Original Research Article

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A comparative study of breast feeding and complimentary food practices in catchment area of urban and rural health centres of Community Medicine Department, Gandhi Medical College, Bhopal

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ABSTRACT

Background: Scientific research has clearly proved that breastfeeding provides the most suitable nutrition to the baby, protects against infections, allergies, promotes physical, physiological, motor-mental and psycho-social growth and development. Also it benefits the mother in various ways like reducing anemia and breast and ovarian cancers and helps in fertility control. The study was conducted to assess and compare the knowledge and practice regarding breastfeeding among mothers of infants in urban and rural area.

Methods: This community based descriptive cross sectional study on 450 mothers of infant (0-12 completed months) residing in six wards of urban health centre and twenty three villages of block of rural health centre of Gandhi Medical College, Bhopal. Study was undertaken for the period of 1 year (November 2016 to October 2017). Study participants were interviewed by home visits using semi structured questionnaire.

Results: Maximum mothers 40% in rural and 35.1% mothers in urban area age group 21-23 year. 39.1% mothers in rural area provided colostrums to their child compared to 50.6% in urban areas (p=0.0178). In rural area 60% mothers gave breast milk to their child on demand, 25% within 1-2 hours & 15.1% within 2-3 hours. In urban area 80% mothers gave breast milk on demand, 12.8% within 1-2 hours & rest within 2-3 hours.

Conclusions: There was significant difference in breastfeeding practices in rural and urban area. Breastfeeding on demand was found to be more in urban area as compared to rural area.

Keywords: Breastfeeding, Rural, Urban, Bhopal, Knowledge, Practice

INTRODUCTION

Breastfeeding is a unique 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. But scientific research during the last three decades has clearly proved that breastfeeding provides the most suitable nutrition to the baby, protects the baby against infections, allergies and asthma, promotes physical, physiological, motor-mental and psycho-social growth and development and gives protection against some adult diseases such as diabetes, hypertension, ischemic heart disease and some forms of malignancy.2 In addition, breastfeeding also has benefits on the mother in various ways like reducing anemia and breast and ovarian

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cancers, saves money for the family and the nation, helps fertility control and is eco-friendly.3 Plenty of research has been done on benefits of breastfeeding in 1980s, a new set of definitions were evolved based on these research that included 'exclusive breastfeeding', which means that the baby receives nothing else other than breast milk. It has been observed that the beneficial effect of breastfeeding is maximum when it is exclusive.4 However, there is some confusion about the duration of exclusive breastfeeding. A general recommendation were made based on the Innocenti Declaration of 1990, regarding introduction of complementary foods between 4-6 months.⁵ This has led many care-providers to recommend complementary foods at 4 months of age. Breastfeeding is the healthiest way for a newborn child to get the best nutrition possible.^{6,7} This study was designed to provide a primary database in the cultural India environment where there is a dearth of such data base and will unrevealed the difference in awareness and practices in two altogether different characteristic in terms of social, economical, demographic and differential approach to health care i.e. rural and urban catchments area. The ultimate aim of this study to fill up the gaps in the existing knowledge so as to help in developing suitable strategy to reduce the burden of lack of awareness and harmful practice and to shift focus from "meets the target to client friendly service to ensure longterm sustainability IMNCI and RCH programmed and thus will help to build up healthier and stronger nation."

Objectives

To assess and compare the knowledge and practice regarding breastfeeding among mothers of infants in urban and rural area.

METHODS

The design of the study was Community based descriptive cross sectional study. With Study area being six wards of urban health centre & twenty three villages of block Obedullaganj of rural health centre of Gandhi Medical College, Bhopal. Study subjects were mothers of infant (0-12 completed months) residing in the above said catchments areas. Study was undertaken from the month of November 2016 to October 2017 for the period of 1 year. Inclusion criteria were lactating and no lactating mothers having infants (0-12 month of age) and residing urban and rural health centre respectively and mothers given consent for interview. Exclusion Criteria-Study participants don't give consent, could not be traced, wrong address, not in home due to earning livelihood or unknown regions, out site the home or village. Sample Size was taken as 20% of total expected number of Infants, which came out to be 450 (225 urban and 225 rural). Stratified random sampling used to sample the population both in urban and rural area. List of study participants (mothers) were prepared with the help of health care provider. Study participants were interviewed by home visits. Data analysis was done with the help of

Microsoft excel. Statistical analysis was done by using Z test of proportion, chi square test were ever required.

