



Prevalence of Exclusive Breast Feeding and Its Determinants: A Cross Sectional Study in District- Etawah, Uttar Pradesh

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ABSTRACT

Back ground: Exclusive breast feeding is key for the proper growth and development of young infants. In spite of all benefits prevalence of exclusive breast feeding in our country is only 54.9 % as per national family health survey-4(2015-16). Various social customs and misconception act as barrier to breast feeding. This study was designed to find out prevalence and correlated variables in Etawah district

Methodology: To access the prevalence and determinants of exclusive breast feeding a community based cross sectional study conducted in Etawah District. Information was collected from 300 mothers having infants less than six month of age. Binary logistic regression analysis was done to find out independent association of variables.

Result: Prevalence of exclusive breast feeding was 52.3%. Prevalence decreases on addition of each month of life of infants. Education, Rural residence and Counselling show the positive relation with EBF. The major reason for starting top feeding is the belief of 33% mothers that their breast milk not enough for baby.

Conclusion: In this area, Exclusive breast feeding still low in practice. This study emphasizes the need to address the problem related with EBF.

Key Word: Exclusive breast feeding, Young Infants, Mothers, Odds.

INTRODUCTION

Breast milk is the natural and complete first food for babies. It fully fills all nutritional requirements of infants for the first months of life, and it continues to provide up to half or more of a child's nutritional needs during the second half of the first year, and up to one-third during the second year of life.¹

Breast milk promotes sensory and cognitive development, and protects the infant against infectious and chronic diseases.¹ Exclusive breastfeeding reduces infant mortality due to common childhood illnesses such as diarrhoea, pneumonia. EBF also helps for a quicker recovery during illness. These effects can be measured in resource-poor and af-

fluent societies.² Breastfeeding contributes to the health and well-being of mothers as it helps to space children, reduces the risk of ovarian cancer and breast cancer.¹ It is a safest way of feeding of young ones and is safe for the environment too.¹ Breastfeeding is a natural act, but this behaviour effected by many factors. An extensive body of research has demonstrated that mothers and other caregivers require active support for establishing and sustaining appropriate breastfeeding practices.¹ WHO and UNICEF launched the Baby-friendly Hospital Initiative in 1992, to strengthen maternity practices to support breastfeeding.¹ Exclusive breast feeding (EBF) is estimated to prevent approximately one tenth of child deaths³

and could play an important role in meeting sustainable development Goal 3 of reducing child mortality. Despite of the numerous recognized advantages of appropriate feeding practices, the rates of EBF in India continued to be low.⁴ According to NFHS-4 (2015-16) overall 54.9 percent of infants less than six months of age were exclusively breastfed.⁵ In India, breastfeeding appears to be shaped by the beliefs of a community which are further influenced by social, cultural, and economic factors.⁶

The present study was therefore designed to find out the factors associated with Exclusive Breast Feeding (EBF) along with the reason responsible for termination of exclusive breast feeding.

OBJECTIVE

The study was conducted to find out prevalence of exclusive breastfeeding, among study population and also to find out independent predictors of exclusive breastfeeding, among the study population.

MATERIALS AND METHODS

A community based cross-sectional study was conducted from July 2016 to Jan 2017. Clearance has been taken from Institutional Ethical committee before starting the survey. Mothers of age 15 to 45 years having youngest infant age less than six month were included in study. In urban Etawah out of thirty six wards ten wards were randomly selected. From each ward ten eligible mothers were interviewed by house to house survey. If desired sample not achieved than adjacent ward was included. In same way there are eight blocks in rural Etawah, out of which three were selected randomly. From each block five villages selected randomly. From each village ten eligible mothers were interviewed by house to house survey. If desired sample not achieved than adjacent village included, thus completing 150 samples from each rural and urban areas of Etawah district. Exclusive Breast feeding was defined as feeding of only breast milk to the infants till the age of six months. A pretested, structured interview schedule was used to collect information. After reaching the house, informed consent was taken from mother. Modified BG Prasad classification used for determining the economic status of mothers by using all India consumer price index 278 (Oct 2016) and linking factor (4.63*4.93).⁷ Two groups were formed first upper middle class and above (≥ 3172 Rs per capita income) and second middle class and lower group (≤ 3171 Rs per capita income)

As Per district level household and facility survey (DLHS) 2007-08, prevalence of EBF in Uttar Pra-

desh was 19.4% in infants of age 0-5 months. Applying the formula of sample size for estimation of prevalence $n=4pq/l^2$ taking absolute error (l) as 5%. Considering sample size 19.4% calculated sample size was 250. It was increased to 300. Thus 150 mothers interviewed each from urban and rural area.

