

Prevalence Of Exclusive Breast Feeding And Its Correlates In An Urban Slum In Western India

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Background: The World Health Organization recommends the practice of exclusive breastfeeding of infants for the first 6 months after birth. The objective of present study was to estimate the prevalence and the factors influencing exclusive breastfeeding. The perceptions of mothers about breastfeeding in an urban slum area of Western India were also enquired.

Methods: This cross sectional study was conducted over six months amongst 200 mothers of children in the age group of 6 – 12 months attending the growth and development clinic in one of the urban health centres. Data was collected using a pre-tested, structured questionnaire on breastfeeding practices. Factors related to exclusive breastfeeding were analysed using bivariate and multivariate analysis.

Results: Prevalence of exclusive breastfeeding reported by the participants was 61.5%. Having a male child, maternal age < 30 years, level of education of mother, parity, receiving infant feeding advice, initiation of breastfeeding within one hour of birth and administration of colostrum to the baby were associated with exclusive breastfeeding ($p < 0.001$). Multivariate logistic regression analysis revealed that male sex (adjusted odd ratios: 20.03), primiparity (0.19), home delivery (0.32), receiving infant feeding advice (5.90), initiation of breastfeeding within one hour of birth (0.26) and giving colostrum to the baby (2.56) were independently associated with exclusive breastfeeding. Prolactal feeds were given by almost 35% of mothers.

Conclusion: Prevalence of exclusive breastfeeding was higher than the national figures. However, practices like discarding the colostrum, giving prolactal feeds, early/late weaning and use of formula feeds are still widely prevalent and need to be addressed.

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Key words: Breastfeeding, Exclusive breastfeeding, Prolactal feeds, India, Urban

Introduction

Breastfeeding is an unequalled way of providing ideal

food for the healthy growth and development of infants; it is also an integral part of the reproductive process with important implications for the health of mothers.¹

UNICEF & WHO launched Baby Friendly Hospital Initiative in 1992 as a part of global effort to protect, promote and support breastfeeding. However, there are many undesirable cultural practices associated with infant feeding. Based on scientific evidence, the World Health Organization (WHO) recommends the practice of exclusive breastfeeding of infants for the first 6 months after birth, in addition to the continuation of supplementary foods until 2 years or more.²

The benefits of breastfeeding, especially exclusive breastfeeding are well established,^{3,4} particularly in poor environments where early introduction of milk other than mother's milk is of particular concern because the risk of pathogens contamination and over dilution of milk leading to increased risks of morbidity and undernutrition.⁴

In the early 1970s, the prevalence of breast feeding declined in the world⁵ but after the breast feeding initiation in the nineties, the rates have increased, but exclusive breast feeding rates have shown little or no increase.⁶ The prevalence of breast feeding in India is still high with 99% in rural areas and 96% in urban areas reported in National Family Health Survey (NFHS).⁷

The objective of this study was to estimate the prevalence and the factors influencing exclusive breastfeeding in an urban slum area of Western India.

Methods

In India, urban health centres are health facilities providing promotive, preventive and curative health care to people staying in urban slums. Each centre caters to approximately 20,000 population and delivers special services for mothers and children. A health team comprising of doctors and public health nurses (PHNs) provide antenatal and postnatal services which include education about self care, nutrition and breastfeeding during both antenatal and postnatal periods. A growth

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and development clinic in the urban health centre provide services to children less than five years of age.

This descriptive, cross sectional study was conducted over a period of six months by interviewing 200 mothers of children in the age group of 6 to 12 months attending the growth and development clinic of the urban health centre. Data was collected using a pre tested, structured questionnaire to obtain information on the demographic profile and socioeconomic status of the mother and her family, obstetric history and infant feeding practices.

The practice of breastfeeding included exclusive breastfeeding as well as partial breastfeeding. Exclusive breast feeding was defined as an infant's breast milk consumption with no supplementation of any type of food or drink (no water, no juice, no non-human milk and no solids), except for vitamins, minerals, and medications up to the age of six months (the age in India when children start to wean). Pre-lacteal feed denotes giving fluids (gripe water, water or juice), and honey to the infants before their first time being breast-fed or during their first few days of life.

