

Original Research Article

Prevalence and determinants of exclusive breastfeeding among lactating mothers in an urban slum, West Tripura: a cross sectional study

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ABSTRACT

Background: Exclusive breastfeeding is the optimal way to feed children during their first months of life, having important benefits for them and their mothers. Despite of all benefits, the practice of exclusive breastfeeding is quite low and information on influencing factors is limited especially from slum settlements. Objectives was to estimate the prevalence of exclusive breastfeeding and to find out the factors affecting exclusive breastfeeding among lactating mothers in an urban slum, West Tripura.

Methods: A cross sectional study was conducted among 200 lactating mothers for a period of six months in an urban slum using structured interview schedule. Eligible mothers were selected by sample random sampling technique. Data has been analyzed by SPSS statistical software version 17.

Results: Majority (43%) of the mothers was aged between 21-25 years and 89% were non working mothers. Among the participants, 55.5% were Hindu by religion, 60% belonged to nuclear family and 43.5% had studied up to primary level. The prevalence of exclusive breastfeeding rate among the study mothers were 60.5%. Only parity, place of delivery and number of antenatal check up were significantly associated with exclusive breastfeeding.

Conclusions: Exclusive breast feeding (EBF) rate still needs to improve. Community level interventions like awareness programmes on exclusive breastfeeding, health education and behavior change communication among the target group is essential to improve the exclusive breastfeeding rate especially in slum settlements.

Keywords: Determinants, Exclusive breast feeding, Prevalence, Urban slum, West Tripura

INTRODUCTION

Exclusive breastfeeding is the optimal feeding practice to achieve infants' growth and development. According to the WHO recommendation, infants should be exclusively breastfed for the first six months and up to two years or beyond.¹ Breastfeeding is important for young child's survival, health and nutrition. It has been found that exclusive and longer duration of breast feeding not only protects the child from obesity risks, but it also helps in enhancing child's brain development and learning

capacities.² Despite of the numerous recognized advantages of appropriate feeding practices, the rates of EBF in India continued to be low.³ There are many factors which may affect feeding practices in our country. Various studies have shown that infant feeding could be influenced by socioeconomic status, maternal education, place of living and many other factors.⁴ Unhygienic infant feeding practices are still followed by illiterate or low educated mothers, especially among rural and urban slum areas.⁵

Few studies conducted in slum settlements show exclusive breastfeeding rate is further lower in these settings, ranging between 15 and 30%. Past studies have identified socio-economic status, maternal education, family structure, gravida, utilization of antenatal care services, place of residence and access to information as correlates of exclusive breastfeeding. As slums are expanding at a fast rate and will present unique public health challenges, identifying factors that influence exclusive breastfeeding will be important to design tailored interventions that have a greater chance of success.⁶ So the current study was aimed to measure the prevalence of exclusive breastfeeding rate and the factors affecting the EBF rate among the lactating mothers residing in an urban slum.

Objective was to estimate the prevalence of exclusive breastfeeding and to find out the factors affecting exclusive breastfeeding among lactating mothers in an urban slum, West Tripura.

METHODS

A Community based cross sectional study was conducted in an Urban slum, the field practice area of Urban Health Training Centre of Department of Community Medicine, Agartala Government Medical College for a period of 6 (six) months from 1st July 2016 to 31st December 2016 among 200 lactating mothers having 06-12 months old children residing permanently in study area by using simple random sampling technique. Lactating mothers who were unavailable after three successive visits and not willing to participate in the study were excluded from the study. A pre-designed, pre-tested, structured interview schedule has been used to collect the required information. House of the eligible mothers was identified with the help of ANMs and ASHAs, details about the study had explained to the mothers and head of the families before the start of the interview and informed consent was taken from the mothers in local language.

Sample size calculation: Considering the prevalence of exclusive breastfeeding rate as 70.7% (p) (NFHS-4 TRIPURA)⁷ with an allowable error (l) of 10% and using formula:

$$n = [(Z_{1-\alpha/2})^2 \times p \times q] \div (l)^2$$

Sample size has been calculated as 160 and considering 10% non response rate minimum sample came around 176 and finally 200 mothers were included in the study.

Data analysis

Data were analyzed by SPSS statistical software version 17. Data are expressed in frequency, percentage. Association between sociodemographic factors and EBF was calculated through Chi-square test and binary logistic regression. P value of <0.05 has been considered as significant.