RESULTS

A total of 450 mothers of infant in the catchments area of urban and rural health centre of community medicine department, Gandhi Medical College, Bhopal were registered for the study. Maximum mothers 40% in rural and 35.1% mothers in urban area age group 21-23 year. Age difference of mothers in rural and urban area were significant (p=0.003). Maximum subjects were Hindu both in rural 173 (76.8%) and urban 117 (52%) areas although Muslim subjects were higher in urban area 98 (43.5%) as compared to rural area 41 (18.2%). In both rural and urban area, male infant were more than female infant (52% male infant in rural and 54.6% male infant in urban area) but this difference were not significant. Majority of mother delivered in Institution both in rural and urban area: 184 (81.7%) in Rural and 208 (92.5%) in urban area, these difference significantly (p=0.0012) associated in rural and urban area. Most of the deliveries in both area rural as well as urban area were 85.7% and 79.5% normal deliveries respectively. 42 (18.6%) subjects were illiterate in rural area as compared to 22 (9. 7%) in urban areas while 38.1% mothers were educated more than 8th standard in rural area as compared to 50.1% in urban area, mothers showing wide gap in education status. The difference between educational status was detected significant at 95% confidence interval (p=0.01). 16.8% female counterparts were illiterate in rural area as compared to 4.4% in urban area. Woman in the rural areas were more engaged in commercial work (67.7%) and the main occupation was agriculture (21.7%) while 58.2% subject in urban areas were housewives.

Table 1: Age wise distribution of mother.

S.No	Mothers age	Rura	ıl	Urba	Urban	
	in year	No	%	No	%	
1	15-17	4	1.7	-	-	
2	18-20	43	19.1	24	10.6	
3	21-23	90	40	79	35.1	
4	24-26	52	23.1	70	31.1	
5	>26	36	16	52	23.1	
Total	•	225	100	225	100	

Table 2: Religion wise distribution of subjects under study.

S.No	Religion	Rural		Urba	Urban	
		No	%	No	%	
1	Hindu	173	76.8	117	52	
2	Muslim	41	18.2	98	43.5	
3	Christian	11	4.8	8	3.5	
4	Other	-	-	2	.8	
Total		225	100	225	100	

A continuous dipping from knowledge about colostrums—importance—timing for feeding was found both in rural and urban area. Moreover a significant difference of knowledge about the importance of colostrums (p=0.04)

and knowledge of timing of feeding colostrums was observed (p=0.030) in rural and urban area, while no significant difference was observed regarding knowledge about colostrums in two study area (Table 1).

Table 3: Knowledge about colostrums

S.No	Knowledge about		Rural		Urban	Urban	
			No	%	No	%	
1	Knowledge about colostrums	Yes	124	55.1	142	63.1	
		No	101	44.9	83	36.8	
2	Knowledge about importance of	Yes	112	49.7	135	60	
	colostrums	No	113	50.3	90	40	
3	Knowledge of timing for feeding colostrums	Yes	98	43.5	122	54.22	
		No	127	56.4	103	45.7	
Total			225	100	225	100	

39.1% mothers in rural area provided colostrums to their child compared to 50.6% in urban areas. In Hindu families colostrums feeding practice were less common (35.8%) in rural area as compared to urban area (51.2%), while in Muslim families colostrums feeding practice were more common (51.2%) in rural area as compared to urban area (52.1%). Most common reason of not feeding colostrums was found to be related to lack of knowledge and their importance in both rural (28%) and urban (24%) area followed by religious cause (23.1% in rural area and 12% in urban area). This cause was found significantly associated (p=0.031 with proportion 0.1369 (95% confidence interval, 0.019 to 0.245). Maximum mothers started breast feeding their infant after 1 hour of birth (44% in rural area and 44.8% in urban areas). Only 13.7% mothers in rural area and 21.7% mothers in urban area started breast feeding within the recommended time (i.e. <1 hours) was also found to be having geographical difference (Z=2.096). Practices about time of starting the breast feeding with rural and urban area were significantly different. In rural area 60% mothers gave breast milk to their child on demand, 25% mothers gave breast milk to their child within 1-2 hours and 15.1% mothers gave breast milk to their child within 2-3 hours. In Urban area 80% mothers gave breast milk on demand, 12.8% mothers gave breast milk to their child within 1-2 hours and rest within 2-3 hours. Honey was the common feed provided other than the mother milk in both rural and urban area, no significant difference of feeding pattern in rural and urban area. Only 62.6% mothers in rural area and 55.4% in urban area reported the recommended feeding frequency that is 8-10 times a day. Most of mothers used right position to breast feed their child and signs of good attachment i.e chin touching breast were seen in 126 (58.8%) in rural area as compared to 148 (67.2%) mothers in urban area. 122 (57%) mothers of rural area and 147 (66.8%) mothers of urban area practices mouth wide open right position of breast feeding while rest of the two variable chin touching breast (Z=1.71) and more areola visible above than below less prevalent practices in both area. The right position of breast feeding practices among subjects based on four criteria was reported to be significant as per the urban rural background in only two criteria i.e. Mouth wide open (Z=2.006) and lower lip turned outward (Z=1.978) while rest of the two variable chin touching breast (Z=1.71) and more areola visible above than below (Z=1.006) were found insignificant. 22.2% rural subjects and 23.5% urban subject breast fed their infants exclusively up to 6 months.