In the present study we used exclusive breastfeeding (EBF) among infants aged < 6 months as the outcome variable. The independent variables included demographic and socioeconomic characteristics of mothers, place of delivery, mode of delivery, birth weight, sex of baby, time of initiation of breast feeding after delivery, and advice to mothers about EBF by health worker/doctor.

Data were analysed by using SPSS 21 version. Chi Square and logistic regression analysis were done. P value of <.05 was considered significant

RESULT

In present study socio demographic profile of mother's having baby less than 6 month of age were as follows, i.e., their age ranged between 18-37 years in which 56.3% mother's age were below 25 years. Majority of mothers were Hindu i.e. 81.6%. About 44% mothers went to school for more than ten years and according to B G Prasad classification 52.3% mothers belongs to upper middle and higher class. Only few 5.3% were working out door. About 68% mothers were living in joint family. Majority of mothers 82.3% underwent hospital delivery. Out of all caesarean section were done in 29% cases. According to mothers 38.7% baby's birth weight were low. Only 22% initiated breast feeding within first hour. About 35.3% mothers got counselling about EBF from health/doctors.

Table1: Prevalence of Exclusive Breast Feeding

Age	Total	EBF Present	EBF Absent
0-1 month	55	35 (63.3)	20(36.7)
1-2 month	42	26 (61.9)	16(38.1)
2-3 month	57	30 (52.6)	27 (47.4)
3-4 month	49	23 (46.9)	26 (53.1)
4-5 month	51	23 (45.1)	28 (54.9)
5 - 6 moth	46	20 (43.5)	26 (56.5)
Total	300	157 (52.3)	143 (57.7)

The overall prevalence of Exclusive breast feeding in infants of age less than 6months was 52.3%. It was highest 63.6% among infants up to one month of age and lowest 43.4% among five to six month age. Trend shows declining rate of exclusive breast feeding with addition of each month however no significant association was find out between age group of infant with EBF.

Table 2: Predictors of Exclusive Breast Feeding

Variables	Mothers	Exclusive breast feeding		Unadjusted odds ratio	Bivariate analysis	
		Absent (%)	Present (%)		Adjusted odds ratio (95% CI)	P value
Age group						
>25 yr	131	64(48.9)	67(51.1)	0.92	0.90(0.54-1.49)	0.683
<25 yr	169	79 (46.8)	90 (53.2)	-	1	
Schooling						
>10 yr	132	53 (40.2)	79 (59.8)	1.72	1.81 (1.08-3.05)	
<10 yr	168	90 (53.6)	78 (46.4)	-	1	0.024*
Religion						
Hindu	245	112 (45.7)	133 (54.3)	1.53	1.12 (0.58-2.19)	
Muslim	55	31 (56.4)	24 (43.6)	-	1	0.721
Residence						
Rural	150	63 (42)	87 (58)	1.57	1.79 (1.06-3.00)	
Urban	150	80 (53.3)	70 (46.7)	-	1	0.028*
Working place						
Indoor	284	135 (47.5)	149 (52.5)	1.10	1.08 (0.34-3.38)	
Out door	16	8 (50)	8 (50)	-	1	0.889
Economic status (per capita income in Rs)						
≥3172	157	73 (46.5)	84 (53.5)	1.10	1.04 (0.64-1.71)	
≤3171	143	70 (49)	73 (51)	-	1	0.849
Type of family						
Joint	204	99 (48.5)	105 (51.5)	0.89	0.945 (0.55-1.61)	
Nuclear	96	44 (45.8)	52 (54.2)	-	1	0.836
Sex of baby						
Female	132	69 (52.3)	63 (47.7)	0.72	0.61 (0.36-1.01)	
Male	168	74 (44)	94 (56)	-	1	0.057
Birth weight						
>2.5 Kg	184	80 (43.5)	104 (56.5)	1.54	1.42(0.85-2.38)	
<2.5 Kg	116	63 (54.3)	53 (54.7)	-	1	0.173
Place of delivery						
Hospital	247	111 (44.9)	136 (55.1)	1.87	2.06(1.05-4.05)	
Home	53	32 (60.4)	21 (39.6)	-	1	0.035*
Mode of delivery						
Normal	213	103(48.4)	110(51.6)	0.91	0.98(0.59-1.71)	
caesarean	87	40(46)	47(54)	-	1	0.945
Initiation of breast feeding						
< 1 hr	66	22 (33.3)	44 (66.7)	2.14	2.50(1.31-4.77)	
> 1 hr	234	121(51.8)	113 (48.2)	-	1	0.005*
Advice By Health worker on EBF						
Yes	106	42 (39.6)	64 (60.4)	1.65	1.83 (1.08-3.11)	
No	194	101 (52.1)	93(47.9)	-	1	0.024*

