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# **Original Research Article**

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# Early initiation of breast feeding practice among institutional delivered women in district Bareilly

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#### **ABSTRACT**

**Background:** A recent trial has shown that early initiation of breastfeeding could reduce neonatal mortality by 22%, which would contribute to the achievement of the Millennium Development Goals. Globally, over one million newborn infants could be saved each year by initiating breastfeeding within the first hour of life. In developing countries alone, early initiation of breastfeeding could save as many as 1.45 million lives each year by reducing deaths, mainly due to diarrheal disorders and lower respiratory tract infections in children. We studied the practice of early initiation of breast feeding among institutional delivered women in district Bareilly.

**Methods:** This cross sectional study was conducted in the residence of 289 mothers who were delivered in health care institutions of district Bareilly. The study was carried out among women who delivered in 3 hospitals (one tertiary care hospital - SRMS IMS, one secondary level care hospital (district hospital) and one primary health center (PHC). All the recently delivered mothers were interviewed at their residences that were having infants aged up to 1 month.

**Results:** 186 (64.4%) mothers had started the breast feeding within 1 hour after delivery. More than half (59.1%) women were aware about the duration of exclusive breast feeding while only 101 (34.9%) women aware about the correct positioning for proper breastfeeding.

**Conclusions:** Early rooming-in, skin-to-skin contact and support to the mother are the simple interventions which are likely to have the greatest impact in reducing child mortality.

**Keywords:** Breastfeeding, Institutional delivery, Early initiation

#### INTRODUCTION

Breast feeding is a mother's privilege and a baby's right. From the beginning of human civilization, generations after generation have grown up on mother's milk, nature's complete diet for the newborn. Nothing can compare with the breast milk which is a living substance containing enzymes and antibodies specifically designed to protect the infant's very vulnerable body system. Research conducted worldwide indicates that babies who are not in breast milk are 25 times more susceptible to disease.<sup>1</sup>

A recent trial has shown that early initiation of breastfeeding could reduce neonatal mortality by 22%, which would contribute to the achievement of the Millennium Development Goals.<sup>2</sup> Globally, over one million newborn infants could be saved each year by initiating breastfeeding within the first hour of life. In developing countries alone, early initiation of breastfeeding could save as many as 1.45 million lives each year by reducing deaths, mainly due to diarrheal disorders and lower respiratory tract infections in children.<sup>3</sup>

In South Asia, 24%–26% of babies born in Bangladesh, India and Pakistan are breastfed within the first hour of birth, whereas the corresponding rate for Sri Lanka is 75%. The effect of these breastfeeding patterns is reflected in the neonatal mortality rates for these countries: 40–50 per 1000 live births in Bangladesh, India and Pakistan, while in Sri Lanka the rate is as low as 11 per 1000 live births.

The impact of early initiation of breastfeeding on infant mortality and its economic advantages is well known. Yet little attention has been paid by healthcare practitioners and policy-makers to this simple preventive strategy, except for annual campaigns that aim to highlight its importance, such as the World Breastfeeding Week. The objective of our study was to know the practice of early initiation of breast feeding among institutional delivered women in district Bareilly, U.P., India.

#### **METHODS**

This cross sectional study was conducted in the residence of mothers who were delivered in health care institutions of district Bareilly over a period of 6 months (October 2015 to March 2016).

#### Sample size

The sample size was calculated using the formula  $N=Z^2_{1-\alpha/2}$  p x q/d² taking up as 39.4% (According to Annual Health Survey, 2012-13) with relative allowable error = 15% and 10% non-respondents as 289. All 289 mothers were interviewed.

# Tools for data collection

The tool consists of three parts.

Part A: Items on demographic variables like age, parity, religion, caste type of occupation, educational status, income and type of family etc.

Part B: Data on pregnancy- information about Illness during pregnancy, the interval between consulting for ANC visit, Information about initiation about breastfeeding during ANC visit, told about initiation about breast feeding etc.

*Part C:* Obstetric data- total living children, total male children, total female children, birth order, type of delivery, child sex, birth type, labour conductor, duration, planned pregnancy.

*Part D:* Breastfeeding information-initiation about breast feeding, skin to skin contact, guided by health staff, faced any problem, colostrum given, anything given before breastfeeding, last breastfeeding experience, duration of breast feeding of last child etc.

#### Operational definitions

Breast feeding initiation: In this study it refers to the act of putting the newborn baby on breast for feeding within one hour in case of vaginal as well as caesarean delivery (IYCF recommendations- UNICEF).

#### Inclusion criteria: Recently delivered mothers-

- Who were willing to participate in the study
- Who were available at the time of data collection
- Who had undergone either normal vaginal delivery or caesarean delivery.

