

A Study on Infant and Young Child Feeding Practice among the Slum Dwellers of Barddhaman Municipal Area, West Bengal

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Abstract: Infant and young child feeding (IYCF) is very critical for child health and survival. Exclusive Breastfeeding and thereafter timely and adequate complimentary feeding are two important preventive interventions against child mortality. World Health Organization (WHO) estimated that neonatal infection, diarrhoea and pneumonia are the major causes of infant mortality globally. This study aims to find out IYCF practices and some of its determinants among the slum dwellers of Barddhaman Municipal area. Data was collected from 207 respondents. Early initiation of breastfeeding within one hour of delivery was done in case of 118 (57%) infants. Exclusive breastfeeding was found in 52.4%. The exclusive breastfeeding is not significantly associated with the type of family, educational qualification of mother or occupation of father. There is ample chance of improvement in this regard by awareness campaigns.

Keywords: Infant and young child feeding (IYCF), Breastfeeding, Complimentary feeding, Slum

I. Introduction

Infant and young child feeding (IYCF) is very critical for child health and survival. Exclusive Breastfeeding and thereafter timely and adequate complimentary feeding are two important preventive interventions against child mortality. World Health Organization (WHO) estimated that neonatal infection, diarrhoea and pneumonia are the major causes of infant mortality globally. Among the causes of mortality, 53 percent of pneumonia and 55 percent of diarrhoea, death is attributed to poor feeding practices during infancy.^{1,2} Malnourished children fall sick more frequently and suffer from the life-long consequences of impaired development.^{3,4} Infants aged 0-5 months who are not breastfed have 7-fold and 5- fold increased risk of death from diarrhoea and pneumonia, respectively compared to the exclusively breastfed infants.⁵ Around 20% neonatal deaths and 13% under five deaths can be prevented by early initiation of breastfeeding.^{6,7} Despite all efforts, only 44.6% of children receive breastfeeding within 1 hour.⁷ Only 64.9% of children are exclusively breastfed in this country. 50.5% of children between 6-8 months given complimentary foods.⁷ Proper breast feeding and complementary feeding practices can prevent under-five mortality by 13%.⁸⁻¹⁰

WHO recommends breastfeeding should be initiated as early as possible, preferably within one hour and exclusive Breastfeeding should continue up to 6 completed months.^{11,12} WHO offers three recommendations for Infant and Young Child Feeding (IYCF) practices for children aged 6-23 months: Continued breastfeeding or feeding with appropriate calcium-rich foods if not breastfed, feeding solid or semisolid food for a minimum number of times per day according to age and breastfeeding status and including foods from a minimum number of food groups per day according to breastfeeding status.¹² Even early introduction of complementary feeds before the age of six months of the child can lead increased risk of infections like, diarrhoea, which further contributes to weight loss and malnutrition and thus, a vicious cycle continues.¹²

Poor complementary feeding practices leads to irreversible outcomes of stunting, poor cognitive development and increased risk of infectious diseases, such as diarrhoea and acute respiratory infection.⁸ Introduction of complementary feeding along with continued breastfeeding between 6 to 9 months is 55.8% and only 21% of children aged 6-23 months are fed according to IYCF recommended practices.¹³

There are a many institution-based studies on IYCF. But there is limited data on IYCF practices at community level especially in slum areas in West Bengal. As the problem of poverty along with unemployment, overcrowding and migration are more prevalent in slum areas, this study was undertaken with the following objectives to find out Infant and Young Child Feeding Practices (early institution of breast feeding, exclusive breast feeding for six months, complementary feeding at 6 month and its quality, continuation of breast feeding up to 1 year) and some of its determinants in slum areas of Barddhaman Municipality of Purba Barddhaman district of West Bengal.

II. Materials and Methods

A community based cross sectional descriptive study was conducted in the slum areas of Barddhaman Municipality. Predesigned and pretested schedule was prepared. It was pilot tested with ten respondents, later

applied to the entire study population. Demographic characteristic such as age, level of education, occupation, place of residence, type of family, family income and feeding practices of the child were recorded by interviewing the mothers. All feeding practices were elicited by 24 hours recall method, except for initiation of breast feeding and prelacteal feeding for which historic recall was used. Questions related to adequacy of complimentary feeding was formulated from WHO guidelines and standard definitions for indicators of IYCF practice to estimate status of feeding was also taken from the same. Study period was from October 2016 to December 2016.