Binary logistic regression analysis applied. * indicate $p < .05$

In our study Practice of exclusive breast feeding was higher 59.8% in mothers who completed their schooling for more than ten years in comparison to who have not. Probability of exclusive breast feeding was significantly associated with mother's year of schooling. In respect of residence mothers of rural area were 1.79 odds exclusively breast feeding in comparison of mothers of urban area. Significant association was find out. About 54.3% Hindu and 43.6% Muslim mothers were exclusively breast feeding their young infants. No significant was find out among religion and exclusive breast feeding. Only 47.7% of female baby were on exclusive breast feeding in comparison to males 56%, however the difference was insignificant. EBF was 1.42 odds higher among normal birth weight baby in comparison to low birth weight baby but difference was insignificant. Mothers, who delivered in

hospital, were practice 2.06 odds higher EBF in comparison to who delivered at home; and EBF was positively associated with hospital delivery. Infants who got breast feeding within first hour after delivery have significantly 2.5 odd higher chances of EBF in comparison to the baby whose breast feeding started delayed. Advice by health workers / doctors shows significant impact on EBF as mothers who got advised 1.83 odds higher practiced EBF in comparison to who did not.

DISCUSSION

The present study was designed to evaluate factors associated with exclusive breast feeding by using bivariate analysis. The prevalence of exclusive breast feeding in present study (52.3%) comparable

with NFHS four national figure (54.9%)⁵, however in present study urban rural difference was higher. Almost similar finding reported by Varshney Amit et al,⁸ Dipen V Patel et al⁹ and Das et al⁹ which were 50.7%, 55.9%, 58.7% respectively. Higher rates were observed, 62.2% in U.P. by RSOC, 2013-14, ministry of women and child development¹¹. In present study prevalence of EBF in rural and urban area was 58% and 46.7% respectively and the findings supported by SMV Kumari et al¹² who reported 60.6% and 47.6% rates in Warangal. We also found that the prevalence of EBF decreased with increasing age of the child. S K Gupta et al¹³ find out low prevalence 26% but he also reported educational status of mother has significant impact on EBF. Higher rate in our study may be due to improvement in awareness with time.

In this study using binary logistic regression analysis we find out Mothers education, residence, Place of delivery, Counselling by health worker/doctor during post natal period shows significant (<0.05) independent association with EBF. Himadri Bhattacharya et al¹⁴ also reported literacy and place of delivery and ante natal check-up have significant association. Giassudin Met al¹⁵ reported maternal education and family income were important correlates of exclusive breastfeeding. Mothers who delivered at the healthcare facility practised more exclusive breastfeeding than those who delivered at home (AOR 2.18; 95 % CI 1.22, 4.35) reported by Mulusew Andualem Asemahagn¹⁶ and finding are similar to our findings. In rural area EBF was higher reason behind the lower rate in urban area could be over consciousness of mothers and family members. In NFHS-4 ⁵prevalence of EBF was also higher in rural area. We did not find out any association between sex of child, and Socio economic status of mother with EBF. Supporting result reported by Sasthi Narayan Chakraborty et al.¹⁷

In present study honey was the commonest pre lacteal feed given by 33% of mothers, higher percentage reported by 56% Himadri et al¹⁴ and Reemavarma et al¹⁸. The reason for top feeding was that 33% mothers believed that their breast milk alone would not be sufficient for the child so they use to feed cow milk. About 22% mothers felt that no milk is produced after delivery so they started top feeding. Sithara Suresh et al ¹⁹also reported that 25% mothers perception about insufficient about breast milk. The most common top feed were diluted cow milk 40%, followed by water, formula milk and Ghuttee that was given to infants by mothers or elderly of the family member to prevent indigestion and pain abdomen.

In this area, exclusive breast feeding was still low in practice. The study emphasizes the need to ad-

dress the problem related with EBF, especially issue of belief of insufficient milk and no milk ejection just after delivery by mothers. Improving educational status of mothers and hospital deliveries could improve exclusive breast feeding practices in this area. As many of mothers discarded EBF due false perception in such situation health care worker can bring change in favour of exclusive breast feeding.

