

## Original Article

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# Influence of Place and Mode of delivery on Initiation of Breast feeding Practices in Urban and Rural Area of District Ambala, Haryana

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## Abstract

**Background-** Optimal breast feeding practices especially early initiation of breast feeding help giving the best start to new born baby's life. A recent estimate by the World Health Organization estimated that worldwide only 35% of children between birth and 5<sup>th</sup> month of their life are breastfed exclusively. NFHS-III Data from India showed that the percentage of children who started breast feeding within one hour of birth and percentage of infants weaned by 6 to 9 months of age was just 24.5% and 58.8% respectively. Aim of the study to evaluate influence of place and mode of delivery on breast feeding initiation. **Materials And Methods-** It was community based cross-sectional study conducted among 1267 children between age group of 0-24 months in the urban and rural field practice areas of Department of Community Medicine, Maharishi Markandeshwar Institute of Medical Sciences and Research, Mullana, district Ambala, Haryana. A self designed semi structured questionnaire was used to assess Mother's knowledge, trends and determinants of infant and young child feeding practices. **Results-** The striking finding of the study was that significant number of mothers 33.2% opting for institutional delivery had put their babies on breast feeding within one hour compared to 9.7% who delivered at home and this difference was statistically significant ( $p < 0.001$ ). A significant difference ( $p < 0.001$ ) was observed among mothers (38.6%) who delivered normally initiated breast feeding within one hour whereas majority of the mothers i.e 49.5% who initiated breast feeding beyond one hour and within first 24 hours delivered by Cesarean section. **Conclusion-** Birth type matters in breastfeeding. Accounting for this difference in women electing to have scheduled cesarean section can allow them to be more adequately informed regarding the benefits of lactation.

**Key words:** Breast feeding; Delivery; Caesarean

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## INTRODUCTION

Breast feeding is an unequalled way of providing the ideal food for the healthy growth and development of infants and young children.<sup>1</sup> It offers promising benefits to both mother as well as baby as far as physiological and psychological aspects are concerned. Optimal breast feeding practices especially early initiation of breast feeding help

giving the best start to new born baby's life. It establishes and enhances desirable bonding between infant and mother. It provides development and learning opportunities to the infant by stimulating all five senses i.e sight, sound, smell, hearing, touch and taste. It helps in IQ enhancement.<sup>2</sup> Studies conducted in developing countries have revealed that, non breast fed infants are 6 to 10 times more likely to die in first few months of life as compared to breast fed infants. Acute infections like haemophilus influenza,

meningitis and urinary tract infections are less common and less severe in breastfed infants.<sup>3</sup> Annually about 26 million babies are delivered in India. According to NFHS–III data 20 million are not able to receive exclusive breast feeding for first six months and about 13 million do not get timely and appropriate complimentary feeding after six months along with continued breast feeding. As per NFHS–III initiation of breast feeding within an hour of birth is only 24.5 % and exclusive breast feeding up to six months of age is only 46%.<sup>4</sup> The beneficial effects of breast feeding depend on its initiation, duration and the age at which breast fed child is weaned.<sup>5</sup> WHO infant feeding guidelines recommend all infants should be breast fed within one hour after birth and be exclusively breast fed from birth until six months of life. Thereafter, infants should be introduced to nutritionally adequate and safe complementary foods with continued breast feeding for up to 2 years or beyond. The benefits of breast feeding are even greater in developing countries, where resources are scarce and where neonatal and infant morbidity and mortality rates as well as prevalence of infectious diseases is high.<sup>6</sup> India is a kaleidoscope of various cultures and traditions. The practice of breast feeding among Indian mothers is almost universal but initiation of breast feeding is quite late. Infant feeding practices in rural communities are shaped up social, cultural and economic factors.<sup>5</sup> Beliefs about colostrum also vary in many communities, believing that it is deleterious for the baby. Our country has failed miserably to control early malnutrition as evident by achievement of marginal reduction in under nutrition over a span of 7 years, i.e. from NFHS-II (1998–1999) to NFHS-III. Percentage of children who started breast feeding within one hour of birth in Haryana was merely 22.1%.<sup>7</sup> This figure is far below the 90% level recommended by the WHO. Unfortunately, feeding practices have not shown any improvement. Reasons for this are many including aggressive promotion of baby foods by commercial interests, lack of support to women at family and work places and inadequate skilled health care support. Efforts need to be made for meaningful rise in feeding practices. Aims of conducted study To study influence of mode and place of delivery on breast feeding initiation.