The study was conducted after getting approval from Institutional Ethics Committee of Agartala Government Medical College, AGMC.

Exclusive breastfeeding (operational definition under the study)

In our study, EBF meant providing only breast milk, not even water. However, medicine or oral rehydration solution was accepted, if it was prescribed by a qualified doctor. The interviewer retrospectively collected information about EBF among lactating mothers having 06-12 months old children.

RESULTS

Total 200 lactating mothers were interviewed and analysis was carried out. All the subjects participated in the study said that they have breastfed their babies irrespective of its type and duration but the prevalence of EBF rate was 60.5%. Majority of them (43%) were in age group of 21-25 year and mean age of the subjects was 23.1 years with standard deviation of 3.80 years.

Table 1: Socio demographic profile of the study subjects (n= 200).

| Variables | Frequency | Percentage |
|--------------------------------------|-----------|------------|
| Caste | | |
| General | 15 | 7.5 |
| Scheduled caste | 74 | 37.0 |
| OBC | 21 | 10.5 |
| Minority | 90 | 45.0 |
| Religion | | |
| Muslim | 89 | 44.5 |
| Hindu | 111 | 55.5 |
| Mother's literacy | | |
| Illiterate | 30 | 15.0 |
| Primary | 87 | 43.5 |
| Secondary | 83 | 41.5 |
| Mother's occupation | | |
| Working | 22 | 11.0 |
| Non working | 178 | 89.0 |
| Monthly income of family (Rs) | | |
| ≤ 3000 | 33 | 16.5 |
| 3001-5000 | 53 | 26.5 |
| 5001-10000 | 82 | 41.0 |
| >10000 | 32 | 16.0 |
| Number of ANC | | |
| ≤4 times | 63 | 31.5 |
| >4 times | 137 | 68.5 |

Most of the participants (55.5%) were Hindu by religion, belonged to nuclear family (60%) and 89% were non working. Out of 200 subjects, 7.5 % were belonged to general category, 37% schedule caste, 10.5% OBC and 45% minority. Education wise distribution showed that 30 (15.0%) mothers were illiterate while 8 (43%) had

primary education. Antenatal history showed that 68.5% subjects had taken more than 4 antenatal visits while 31.5% had less than 4 antenatal visits (Table 1).

EBF was more prevalent among the Hindus than the Muslims but it was found insignificant (P = 0.073). It was equally more prevalent among primary and secondary educated lactating mothers than illiterate mothers but it was insignificant (P= 0.682). It was practiced mostly in those families, where the mothers were non working but

it was insignificant (P= 0.08) and by mothers who were belonged to nuclear family, but it was also not significant (P=0.194). In the present study, EBF rate was found higher among those lactating mothers belonged to schedule caste in comparison with other caste but found insignificant (P=0.212). Regarding sex of the child, EBF rate was found a little bit more among male children than the female though it was insignificant (P=0.891) (Table 2).

Table 2: Bivariate analysis of different factors affecting exclusive breast feeding practice.

| Variables | Exclusive breast feeding (n = 200) | | Significance | |
|---------------------|------------------------------------|-----------|--------------|-----------|
| | Yes, n (%) | No, n (%) | | |
| Age of the mother | < 20 Years | 32 (16.0) | 36 (18.0) | P = 0.205 |
| | 21-25 Years | 27(13.5) | 59 (29.5) | |
| | 26-30 Years | 14(7.0) | 20 (10.0) | |
| | > 30 years | 6 (3.0) | 6 (3.0) | |
| Religion | Hindu | 50 (25.0) | 61(30.5) | P=0.073 |
| | Muslim | 29 (14.5) | 60 (30.0) | |
| Mother’s literacy | Illiterate | 14 (7.0) | 16 (8.0) | P=0.682 |
| | Primary | 33 (16.5) | 54 (27.0) | |
| | Secondary | 32 (16.0) | 51 (25.5) | |
| Mother’s occupation | Non working mother | 74 (37.0) | 104 (52.0) | P=0.08 |
| | Working mother | 5(2.5) | 17 (8.5) | |
| Parity | Primipara | 47 (23.5) | 53 (26.5) | P=0.03* |
| | Multipara | 32 (16.0) | 68 (34.0) | |
| Caste | General | 8 (4.0) | 7 (3.5) | P = 0.212 |
| | Schedule caste | 34 (17.0) | 40 (20.0) | |
| | OBC | 8 (4.0) | 13 (6.5) | |
| | Minority | 29 (14.5) | 61 (30.5) | |
| Type of family | Joint family | 36 (18.0) | 44(22.0) | P=0.194 |
| | Nuclear family | 43 (21.5) | 77 (38.5) | |
| Place of delivery | Home | 33 (16.5) | 29 (14.5) | P=0.008* |
| | Govt. facility | 46 (23.0) | 92 (46.0) | |
| Sex of the child | Male | 41 (20.5) | 64 (32.0) | P=0.891 |
| | Female | 38 (19.0) | 57 (28.5) | |
| Number of ANC | <= 4 Times | 32 (16.0) | 31 (15.5) | P=0.02* |
| | > 4 Times | 47 (23.5) | 90 (45.0) | |