Sample size was calculated taking confidence interval of 95% and absolute error 10%. Prevalence of starting complimentary feeding at 6 months as in below 2-year children was taken as 49.4% as per a study on Infant and Young Child Feeding (IYCF) practices in rural Varanasi by Anwar F et al. in 2013.¹³ Thus, sample size works out to be 96. As multi stage sampling was used, a design effect was taken as 2. Considering the design effect, the final sample size was calculated as 192. Multistage sampling was followed. There are 144 total slums in Barddhaman Municipal area. 10% of the slums (15 slums) were taken by simple random sampling. By population proportionate to size method, the number of children from each slum was decided. Finally, children from each slum were chosen by simple random sampling. Study population included children aged between 0-23 months residing in slum area of Burdwan Municipality. Respondent was the mother of the child. Children with special needs, such as Down Syndrome, autism etc. and those who were unwilling to give consent for study were excluded.

Operational Definitions that were followed based on WHO definitions:

Exclusive Breastfeeding - The child will only take breast milk and nothing else. Child is allowed take ORS, drops and syrups (vitamin, mineral, medicines).¹⁴ Complementary Feeding - The child will take solid, semisolid food with or without breastmilk. Child can take non-human milk, formula feed.¹⁴

Breastfeeding - The child will take breast feeding. The child can take any food including non-human milk or formula feeds.¹⁴

Artificial Feeding - The child will take formula feeding with or without breastfeed. Child is also allowed to take ORS, drops and syrups (vitamin, mineral, medicines.) but not allowed take solid or semi solid food.¹⁴

Pre-lacteal Feeding - Honey, sweet-water, water etc often given after delivery before initiation of breastfeeding.¹⁴

Colostrum - Breast milk produced in first 3 days, yellowish in colour, thick in consistency.¹⁴

At Home - People staying at home, without any definite job.

WHO indicators for IYCF

Continued Breastfeeding for 1 year =

Children aged between 12-15.9 month who are breastfed in last 24 hours /

Children aged between 12-15.9 month

Introduction of solid, semisolid and soft food =

Children aged 6-8.9 months who received solid, semisolid or soft food in previous 24 hours /

Children aged 6 to 8.9 months

Minimum Dietary Diversity =

Children aged 6-23.9 months who received at least 4 food groups in previous day /

Children aged 6-23.9 months

III. Results

Data was collected from 207 respondents. As found from the socio-demographic data (Table1), there were 42 (20.3%), 78 (37.7%) and 87 (42%) children of age groups 0 to 6 months, 6 to 12 months and 12 to 23 months respectively. 119 (57.5%) were male. Daily labourer was the predominant occupation of father.

Table 1: Distribution of study population according to socio-demographic characteristics (n=207)

Socio- demographic characteristics	No. (%)
Age	
0-6 months	42(20.3)
6-12 months	78(37.7)
12-23 months	87(42)
Gender	
Male	119(57.5)
Female	88(42.5)
Type of family	
Nuclear	149(72)
Joint	58(28)
Occupation of father	
Labourer	104(50.2)
Businessman	55(26.6)
Service	25(12.1)
At home	15(7.2)
Rickshaw-puller	8(3.9)
Education of mother	
Illiterate	43(20.8)
Primary	59(28.5)
Secondary	66(31.9)
Higher secondary	39(18.8)

Early initiation of breastfeeding, that is, within one hour of delivery was done in case of 118 (57%) out of 207 infants. Exclusive breastfeeding was assessed in 42 infants under 6 months of age, whereas continued breastfeeding at 1 year was assessed in 58 children of 12 to 15.9 months of age. The results of the indicators are summarized in Table 2.

Table 2: Feeding practices of the study population

Practices	No. (%)
Early Initiation of breastfeeding (n=207)	
<1 hour	118(57)
>1 hour	89(43)
Exclusive breastfeeding under 6 months (n₁=42)	
Yes	22(52.4)
No	20(47.6)
Continued breastfeeding at 1 year (n₂=58)	
Yes	32(55.2)
No	26(44.8)
Introduction of solid, semisolid or soft food (n₃=42)	
Yes	24(57.1)
No	18(42.9)
Minimum dietary diversity (n₄=165)	
More than 4 groups	101(61.2)
≤ 4 groups	64(38.8)
Minimum meal frequency:	
For breastfed children(n ₅ =101)	68(67.3)
For non-breastfed children(n ₆ =64)	52(81.3)
Minimal acceptable diet:	
For breastfed children(n ₅ =101)	55(54.5)
For non-breastfed children(n ₆ =64)	27(42.2)

Table 3: Factors associated with exclusive breastfeeding (n=42)

Factors	Exclusive Breastfeeding			p-value
	Yes (%)	No (%)	Chi-sq value	
Type of family				
Nuclear	14(51.9)	13(48.1)	0.008	00.927
Joint	8(53.3)	7(46.7)	df=1	
Educational Qualification of mother				
Illiterate	2 (50)	2 (50)	0.276	.0.964
Primary	14(53.8)	13(46.2)	df=3	
Secondary	4(50)	4(50)		
Higher secondary	2(66.7)	1(33.3)		
Occupation of Father				
Labourer	14(51.9)	12(46.2)	.059	.0.971
Business	4(50)	4(50)	df=2	
Service	4(50)	4(50)		

As seen in Table 3, the exclusive breastfeeding is not significantly associated with the type of family, educational qualification of mother or occupation of father. Similarly, these factors do not have any statistical association with the introduction of solid, semi-solid and soft foods.