DISCUSSION

Total 450 mothers in rural and urban area were interviewed by a semi-structured questionnaire. An incidental finding of the study was 19.8% participants were less than 20 years of age in rural area opposite to only 10.6% subjects in urban area. Singh et al explored in their study that those mothers who belonged to 30 years age group, a higher proportion (58.33%) partially breast fed their child for 6-18 months, with much lower for younger mothers. Pathi et al found that majority of the lactating women (82.2%) were aged 18-35 years.

We found a significant difference in place of deliveries, 41 mothers were delivered at home in rural area opposite to 17 in urban area. This difference may culminate into wide gap between the knowledge and awareness status. These findings are similar to other studies like Singh et al which found that institutional deliveries were 57% in urban areas and 32% in rural areas. While in contrast Chowdhury found that initiation of breastfeeding was unrelated to place of delivery. They did not detect any difference as per the place of delivery in urban and rural area. ¹⁰ Pathi et al found that Majority of the mothers had a domiciliary delivery (94.5%). ⁹

Similarly Chatterjee et al reported that 38.18% mothers were illiterate both father and mother were literate in 58.18% while 10.91% children had illiterate parents. Gottlieb found that 76% of women had at least some primary school education. Rasania et al assessed the breast-feeding practices among children, 32.2% children

belonged to illiterate mothers while only 8.8% children belonged to educated mothers beyond school level.¹³

In this study we found that both in rural area and urban area majority (36.4% in rural area vs 31.1% in urban area) belonged to social Class IV according to Modified BG Prasad classification. 8.4% in rural area and 12% in urban area belonged to social class I, 16% in rural area and 17.3% in urban area belonged to Social Class II, 21.3% in rural area and 28.4% in urban area belonged to Class III while 17.7% in rural area and 11.1% in urban area belonged to Class V.

Suvra Pathi et al found that the mothers with a higher socio-economic status who exclusively breast-fed their child for the stipulated time were less in number (9.62%) as compared to mothers with a low Socio-economic status (65.38%) and this was found to be highly significant. This study shows that there is immense need of spreading awareness about colostrums not in rural area but also in urban area. Moreover we observed a steady downfall from basic knowledge of colostrums to more practical issue like importance and time to feed indicating the inability of health system to convert theory into practices. Similarly Chatterjee et al found that 96.36% children got benefits of colostrum feeding.¹² Tiwari et al found that colostrum was discarded by the mothers believing that it was filthy and harmful to the child.¹⁴ Kumar et al found that knowledge regarding infant feeding practices was very poor: colostrum feeding (34.8%), and significant gaps between knowledge and practice were observed. 15 Almost 70% mothers did not start breastfeeding their babies until after 3 days of life.

We did not detected any relation between mode of delivery and colostrums feeding, Chowdhury et al examined that Initiation was unrelated to religion, place of delivery while in contrast Rao et al found that mothers with a normal delivery breast feeding was initiated within half an hour in 8.6% patients and in 78% it was started within half to two hours and that mothers with caesarean section breast feeding was initiated within 6 to 24 hours in 74% patients. 10,16 We detected significant difference of colostrums feeding as per religious background in our study. We reported more orthodoxies and rigid practices in Hindu community in rural area as compared to Muslim but no such significant difference was detected in urban area, these finding similar with Chowdhury et al examined that initiation was unrelated to religion.¹⁰ Because of the general awareness between urban and rural area and penetration of health services we also report more and significant prelacteal feeding in urban area. Still even in urban this practice widely prevalent more than the half of the children were given prelacteal feed. If we think it at the philosophical level prelacteal feed is only 'proxy' of "exclusive breast feeding" it does indicate food deprivation, Galhotra from Chandigarh reported in a study on feeding prelacteals. 17 Chatterjee et al found that 47.06% literate mothers and 66.66% illiterate mothers practiced pre-lacteal feeding.11 Literate

mothers were more likely to initiate breast feeding early and gave pre-lacteal feeds less often.

A stunting finding in our study is a very vast variation from the recommended practices from the starting time of breast feeding in both rural and urban area with more graves in villages. This again reflects the poor awareness status as well inability to transform theory into practices. Chatterjee et al found that 14.54% children, breast feeding was initiated within one hour of birth. 61.77% literate mothers and 52.38% illiterate mothers had initiated breast feeding within 24 hours of birth of their children. It Kumar et al found initiation of breast-feeding within six hours (17.4%).

On exploring the knowledge related to breast feeding among subjects $3/4^{th}$ of the subjects in both urban and rural area did not have the knowledge regarding several issues. This shows a generalize deficit of knowledge prevalent irrespective to geographical distribution.