The study was conducted with the approval of the institute's ethics committee. Informed consent was obtained from the mothers and confidentiality of the subjects was maintained.

Data was compiled and analysed using the Statistical Package for Social Sciences (SPSS) for Windows Version 11.5. Significant differences were evaluated using the Chi-square test, Odds ratio and multivariate logistic regression. A 'p' value of <0.05 was considered statistically significant.

Results

Sociodemographic Profile

200 mothers of children in the age group of 6 – 12 months attended the urban health centre over a period of six months. All 200 attendees participated in the study giving a response rate of 100%. The average age of the total cohort was 24.76 years (range 18 – 35 years).

Seventy one percent were Muslims and 29% were Hindus. Thirty three percent (n=66) were educated upto primary level, 32.5% (n=65) had secondary education, 7% (n=14) had tertiary education and 27.5% (n=55) were illiterate. Out of the total respondents, 58.5% (n=117) had a nuclear family and 41.5% (n=83) stayed in a joint family. Eighty four percent (n=168) respondents had delivered in the hospital whereas 16.0% (n=32) had delivered at home under the supervision of trained birth attendents.

Practices Related To Breastfeeding

All the 200 attendees had breastfed their children. The prevalence of exclusive breastfeeding amongst the studied population was 61.5% (n=123) and that of partial breastfeeding was 38.5% (n=77). Majority of the women (75.5%, n=151) had given colostrum to their baby. The commonest reason for discarding colostrum was due to the advice given by the mother / mother-in-law. Prolacteal feeds were given by 34.5% (n=69) mothers and the common feeds were honey, jaggery, ghutti (a powdered mixture containing herbs), gripe water and cow's milk. 47.5% (n=95) of the participants had initiated breastfeeding within one hour of birth.

Factors Influencing Exclusive Breastfeeding

As seen in Table 1, exclusive breastfeeding was practised by women in the younger compared to the older mothers ($p < 0.05$). Male babies are 6.88 times more likely to be breast fed compared to female children. The odds of mothers aged 30 years and below to exclusively breast feed their babies were 3.26 compared to mothers above 30 years of age. 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. Similarly the odds of mothers who gave colostrum to their babies to exclusively breast feed were 4.43 compared to those who did not give colostrum.

Multivariate Analysis

Table 2 shows the analysis of the factors influencing the practice of exclusive breastfeeding by applying logistic regression. It is seen that factors like male babies, multiparity, home delivery, mothers who received advice about infant feeding, initiation of breastfeeding within an hour after birth and administering colostrum to the child are significantly associated with the practice of exclusive breastfeeding.

Perceptions About Breastfeeding

61.5% (n=123) of the mothers felt that exclusive breast feeding was necessary for the first six months of life of their child. Half of the participants felt that a child should be breastfed only when it demands for it. Majority of the women (92.0%) commented that tinned/commercial milk formulae were not better than breast milk in providing nutrition to their children.

Discussion

Exclusive breastfeeding is safe, economical and emotionally satisfying means of feeding babies. In countries where lactation support is available, six months exclusive breastfeeding has improved substantially over time.² In this study, the prevalence rate of exclusive breastfeeding was higher with 61.5%, compared to 46% at national level.⁸ Similar higher prevalence of exclusive breast feeding patterns were seen in other studies in India.⁹ However, the National Breastfeeding Survey conducted in 2001 by Foo LL et al in Singapore and a study conducted by Fatoumata et al in Africa reported a low prevalence rate of 21% and 15.5% respectively.^{10,11} A study conducted in Klang district in Peninsular Malaysia revealed a prevalence rate of 32.8% amongst the respondents.¹²

Studies conducted in India by Khan et al and Swami et al^{13,14} as well as this study show that approximately a quarter of the mothers discarded the colostrum. This finding is in accordance with the findings of NFHS 3.8 A higher prevalence of the mothers initiated breastfeeding within one hour of birth in this study compared with studies done in India^{17,18} as well as the findings of the NFHS 3 and China where only 35% of

the children received breast milk within 30 minutes of delivery.^{8,16}

The prevalence of giving prelacteal feeds in this study was much lower compared to studies done in other communities in India.¹³⁻¹⁸ This phenomenon can be explained by the high prevalence of colostrum feeding and a comparatively early initiation of feeding. Prelacteal feeds are usually administered due to colostrum deprivation and delayed initiation of breastfeeding, apart from some social customs and beliefs.