## MATERIAL AND METHODS

The study was a community based cross – sectional study conducted among 1267 children aged 0-24 months and their mothers in the urban and rural field practice areas of Department of

Community Medicine, Maharishi Markandeshwar Institute of Medical Sciences and Research, Mullana, district Ambala, Haryana between January 2013 to 31<sup>st</sup> December 2013. Mothers with infants and children up to 2 years of age were included in the study. Simple random sampling technique was used for sample collection. A list of all the children under two years of age residing in the study area was procured from the survey register of the urban health centre and all the three rural health centres. As per census 2011, the ratio of rural to urban population in district Ambala is 1.3:1. So for true representation of both the groups the study samples were taken in ratio of 1.3:1. Thus sample was divided as 735 for rural and 565 for urban area. The study was conducted by employing house to house survey technique. The data was collected by interviewing the mothers or the primary care giver of the child after taking an informed and written consent. Study tools comprised of Self designed and semi-structured questionnaire for collecting the relevant information regarding the socio demographic factors, knowledge and level of awareness of mothers regarding infant and young child feeding ,trends and determinants of infant and young child feeding and assessment of impact of feeding practices adopted by mothers on child's health and nutritional status.

**Ethics Consideration**-The study was approved by Institutional Ethics Committee. The present study did not impose any financial burden to the participants and informed and written consent from the informant (preferably mother or primary care giver) was taken from the participants before conducting the study.

## DATA ANALYSIS:

The data collected during the survey was entered in microsoft excel and analyzed via SPSS (Statistical Package for the Social Sciences) SPSS VERSION 20. The child feeding practice, as well as socioeconomic and demographic factors and impact on nutritional status of children were expressed as proportions in the form of percentages. Chi -square test of significance was applied to establish their association with breast feeding and p value <0.05 was considered to be statistically significant.

## RESULTS

Table no. 1 represents the distribution of mothers according to age group and the area of residence. Among 1267 mothers with infants and children up to 2 years of age, 709 were from rural area and 558

from urban area. A large proportion of mothers (44.3%) belonged to the age group of 20 – 24 years , followed by 40.6% in the age group of 25 – 29 years while 3% belonged to age group of less than 20 years and only 0.5% mothers belonged to age group of 35- 39 years. In rural area majority of the mothers (60.1%) belonged to age group of 20 – 24 years where as in urban area majority of the mothers 57% belonged to age group of 25- 29 years . Table no. 2 depicts time of initiation of breast feeding among mothers according to area of residence. Out of 1267 mothers only 29.9% mothers initiated breast feeding within one hour of delivery. More number of mothers (33.6%) in rural

area initiated breast feeding within one hour of delivery where as only (25.3%) mothers in urban area could initiate breast feeding within one hour. Maximum number of the mothers (40.9%) in urban area initiated breast feeding within first 24 hours and same trend was seen in rural area (34.1%). The difference in time of initiation of breast feeding between urban and rural mothers was statistically significant ( $p < 0.001$ ). Figure 1- represents the distribution of the mothers according to place of delivery and area of residence. Out of 1267 mothers, 86.1% mothers delivered in institution and only 13.9% mothers delivered at home.