REFERENCES

- 1- Maternal, new Born, Child and adolescent health. Available at: http://www.who.int/maternal_child_adolescent/topics/child/nutrition/breastfeeding/en/ Accessed Sep 20th 2017.
- 2- Kramer M et al. Promotion of Breastfeeding Intervention Trial (PROBIT): A randomized trial in the Republic of Belarus. *JAMA*. 2001;285(4):413-420.
- 3- Nomita Chandhiok, Khjitendra Kumar Singh et al. Changes in exclusive breastfeeding practices and its determinants in India, 1992-2006: analysis of national survey data. *International Breast feeding Journal*. 2015;10:34. available at: (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4696149/>) accessed on feb 8th 2017.
- 4- Dadhich JP, Agarwal RK. Mainstreaming early and exclusive breastfeeding for improving child survival. *Indian Pediatr*. 2009;46:11-17. [PubMed]
- 5- National family health Survey India. KEY FINDINGS FROM NFHS-4. Available at http://rchiips.org/NFHS/Factsheet_NFHS-4.shtml. Accessed on 15th march 2017.
- 6- K Madhu, Sriram Chowdary, and Ramesh Masthi. Breast Feeding Practices and New-born Care in Rural Areas: A Descriptive Cross Sectional Study. *Indian Journal Community Med*. 2009;34(3): 243-246.
- 7- Govt. of India. Labour bureau, Consumer price index. Available at: <http://labourbureau.gov.in/> accessed on march 15th 2017.
- 8- Varshney Amit M, Kumardinesh, Patel mahendra and Singh Uday S. Determinants of breast feeding practices in urban slums of taluka headquarter of district Anand, Gujrat. *National Journal of Community Medicine*. 2012;3(3):534-37.
- 9- Dipen V patel, stvik C bansal, archna S Nimbakar. Breast feeding practices, Demographic variables and their association with morbidities in children. *Advance in Preventive medicine*. 2015. Available at: <http://www.hindwai.com/journals/apm/2015/892825/> accessed on feb 12th 2017.
- 10- N.das, D Chattopadhyay, and S Chakraborty. Infants and young child feeding perception and practices among mothers in rural area of west Bengal, India. *Annals of medical and health science research*. 2013; 3(3):370-375.
- 11- Ministry of women and child development. Rapid survey on children 2013-14. Available at: <http://wcd.nic.in/sites/default/files/RSOC%20FACT%20SHEETS%20Final>. accessed on feb 20 2017.
- 12- SMV Kumari and K Muralidhar. A study of breast feeding practices in Rural and Urban Warangal, Andhra Pradesh. *MRIMS Journal of health sciences* 2015;3(10):73-75.
- 13- S K Gupta, P K Goel, Surekha Kishore, A B Singh. Social determinants of exclusive breast feeding practices. *Indian Journal of Community health*. 2006;18:13-17.

- 14- Himadri Bhattacharya, Shampa Das, ChandaMog and SukantaBhowmik. Breast feeding: Practices and determinants in rural area of west Tripura district of India. *Indian Journal of community medicine.*2013;4(4):628-631.
- 15- Giashuddin M, Kabir M, Rahman A, Hannan MA. Exclusive breastfeeding and nutritional status in Bangladesh. *Indian Journal Pediatrics.*2003;70(6):471-5.
- 16- Mulusew Andualem Asemahagn et al. Determinants of exclusive breastfeeding practices among mothers in azezo district, northwest Ethiopia. *International Breastfeeding Journal.* 2016;11:22.
- 17- Sasthi Narayan Chakraborty, SunetraKaviraj Roy, MdAbdurRahamanand, GautamGhose. A community based study on pattern of breast feeding of under 6 months aged children in slums of an Eastern Industrial City of India. *IOSR Journal of Dental and Medical Sciences.*2015;14(6):61-64.
- 18- Verma R, Mohan U, Srivastava VK. Breast feeding practices in rural Lucknow. *Indian journal Of Community medicine.*2006;31(2):65.
- 19- Sitharasuresh, kamlesh K sharma, ManjuSaksena. Predictors of Breast feeding problem in first post natal week and its effect on exclusive breast feeding rate at six month: Experience In tertiary care centre in north India. *Indian journal of public health* 2014;58(4):270-273.