary logistic regression. Among them maternal education, advice on exclusive breast feeding during antenatal visits, being a working mother and length of breastfeeding session were independently associated with exclusive breast feeding (Table 2). The reasons for "non-exclusive breast feeding" were summarized in Figure 2.

Table 2: Multivariate logistic regression of factors influencing exclusive breast feeding.

Factors	Exclusive breast feeding		Adjusted odds ratio	95%CI	P-value
	Yes (%) n = 47	No (%) n = 168			
Advice on EBF during antenatal visits					
Received	19 (33.3%)	38 (66.7%)	2.35	1.255-5.842	0.011
Non-received	28 (17.7%)	130 (82.3%)			
Length of breast-feeding session					
> 15 months	27 (44.3%)	34 (55.7%)	4.35	2.035-9.312	0.001
< 15 months	20 (13%)	134 (87%)			
Education of mother					
Graduate	24 (31.2%)	53 (68.8%)	2.199	1.092-4.425	0.027
Non-graduate	23 (16.7%)	115 (83.3%)			
Mothers having problems in initiation of breastfeeding					
Yes	6 (11.5%)	46 (88.5%)	1.005	0.417-2.425	0.991
No	41 (25.2%)	122 (74.8%)			
Working mothers					
Working	6 (12.2%)	43 (87.8%)	0.303	0.113-0.810	0.017
Non-working	41 (24.7%)	125 (75.3%)			

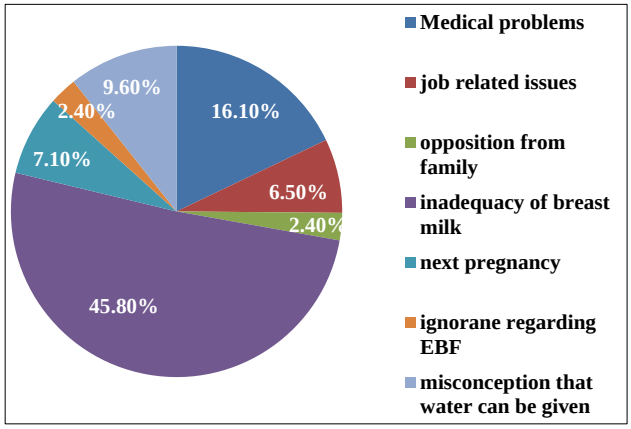

Figure 2: Reasons for non-exclusive breast feeding in the study population

DISCUSSION

The study showed that prevalence of exclusive breast feeding for six months was on the lower side. This was consistent with the findings of DLHS Kerala data which showed a prevalence of 20.9%.[9] A similar study from Palakkad district, Kerala also showed a prevalence of 17.2%.[11] The data from NFHS-4 survey showed a much higher prevalence.[12] Studies from nearby state of Tamil Nadu reported a prevalence of 34%.[13] Different studies from various other part of India reported a varied prevalence from 34%-61.5%.[14,15]

Advice on exclusive breastfeeding during antenatal visits was a found to be a significant factor in the study. One in every three mother (36.8%) who received advice on exclusive breastfeeding practiced it. Since mothers are more receptive during this period more importance should be given in antenatal clinics to emphasize the importance of exclusive breastfeeding.[16] Importance of antenatal advice was found as a significant factor in other studiesalso.[17,18]

Our study showed that as the education of the mother increases the practice of exclusive breast feeding also increased. Mother's who are better educated are more likely to have knowledge of breastfeeding and are able to practice it. About one third (31.2%) of mothers who had an education of graduation and above practiced exclusive breast feeding for six months. Importance of maternal education was pointed out in certain other studies.[19,20]

The study revealed that the practice of exclusive breast feeding is less among working mothers. Only 12.2% of working mothers practiced exclusive breast feeding for six months. 6.5% of mothers reported work related problems for stopping exclusive breast feeding. Many other studies also reported that working mother has lower chance for exclusive breastfeeding.[21,22]

The study found that exclusive breastfeeding for six months was seen more among those mothers who breastfed their child more than 15 minutes (44.3%) during each session during their initial's days of breastfeeding. As the length of breastfeeding increases the baby receives the hind milk, which comes later towards the end of the feed. The hind milk satisfies the baby's hunger. This needs due attention in the background that the major

reason (45.8%) quoted by mother for non-compliance to exclusive breastfeeding was insufficient breast milk (Table 1). The baby may not have received the hind milk during short feeds leading the mother to think that the breast milk was not sufficient. A study of from Iran had a similar finding.[17]

The major reasons for non-compliance to exclusive breastfeeding were mother's feeling of insufficient breast milk (45.8%), followed by the misconception of mothers that water can be given during first six months (19.6%) and medical problems (16.1%). Around 10% of mothers did not practiced exclusive breastfeeding because they become pregnant within one year. Hence couples should be counseled regarding family planning and the need for exclusive breast feeding the baby both during antenatal visits and postnatal visits.

CONCLUSION

The prevalence of exclusive breast feeding is much lower compared to the national average of 51%. For a state with improved health indicators this should be urgently addressed to prevent the occurrence of malnutrition and major infections among infants. Antenatal check-up should also focus on this area as mothers are more receptive during that time. Dedicated efforts should be there to promote breastfeeding among working mothers.