Borade et al assessed the illiteracy, younger age and mothers living in nuclear family were found at significant higher risk of not following EBF. Undesirable sociocultural beliefs and misconceptions in the society affect BF practices. 18 Gottlieb found that half of women agreed that breast milk should be withheld if it could cause the baby harm. 12 However, 85% of women indicated that a baby who is not breastfed could never be healthy, and 80% of women indicated that a close relative determines infant feeding decisions. It was noticed that the majority of mothers did not follow any time schedule and the infant was given a feed whenever he cried or whenever the mother found time to do so. We report a higher frequency of breast feeding in rural area compared to urban may be the consequence of background information given by elders being in a joint family or simply it may be the consequence of non sampling error. Rao found that the average frequency of breast feeding in day was calculated to be 6.06 times in a day for the children of the age group of 0-4 months and almost equal 6.12 times for the children age 5-6 months. 16

Recommendations

Increasing awareness of the need to consider the pattern of feeding in the world as a whole has been a major development of this decade. We should reinforce this beneficial practice by increasing awareness among mothers regarding breast feeding. Preparation of mothers for successful lactation by providing, appropriate prenatal advice on breast feeding. All health care workers must actively encourage the practice of breast-feeding. Education material on breast-feeding must be made available for all personnel and their families. Increase feeding frequency as the child ages. Gradually increase food consistency and variety as the child ages, adapting the diet to the infant's requirements and abilities. Practice frequent and responsive feeding during and after illness. Practice good hygiene and proper food handling.

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Institutional Ethics Committee

REFERENCES

- 1. Hill LF. A salute to La Leche League International. Journal Pediatr. 1968;73(1):161-2.
- Laurence RA. Human milk as the gold standard for infant feeding. J Obstet Gynaecol India. 1999;49:30-4.
- Phatak A. Economic and ecological effects of breastfeeding. J Obstet Gynaecol India. 1999;49:35-8.
- 4. Madeley RJ. Relating child health services to needs by the use of simple epidemiology. Public Health. 1978;92(5):224-30.
- UNICEF. Facts for life: a communication challenge. P and LA; 1990.
- 6. Jelliffe DB, Jelliffe EP. Breast is best: Modern meanings. N Eng J Med. 1977;297(17):912-5.
- 7. Park K. Textbook of Preventive and Social medicine 24th edition.
- 8. Col PS, Col RB. Breast feeding practices among families of armed forces personnel in a large cantonment. Med J Armed Forces India. 2007;63(2):134-6.
- Pathi S, Das BC. Breast feeding practices in a rural ICDS block of Khallikote, South Orissa. Indian J Community Med. 2005;30(4):154.
- Chowdhury N, Islam MA, Chakraborty N. Infant and child feeding practices in Bangladesh: evidence from Bangladesh demographic and health survey, 1993–94. Demogr India. 1997;26:275–86.
- 11. Chatterjee S, Saha S. A study on knowledge and practice of mothers regarding infant feeding and nutritional status of under-five children attending

- immunization clinic of a medical college. Internet J Nutrition and Wellness. 2008;5(1):1-9.
- 12. Gottlieb D, Shetty AK, Bassett MT, Mapfungautsi RM, Katzenstein DA. Infant feeding: Knowledge, attitudes and practices among women in Zimbabwe. AIDS Patient Care STDS. 2004;18(1):45-53.
- Rasania SK, Bhalla S, Khandekar J, Pathi S, Matta S, Singh S. Post exposure management of animal bite cases attending a primary health center of Delhi. The J Communicable Dis. 2004;36(3):195-8.
- 14. Tiwari V, Singh A. Knowledge attitude and practice of mothers regarding breast feeding in an urban area of Faizabad district (UP). Indian J Prevent Social Med. 2007;38(1-2):18-22.
- 15. Kumar D, Agarwal N, Swami HM, Statistics A, Comments R. Socio-demographic correlates of breast-feeding in urban slums of Chandigarh. Indian journal of medical sciences. 2006;60(11):461-6.
- 16. Rao SB, Ajmera SK, Bhide M, Khatanhar N, Badhwar VR. Impact of Baby Friendly Hospitals on the Knowledge, Attitude and Practice of Breast Feeding. BMJ. 2006;332:133-4.
- 17. Galhotra A, Abrol A, Agarwal N, Goel N, Swami H. Impact of community based awareness campaign on breast-feeding among lactating women in Chandigarh. Internet J Health. 2008;7(1):1.
- 18. Borade A, Hanumante N. Maternal Knowledge and Perception about the Breast Feeding and Factors Influencing it-A Study in Urban Low Socioeconomic Class of Pune. Pediatric Oncall. 2007;5(3):1.

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