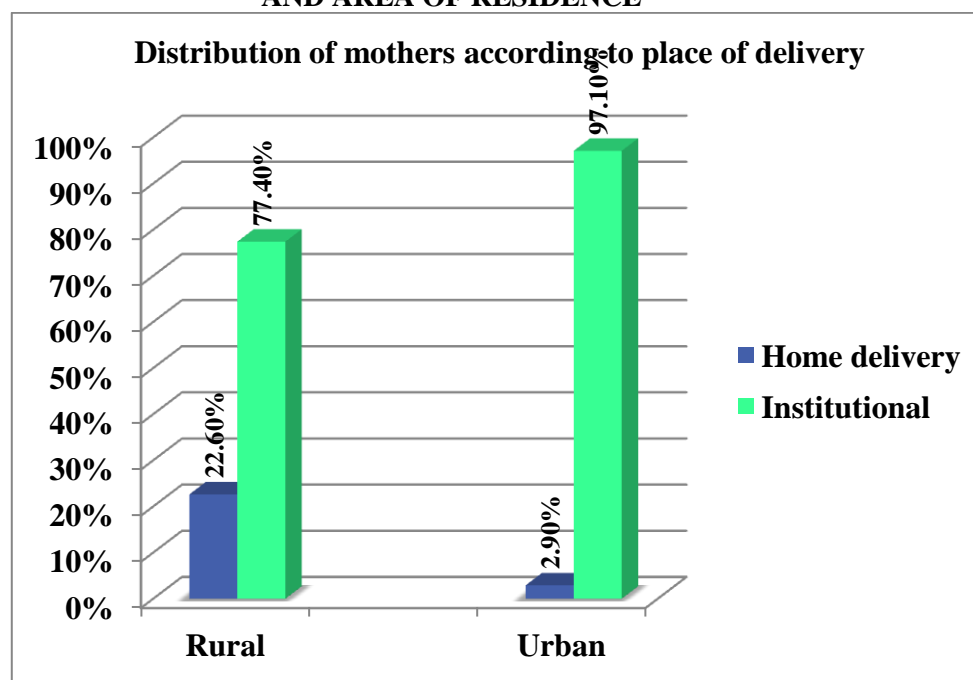
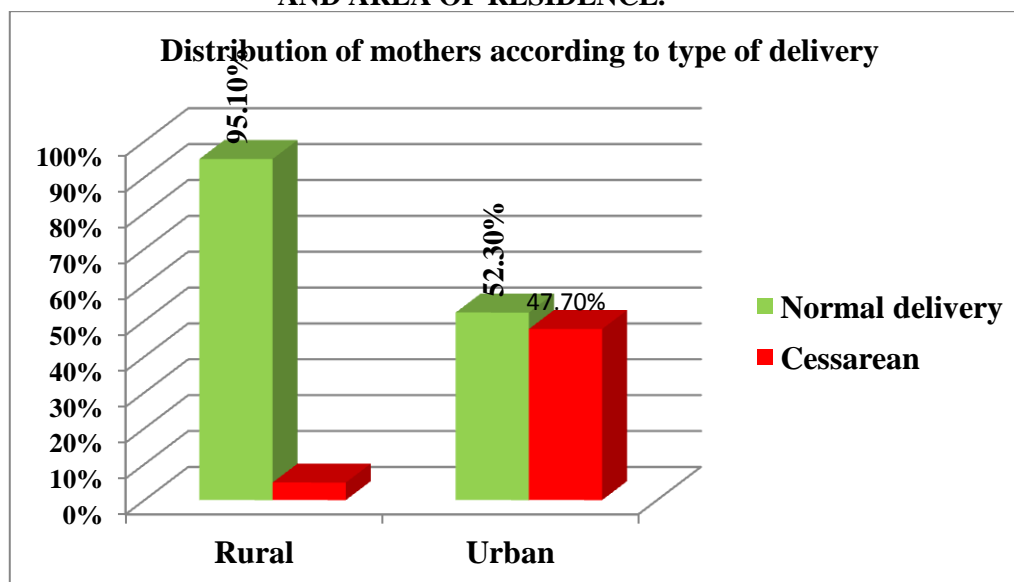
**TABLE 1: DISTRIBUTION OF STUDY PARTICIPANTS ACCORDING TO AGE AND AREA OF RESIDENCE**