ACKNOWLEDGEMENTS

Authors would like to thank the willing assistance and cooperation of all the mothers in the study and the health workers of KMCH, Ettumanoor. The study would not have been possible without their assistance. Authors immensely grateful to Dr. Anupa Lucas for the help and constant encouragements throughout the study.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. WHO. Breastfeeding. WHO. Available at: http://www.who.int/nutrition/topics/exclusive_breastfeeding/en/. Accessed 10 November 2019.
2. Clark SG, Bungum TJ. The Benefits of Breastfeeding: An introduction for Health Educators. California J Health Promotion. 2003;1(3):158-63.
3. Rathaur VK, Pathania M, Pannu C, Jain A, Dhar M, Pathania N, et al. Prevalent infant feeding practices among the mothers presenting at a tertiary care hospital in Garhwal Himalayan region, Uttarakhand, India. J Family Med Prim Care. 2018;7(1):45-52.
4. WHO. Exclusive breastfeeding for optimal growth, development and health of infants. Available at: http://www.who.int/elena/titles/exclusive_breastfeeding/en/. Accessed 10 November 2019.
5. Healthy States. Progressive India; Report on the Ranks of States and Union Territories. NITI Aayog; Ministry of Health and Family Welfare India; 2019. Available at: http://social.niti.gov.in/. Accessed 10 November 2019.
6. National family heath survey 4. Available at: http://rchiips.org/nfhs/pdf/NFHS4/India.pdf. Accessed 10 November 2019.
7. Binu A, Tony L, Jose J, Ajan MJ, Ajith R. Prevalence of malnutrition among under five children in a semi urban area in Kottayam, Kerala. J Evol Med Dent Sci. 2014;3(24):6762-71.
8. Scherbaum V, Srour ML. The role of breastfeeding in the prevention of childhood malnutrition. World Rev Nutr Diet. 2016;115:82-97.
9. International Institute for Population Sciences (IIPS) and ICF. District Level Household and Facility survey -3. State Fact Sheet Kerala; 2007:3-4.
10. Wani R. Socioeconomic status scales-modified Kuppuswamy and Udai Pareekh's scale updated for 2019. J Family Med Primary Care. 2019;8(6):1846.
11. Sreeja M. Mothers' awareness, attitudes and practices related to exclusive breastfeeding for first six months of infancy. A community based study in Chittur taluk, Palakkad district. SCTIMST; 2016. Available at: http://dspace.sctimst.ac.in/xmlui/handle/123456789/10783. Accessed 10 November 2019.
12. International Institute for Population Sciences (IIPS) and ICF. National Family Health Survey (NFHS-4), India, 2015-16: Kerala. 2018, Available at: http://rchiips.org/NFHS/NFHS-4Reports/Kerala.pdf. Accessed 10 November 2019.
13. Radhakrishnan S, Balamuruga Ss. Prevalence of exclusive breastfeeding practices among rural women in Tamil Nadu. Int J Health Allied Sci. 2012;1(2):64.
14. Patil Sapna S, Hasamnis Ameya A, Pathare Rooma S, Aarti P, Rashid AK, Narayan KA. Prevalence of exclusive breast feeding and its correlates in an urban slum in Western India. IeJSME. 2009;3(2):14-8.
15. Chudasama RK, Patel PC, Kavishwar AB. Determinants of exclusive breastfeeding in South Gujarat Region of India. J Clin Med Res. 2009;1(2):102-8.
16. Deepanjan Ray, Rahaman A, Dasgupta A. Breastfeeding knowledge among antenatal mothers: a cross sectional study in a rural area of West Bengal. IOSR-JDMS. 2015;14(5):93-7.
17. Saki A, Eshraghian MR, Tabesh H. Patterns of daily duration and frequency of breastfeeding among exclusively breastfed infants in shiraz, Iran, a 6-month follow-up study using Bayesian generalized linear mixed models. Glob J Health Sci. 2013;5(2):123-33.
18. Ilknur G. Antenatal care and breastfeeding care and breastfeeding. TJFMPC. 2018. Available at:

https://www.researchgate.net/publication/325989061_Antenatal_Care_and_Breastfeeding_Care_and_Breastfeeding. Accessed 10 November 2019.
19. Vafaee A, Khabazkhoob M, Moradi A, Najafpoor AA. Prevalence of exclusive breastfeeding during the first six months of life and its determinant factors on the referring children to the health centers in Mashhad, Northeast of Iran-2007. J Applied Sci. 2010;10:343-8.
20. Roshan R, Sajjad S, Tanvir S. Impact of maternal education and source of knowledge on breast feeding practices in Rawalpindi city. MOJ Curr Res Rev. 2018;1(5):212-4.
21. Setegn T, Belachew T, Gerbaba M, Deribe K, Deribew A, Biadgilign S. Factors associated with exclusive breastfeeding practices among mothers in Goba district, south east Ethiopia: a cross-sectional study. Inter Breastfeed J. 2012;7(1):17.
22. Al-Ruzaihan SA, Al-Ghanim AA, Bu-Haimed BM, Al-Rajeh HK, Al-Subaiee WR, Al-Rowished FH, et al. Effect of maternal occupation on breast feeding among females in Al-Hassa, Southeastern region of KSA. J Taibah University Med Sci. 2017;12(3):235-40.

Cite this article as: Raveendran A, Joseph J, Manjula VD, Sobha A. Prevalence and determinants of exclusive breastfeeding among urban mothers of Central Kerala. Int J Community Med Public Health 2020;7:532-6.