Male sex of the child, literacy, young age, multiparity, counselling about breastfeeding, early initiation of breastfeeding and administering colostrum were found to be significant in practising exclusive breastfeeding. This is in accordance with findings from other studies in India,⁴ Malaysia,¹² Guatemala,¹⁹ Iran²⁰ and the United States of America.²¹

Conclusions

The present study has highlighted the factors which are involved in the exclusive breast feeding practises of mothers in a slum in urban Mumbai. Further studies are necessary to correlate the interrelations among these several variables and also other psychological factors like family and peer support and cultural influences like traditional practices and beliefs not considered in this study that possibly interfere in breastfeeding practice.

REFERENCES

1. World Health Organization. Report of the expert consultation on the optimal duration of exclusive breastfeeding: conclusions and recommendations. Geneva, WHO, 2001.
2. World Health Organization. Infant and young child nutrition: global strategy on infant and young child feeding. Geneva; 2002 (Fifty fifth World Health Assembly, A55/15). Available at: http://webitpreview.who.int/entity/nutrition/publications/gs_infant_feeding_text_eng.pdf
3. Huttly SRA, Morris SS, Pisani V. Prevention of diarrhea in young children in developing countries. Bull World Health Organ 1997; 75: 163-74.
4. Victoria CG, Smith PG, Vaughan JP, Nobre LC, Lombardi C, Teixeira AMB, et al. Evidence for protection by breastfeeding against infant deaths from infectious disease in Brazil. Lancet 1987; 2: 319-22.
5. Chhabra P, Grover VL, Aggarwal OP, Dubey KK. Breastfeeding patterns in an urban resettlement colony of Delhi. Indian J Pediatr 1998; 65: 867-72.

6. Ryan AS, Wenjun Z, Acosta A. Breastfeeding continues to increase into the new millennium. *Pediatrics* 2002; 110: 1103-09.
7. National Family and Health survey 1998-99, International Institute for Population Sciences, Mumbai, India ORC Macro: Maryland, USA; October 2000.
8. Ministry of Health and Family Welfare: National Family Health Survey 3, India, 2007. Available at <http://mohfw.nic.in/nfhs3/CD.htm>.
9. Chudasama RK, Amin CD, Parikh YN. Prevalence of exclusive breastfeeding and its determinants in first 6 months of life: A prospective study. *Online J Health Allied Scs.* 2009; 8: 3.
10. Foo LL, Quek SJS, Ng SA, et al. Breastfeeding prevalence and practice among Singaporean, Chinese, Malay and Indian Mothers. *Health Promotion International* 2005; 20: 229-37.
11. Fatoumata Binta Diallo, Linda Bell, Jean-Marie Moutquin, Marie-Pierre Garant. The effects of exclusive versus non-exclusive breastfeeding on specific infant morbidities in Conakry (Guinea). *The Pan African Medical Journal* 2009; 2: 2.
12. Tan KL. Knowledge, attitude and practice on breastfeeding in Klang, Malaysia *The International Medical Journal* 2009; 8: 17-21.
13. Khan Z, Mehnaz S, Khaliq N, Ansari MA, Siddiqui AR. Poor perinatal care practices in urban slums: Possible role of social mobilization networks. *Indian J Community Med* 2009; 34: 102-7.
14. Swami HM, Bhatia V, Bhatia SP. Breast-feeding practices in peri-urban community of Chandigarh. *Indian J Prev Soc Med* 2002; 33.
15. Kumar D, Agarwal N, Swami HM. Socio-demographic correlates of breast-feeding in urban slums of Chandigarh. *Indian J Med Sci* 2006; 60: 461-6.
16. Qiu L, Zhao Y, Binns CW, Lee AH, Xie X. Initiation of breastfeeding and prevalence of exclusive breastfeeding at hospital discharges in urban suburban and rural areas of Zhejiang China. *Int Breastfeed J* 2009 Jan 28, 4: 1.
17. Sethi V, Kashyap S, Seth V. Effect of nutrition education of mothers on infant feeding practices. *Indian J Pediatr* 2003; 70: 463-6.
18. Srivastava SP, Sharma VK, Kumar V. Breast feeding pattern in neonates. *Indian Pediatr* 1994; 31: 1079-82.
19. Hruschka DJ, Sellen DW, Stein AD, Martorell R. Delayed onset of lactation and risk of ending full breastfeeding early in rural Guatemala. *J Nutr* 2003; 133: 2592-9.
20. Koosha A, Hashemifesharaki R, Mousavinasab N. Breast-feeding patterns and factors determining exclusive breast-feeding Singapore *Med J* 2008; 49 : 100.
21. Newton KN, Grossman X and Merewood A. Factors Associated With Exclusive Breastfeeding Among Latina Women Giving Birth at an Inner-city Baby-Friendly Hospital. *Journal of Human Lactation* 2009; 25: 28-33.