IV. Discussion

This study has 207 study subjects of which 119 (57.5%) were male and 88 (42.5%) were female. 42 (20.3%), 78 (37.7%) and 87 (42%) children belonged to age groups 0 to 6 months, 6 to 12 months and 12 to 23 months respectively. 88.8% deliveries were institutional. High rate of institutional deliveries is probably due to close proximity to a medical college and other government facilities such as, Municipality Hospital. Colostrum was given in 90.6% cases but it was discarded in 9.4% cases, much lower finding than similar study in rural West Bengal done by Das N *et al.*¹⁵ Pre-lacteal feeding was given in 11(5.31%) cases. This low incidence is probably because of higher literacy rate and higher proportion of institutional deliveries. According to the National Family Health Survey-3 (NFHS-3) data, the proportion of children who were initiated breastfeeding within 1 hour of birth in India and in West Bengal are 24.5% and 23.5% respectively;¹⁶ whereas in this study this was much better (57%). This is, again, may be due to high rate of institutional deliveries in Purba Barddhaman.

V. Conclusion

Most of the indicators of Infant and Young Child Feeding were found better in this area than similar studies in other parts of West Bengal and India. But there is ample scope of improvement in all areas of IYCF. This can be achieved by awareness campaigns by various government departments. Health infrastructure needs to be improved in slum areas. Health workers and Anganwadi workers need to be trained in IYCF recommendations.

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References

- [1]. Gupta A, Dadhich JP, Suri S. Enhancing optimal infant feeding practices in India. *India Health Beat*; 2011; 5 (4)
- [2]. Lauer JA, Betrán AP, Barros AJD, de Onís M. Deaths and years of life lost due to suboptimal breast-feeding among children in the developing world: a global ecological risk assessment. *Public Health Nutrition*. Cambridge University Press; 2006;9(6):673–85.
- [3]. World Health Organisation. 55th World Health Assembly. A 55/15. Provisional agenda item 13.10. Infant & Young Child Nutrition. Geneva:2002.
- [4]. Infant and Young Child Feeding: Programming Guide. [cited 2017 July 29] Available from: https://www.unicef.org/nutrition/files/Final_IYCF_programming_guide_2011.pdf
- [5]. Bhattathiry MM, Kumari S. A study on the infant and young child feeding practices among mothers in a selected rural area of Kollam, Kerala. *Int J Health Sci Res*. 2016; 6(1):26-30.
- [6]. The Hindustan Times [Internet]. India launches MAA-- a programme to promote breastfeeding. [Cited 2017 July 29] Available from: <http://www.hindustantimes.com/india-news/india-launches-maa-aprogramme-to-promote-breastfeeding/story9CIec68xDLORUc1a7YRWwM.html>
- [7]. National Health Mission. MAA – Operational Guidelines 2016. New Delhi: Government of India; 2016
- [8]. Saleh F, Ara F, Hoque MA, Alam MS. Complementary Feeding Practices among Mothers in Selected Slums of Dhaka City: A Descriptive Study. *Journal of Health, Population, and Nutrition*. 2014;32(1):89-96.
- [9]. Vitoria CG, Smith PG, Vaughan JP, Nobre LC, Lombardi C. Infant feeding and death due to diarrhoea: A case –control study. *American J Epidemiology*1989;129:1032-41
- [10]. Jones G, Stekette , RW, Black RE, Bhutta ZA, Morris SS. How many child deaths can we prevent this year? *Lancet* 2003; 362:65-71
- [11]. World Health Organisation. Complimentary feeding of young children in developing countries: a review of current scientific knowledge. Geneva:1998
- [12]. World Health Organisation. Indicators for Assessing Infant and Young Child Feeding Practices – Part 2 Measurement. Geneva:2007
- [13]. Anwar F, Srivastava RK, Singh SP. Infant and young child feeding (IYCF) practices in rural Varanasi: A quantitative assessment. *Indian J. Prev. Soc. Med* 2016;44(1-2):82-6
- [14]. World Health Organisation. Indicators for Assessing Infant and Young Child Feeding Practices – Part 1 Definitions. Geneva:2007
- [15]. Das N, Chattopadhyay D, Chakraborty S, Dasgupta A. Infant and Young Child Feeding Perception and Practices among Mothers in a Rural Area of West Bengal. *Ann Med Health Sci Res* 2013;3(3):370-5
- [16]. International Institute for Population Sciences (IIPS) and Macro International. 2007. National Family Health Survey (NFHS-3), 2005–06: India: Volume I. Mumbai: IIPS:278

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