Age in years	Area of Residence					
	Rural		Urban		Total	
	N	%	N	%	N	%
< 20	25	3.5%	13	2.3%	38	3.0%
20-24	426	60.1%	135	24.2%	561	44.3%
25-29	196	27.6%	318	57.0%	514	40.6%
30-34	62	8.7%	86	15.4%	148	11.7 %
35-39	0	0.0%	6	1.1%	6	0.5%
Total	709	100%	558	100%	1267	100%

**TABLE 2: DISTRIBUTION OF THE MOTHERS ACCORDING TO TIME OF INITIATION OF BREAST FEEDING**

Time of initiation of breast feeding	Area of Residence					
	Rural		Urban		Total	
	N	%	N	%	N	%
Within one hour	238	33.6 %	141	25.3 %	379	29.9 %
Within one to twenty four hours	242	34.1 %	228	40.9 %	470	37.1 %
24 – 48 hours	170	24.0 %	105	18.8 %	275	21.7 %
After Three days	56	7.9 %	79	14.2 %	135	10.7%
Lactational Failure	3	0.4 %	05	0.9 %	8	0.6 %
Total	709	100 %	558	100 %	1267	100 %

$$\chi^2 = 27.4 \text{ df} = 4 \text{ p value} < 0.001$$

**FIGURE 1: DISTRIBUTION OF THE MOTHERS ACCORDING TO PLACE OF DELIVERY AND AREA OF RESIDENCE**
 $\chi^2 = 101.3 \text{ df} = 1 \text{ p value} < 0.001$ 
**FIGURE 2: DISTRIBUTION OF THE MOTHERS ACCORDING TO TYPE OF DELIVERY AND AREA OF RESIDENCE.**
 $\chi^2 = 314.8 \text{ df} = 1 \text{ p value} < 0.001$

**TABLE 3: RELATIONSHIP OF TIME OF INITIATION OF BREAST FEEDING WITH PLACE OF DELIVERY**

Time of initiation of breast feeding	Place of delivery				Total	
	Home delivery		Institutional			
Within one hour	17	9.7 %	362	33.2 %	379	29.9 %
Within one to twenty four hours	60	34.1 %	410	37.6 %	470	37.1 %
24 – 48 hours	80	45.5 %	195	17.9 %	275	21.7 %
After Three days	19	10.8 %	116	10.6 %	135	10.7 %
Lactational Failure	0	0.0 %	8	0.7 %	8	0.6 %
Total	176	100 %	1091	100 %	1267	100 %

$$\chi^2 = 82.9 \text{ df} = 4 \text{ p} < 0.001$$

**TABLE 4 :RELATIONSHIP OF TIME OF INITIATION OF BREAST FEEDING WITH TYPE OF DELIVERY**

Time of initiation of breast feeding	Type of delivery				Total	
	Normal		Cesarean			
Within one hour	373	38.6 %	6	2.0 %	379	29.9 %
Within one to twenty four hours	321	33.2 %	149	49.5 %	470	37.1 %
24 – 48 hours	206	21.3 %	69	22.9 %	275	21.7 %
After Three days	63	6.5 %	72	23.9 %	135	10.7 %
Lactation Failure	3	.3 %	5	1.7 %	8	0.6 %
Total	966	100 %	301	100 %	1267	100 %