Table 1. Bivariate analysis of factors influencing exclusive breastfeeding

VARIABLE		EXCLUSIVE BREASTFEEDING		CHI SQUARE	P VALUE	ODDS RATIO	95% CONFIDENCE INTERVAL
		YES	NO				
Sex of infant*	Male	87(81.3%)	20(18.7%)	38.13	0.000	6.88	3.63-13.06
	Female	36(38.7%)	57(61.3%)				
Age of mother*	18 – 30 years	108(67.1%)	53(32.9%)	10.86	0.001	3.26	1.58-6.72
	>30 years	15(38.5%)	24(61.5%)				
Education of mother*	Illiterate	21(38.2%)	34(61.8%)	16.08	0.0001	0.26	0.13-0.49
	Literate	102(62.8%)	43(37.2%)				
Parity*	Primipara	39(48.1%)	42(51.9%)	10.25	0.001	0.38	0.22-0.70
	Multipara	84(70.6%)	35(29.4%)				
Type of delivery	Normal	111(60.0%)	74(40.0%)	2.34	0.12	0.38	0.10-1.37
	Instrumental	12(80.0%)	3(20.0%)				
Place of delivery	Home	17(58.6%)	15(41.4%)	0.12	0.73	0.87	0.39-1.94
	Hospital	106(62.0%)	62(38.0%)				
Received infant feeding Advice*	Yes	75(72.1%)	29(27.9%)	10.31	0.001	2.59	1.43-4.64
	No	48(50.0%)	48(50.0%)				
Time of initiation of breastfeeding*	< 1 hour	42(44.2%)	53(55.8%)	22.84	0.00	0.23	0.12-0.43
	>1 hour	81(77.1%)	24(22.9%)				
Colostrum given*	Yes	106(70.2%)	45(29.8%)	18	0.000	4.43	2.23 - 8.78
	No	17(34.7%)	32(65.3%)				

*P<0.05

Table 2: Multivariate logistic regression analysis of factors influencing decision on exclusive breastfeeding in infants

VARIABLE	STANDARD ERROR	SIGNIFICANCE	ADJUSTED ODDS RATIO	95% CONFIDENCE INTERVAL	
				LOWER BOUND	UPPER BOUND
Male sex of child*	0.47	0.00	20.03	8.02	50.04
Maternal age <30 years	0.50	0.06	2.53	0.96	6.7
Illiteracy	0.47	0.08	2.28	0.90	5.75
Primiparity*	0.42	0.00	0.19	0.09	0.44
Delivered at home*	0.58	0.05	0.32	0.10	0.98
Normal delivery	0.76	0.92	0.93	0.21	4.08
Received infant feeding advice*	0.43	0.00	5.90	2.60	13.59
Time of initiation of breastfeeding < 1hour after birth*	0.41	0.00	0.26	0.12	0.59
Colostrum given*	0.47	0.04	2.56	1.02	6.40

*P<0.05