Chi- square test applied. * indicate p<0.05

Table 3: Binary logistic regression analysis showing the predictors of exclusive breast feeding practice.

| Variables | Odds ratio (95% C.I) | P- value |
|--------------------------|----------------------|----------|
| Parity | | |
| Primipara | 1 | |
| Multipara | 0.350 (0.143-0.858) | 0.022* |
| Place of delivery | | |
| Home | 1 | |
| Govt. facility | 0.301 (0.118-0.765) | 0.012* |
| Number of ANC | | |
| <= 4 Times | 1 | |
| > 4 Times | 0.442 (0.235-0.830) | 0.011* |

* indicate p<0.05

Binary logistic regression analysis showed that three factors i.e. parity, place of delivery and number of antenatal check up to be predictors of EBF (Table 3).

DISCUSSION

In the present study, the prevalence of EBF was 60.5% which was little bit higher than national average in NFHS-4 national figure (54.9%). EBF is the best recommended infant feeding method for the first six months of life and has a protective effect against child morbidity and mortality. But it has not yet been universally practiced and the reduction in the rate of EBF is taken as a serious problem, especially in developing

countries.^{7,8} DLHS-4 (2012-2013) in Tripura reported that the rate of EBF was (50.4%).⁹ A similar study conducted in urban slum of Gujarat found that 50.7% babies had been exclusively breast fed first six months while in another study done in semi urban community of Gujarat reported that the prevalence of EBF was higher (76.6%).^{10,11} In a similar study done in slums of Dibrugarh Town, reported the prevalence of EBF was 41%.¹² Another study conducted in urban slums, Karnataka, India, found that the prevalence of EBF was only 22%.¹³ The findings were in contrast with our study report. The difference of population studied, sample sizes, geographic locations, as well as the year of survey might be the possible explanation for the difference of exclusive breastfeeding rates among these studies.

We strictly adhered to the definition of EBF as per the WHO guidelines and retrospectively estimated the rate of EBF for one month, two months and so on up to six months and more, with a known limitation of recall bias. In India, using the NFHS 4 questionnaire, women were asked several questions about the duration of any breastfeeding, and infant feeding in the previous 24 hours. At the age of six months, NFHS 4 measured rate of the EBF using 24 hour recall method. This was not out of limitation. Age of the mother was an important predictor of EBF. Younger mothers up to 24 years were more likely (64.7%) to complete EBF till six months than the elder mothers (29.0%) [P= 0.01; OR: 5.98 (1.78-20.03)]. EBF has been practiced among overall 52.5% children up to six months of age while boys were 41.5% and 27.1% among girls children and it was found statistically significant.¹⁴ This finding was inconsistent with our observations. In present study, age of the mother was not an important predictor of EBF [(p= 0.128; OR=0.814 (0.834-1.023)]. A study done in Azezo District, Northwest Ethiopia reported that mothers who delivered at the healthcare facility practiced more EBF than those who delivered at home (AOR 2.18; 95% CI 1.22, 4.35).¹⁵ The reported result was similar to our findings. Factors that are considered to be supportive for breastfeeding such as maternal education were not found statistically significant, reported in a study done in India.¹⁶ This observation was consistent with our study finding. Statistically significant difference was found between education, the time of initiation of breast feeding and the parity of the mother and the practice of exclusive breastfeeding. The odds of mothers who receive infant feeding advice to breast feed exclusively were 2.59 compared to those who did not receive advice on breast feeding, reported in a study done in urban slums in western India.¹⁷ In the present study, we identified three important determinants that influencers of EBF. That three factors were parity, place of delivery and number of antenatal check up and by using binary logistic regression analysis also found that parity, place of delivery and number of antenatal check up shows significant (<0.05) independent association with EBF.