$$\chi^2 = 82.9 \text{ df}=4 \text{ p value} < 0.001$$

institutional delivery was more commonly seen in urban area (97.1%) compared to rural area (77.4%) and this difference was statistically significant ( $p < 0.001$ ). Figure no. 2 represents distribution of the mothers according to type of delivery and area of residence. Out of 1267 mothers, 76.2% had normal delivery and 23.8% underwent Cesarean section. Majority of the mothers in rural area (95.1%) underwent normal delivery compared to only 52.3% in urban area. Mothers who delivered by Cesarean section were higher (47.7%) in urban area as compared to rural area (4.9%). The difference in type of delivery according to area of residence was statistically significant ( $p < 0.001$ ). Table no. 3 shows relationship of time of initiation of breastfeeding with place of delivery. A significant number of mothers (33.2%) opting for institutional delivery had put their babies on breast feed within one hour of delivery where as only 9.7% mothers delivering at home initiated breastfeeding within one hour. Majority of the

mothers (45.5%) who delivered at home initiated breast feeding between 24- 48 hours where as maximum number of mothers (37.6%) who delivered at institution initiated breast feeding within 1- 24 hours. The difference in time of initiation of breast feeding according to place of delivery was highly statistically significant ( $p < 0.001$ ). Table no. 4 - represents association of type of delivery with time of initiation of breast feeding. It is clearly evident that mothers who delivered normally initiated breast feeding earlier as compared to those mothers who delivered by Cesarean section. 38.6 % mothers who delivered normally had initiated breast feeding within one hour of delivery as compared to 49.5 % mothers who delayed initiation of breastfeeding beyond one hour delivered by Cesarean section. The difference in time of initiation of breast feeding according to type of delivery was highly statistically significant ( $p < 0.001$ )

## DISCUSSION

Although breast feeding practices are universal in India but owing to modernization significant erosion of breast feeding practices have occurred. The current study revealed that a total of 29.9% mothers had initiated breast feeding within one hour of delivery. In rural area 33.6% mothers initiated breast feeding within one hour where as in urban area only 25.3% could start breast feeding within one hour of birth. Figures observed in total and in urban area of district Ambala are consistent with figures reported by **NFHS- III** which found that initiation of breast feeding within an hour of birth was 24.5%.<sup>7</sup> **DLHS – 3** collected data of 534 districts and reported similar figure i.e 40%.<sup>4</sup> which is in agreement with findings of rural area of district Ambala. The study revealed that significant number of mothers 33.2% opting for institutional delivery had put their babies on breast feeding within one hour compared to 9.7% who delivered at home. 38.6 % mothers who delivered normally initiated breast feeding within one hour whereas majority of the mothers i.e 49.5% who initiated breast feeding beyond one hour and within first 24 hours delivered by Cesarean section. This trend was seen in studies conducted by **Orun E et al (2010)** and **Radwan H et al (2013)** who documented that mothers who had delivered by Cesarean section were significantly less likely to initiate first breast feed within an hour than mothers who underwent normal delivery.<sup>8, 9</sup> This is further supported by **Prior E et al (2012)** in a meta analysis of world literature that rates of breast feeding were significantly lower ( $p < .00001$ ) after Cesarean delivery compared to normal delivery. Adverse effects of anaesthesia on mother infant pair and maternal discomfort hamper establishment of early successful lactation.<sup>10</sup> **Bolanle A (2013)** reported that majority of mothers who delivered at home generally initiated breast feeding after one hour, whereas higher proportion of those who delivered at health facilities initiated within one hour.<sup>11</sup> **Kulsoom U et al (1997)** reported that mothers who delivered at hospital initiated breast feeding earlier than mothers who delivered at home.<sup>12</sup> In contrast to the current study, a study conducted by **Berhe H et al (2013)** found that mothers who gave birth at home were 3.5 times more likely to initiate timely breast feeding compared to those who delivered at health institutions. This difference was explained that, health professionals focused more on activities like cleaning, warming and cord tie which could delay early lactation at hospital deliveries.<sup>1</sup>

## CONCLUSION

The striking finding of the current study was that place and type of delivery significantly influenced time of initiation of breast feeding as delay in early initiation of breast feeding was observed among mothers opting for home delivery and those who delivered by Cesarean section.

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