This study has several limitations. The findings of our result may not be generalizable to all lactating mothers residing in Tripura as well as in India as the study was done only in an urban slum, the field practice area of Urban Health Training Centre of Department of Community Medicine, Agartala Government Medical College

CONCLUSION

The prevalence of EBF rate in the present study was 60.5%. The findings suggest that there is need for promotion of EBF during the first six months of life and breastfeeding promotion programmes should give special attention to those women who are not practicing EBF in study area.

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REFERENCES

1. Abay S, Dereje B, Worku A, Tesfaye T. Determinants of exclusive breastfeeding practice among mothers of children age less than 6 month in Bahir Dar city administration, Northwest Ethiopia; a community based cross-sectional survey. *Science J Clin Med.* 2013;2(6):153-9.
2. Ahmad S, Yadav M, Shukla NK, Shukla M, Soni S, Patni KN. Assessment of breastfeeding practices in a rural area of North India. *Indian J Basic App Med Res.* 2016 Mar;5:40-7.
3. Dixit AM, Kariwala P, Jain PK. Prevalence of Exclusive Breast Feeding and Its Determinants: A Cross Sectional Study in District-Etawah, Uttar Pradesh. *Natl J Community Med.* 2017;8(9):554-8.
4. Radhakrishnan S, Balamuruga SS. Prevalence of exclusive breastfeeding practices among rural women in Tamil Nadu. *Int J Heal All Sci.* 2012 Apr 1;1(2):64.
5. Dave VR, Shah VR, Sonaliya KN, Solanki AK. Assessment of Breastfeeding Practices: Findings from Urban Slum Area at Ahmedabad City, India. *GCSMC J Med Sci.* 2014;3(2):9-15.
6. Velusamy V, Premkumar PS, Kang G. Exclusive breastfeeding practices among mothers in urban slum settlements: pooled analysis from three prospective birth cohort studies in South India. *Int breastfeeding J.* 2017 Dec;12(1):35.
7. National Family Health Survey (NFHS-4) 2015-2016: Tripura. Available at: <https://ruralindiaonline.org/.../national-family-health-survey-nfhs-4-2015-16-tripura/>

8. Joshi PC, Angdembe MR, Das SK, Ahmed S, Faruque AS, Ahmed T. Prevalence of exclusive breastfeeding and associated factors among mothers in rural Bangladesh: a cross-sectional study. *Int Breastfeeding J.* 2014 May;9(1):7.
9. Ministry of Health and Family Welfare. District Level Household and Facility survey-4 State Fact Sheet, Tripura (2012-13). Available at: <http://www.mohfw.nic.in>.
10. Varshney AM, Kumar D, Patel M, Singh US. Determinants of breastfeeding practices in urban slums of a taluka headquarter of district Anand, Gujarat. *Natl J Community Med.* 2012 Jul;3(3):534-7.
11. Bhandari D, Choudhary S. A community based study of feeding and weaning practices in under five children in semi urban community of Gujarat. *National J Community Med.* 2011 Jul;2(2):277-83.
12. Gogoi I, Mahanta TG, Barua A. Prevalence of exclusive breastfeeding in slums of Dibrugarh Town and factors affecting the breastfeeding practice. *Clin Epidemiol Global Heal.* 2015 Jan 1;3:S58-62.
13. Rajesh D, Bhavana D. A study on infant feeding practices in the urban slums: a cross sectional study. *Inte J Contemp Pediat.* 2016;3(2):350-3.
14. Basu P, Chakrabartty A, Dasgupta U, Bhattacharyya K, Ali KM, Sarkar AK. Factors influencing exclusive breastfeeding up to six months of age in a rural community of North 24 Parganas, India. *Indian J Nutri.* 2018;5(1):181.
15. Asemahagn MA. Determinants of exclusive breastfeeding practices among mothers in azezo district, northwest Ethiopia. *Int Breastfeeding J.* 2016 Dec;11(1):22.
16. Chudasama RK, Amin CD, Parikh YN. Prevalence of exclusive breastfeeding and its determinants in the first 6 months of life: a prospective study. *J Health Allied Scs.* 2009;8(1):3
17. Aarti P, Rashid AK, Narayan KA. Prevalence of exclusive breast feeding and its correlates in an urban slum in Western India. *Int e-J Sci Med Educ.* 2009 Jan 1;3(2):14-8.

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