#### Exclusion criteria

- Mothers who have had some medical complications which would prevent early initiation of breastfeeding.
- Mothers whose new-borns were having some medical complications which would prevent early initiation of breastfeeding.

### Sampling technique and data collection procedure

In this nonprobability purposive sampling, after enlisting all the hospitals based on providing the level of health care to the community in district Bareilly, the study was carried out among women who delivered in 3 hospitals (one tertiary care hospital - SRMS IMS, one secondary level care hospital (district hospital) and one Primary Health Center (PHC). All the recently delivered mothers (delivered within last 1 month) were interviewed at their residence who were having infants aged up to 1 month and were residing within 10 kms from the hospital. A pre tested, semi-structured interview schedule was used for collecting data of 289 delivered mothers.

#### Ethics and consent

The study protocol was approved by the Institutional Ethical Committee of Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly. Verbal informed consent was taken from the mothers of the eligible participants.

#### Study variables

Dependent variable: Timely initiation of breastfeeding.

*Independent variables*: Age, residence, educational status of mother and husband, type of family, standard of living index.

Biomedical factors: Total living children, total male children, total female children, birth order, type of delivery, child sex, birth type, labour conductor, duration, planned pregnancy, Illness during pregnancy, interval between consult for ANC visit, Information about initiation about breastfeeding during ANC visit, told

about initiation about breast feeding, skin to skin contact, guided by health staff, faced any problem, colostrum given, anything given before breastfeeding, last breastfeeding experience, duration of breast feeding of last child.

Awareness factors: Awareness about the duration of exclusive breastfeeding, awareness about the correct positioning of the child and mother for proper breast feeding, awareness about the minimum number of breast feeds required per day, awareness about the importance of burping, awareness about the benefits of breastfeeding, awareness about starting of compliment feeding and with what?

#### Data processing and analysis

The data were checked for completeness and consistencies during the data collection, then it was coded and entered into the Statistical Package for Social Sciences (SPSS) windows version 21 (IBM corporation 1989, 2012). Descriptive analysis was computed to determine frequency of the variables and bivariate analysis was done to find association among independent and dependent variables at 5% level of significance.

#### **RESULTS**

In this study, a total of 289 mothers were interviewed concerning the residence, 197 (68.2%) of mothers were rural and were between the ages 18 and 36 with a mean (SD) age of 24.68 (3.71) years. Majority 151 (52.2%) of mothers were Hindu, followed by Muslim 136 (47.1%). The largest caste group was OBC (81.7%), followed by General (9.0%). Concerning educational background, 175 (60.6%) of the mothers and 88 (30.4%) of their husband were illiterate. Relating to type of family, 100 (34.6%) women belonged to class IV followed by percentage of class V women (Modified BG Prasad classification December -2016) (Table 1).

We observed that 214 (74.0%) women who had undergone normal delivery. All births in our sample were singleton. Mostly labour conductors were obstetrician 201 (69.6%). The majority of women faced labour pain of less than 12 hours. 84.8% delivery was planned. Most women had 1-2 years birth interval between their children. The birth weight of the most of the babies was found normal. Half of women faced 4 ANC visit, but the women came for ANC check-up in their 2<sup>nd</sup> trimester. Almost 75% women did not get any information about initiation of breastfeeding during an ANC check-up. 64% women initiated breastfeeding in less than one hour after delivery. Around 96% mothers gave colostrum to their child (Table 2).

Table 1: Description of socio-demographic profile of respondents (n=289).

Characteristics of subjects	N (%)				
Socio demographic Factors					
Mother's Age					
Mean (SD)	24.68 (3.71)				
Range	18-36				
Place of Residence					
Rural	197 (68.2)				
Urban	92 (31.8)				
Religion					
Hindu	151 (52.2)				
Muslim	136 (47.1)				
Sikh	1 (0.3)				
Christian	1 (0.3)				
Caste					
General	26 (9.0)				
OBC	236 (81.7)				
SC	25 (8.7)				
ST	2 (0.7)				
Respondent Education					
Illiterate	175 (60.6)				
Primary	40 (13.8)				
Secondary	35 (12.1)				
Higher Secondary	20 (6.9)				
Intermediate	13 (4.5)				
Graduate	6 (2.1)				
<b>Husband Education</b>					
Illiterate	88 (30.4)				
Primary	56 (19.4)				
Secondary	53 (18.3)				
Higher Secondary	58 (20.1)				
Intermediate	18 (6.2)				
Graduate	16 (5.5)				
Type of family					
Nuclear	98 (33.9)				
Joint	100 (34.6)				
Three generation	91 (31.5)				
Socioeconomic status (BG Prasad)					
Class-I	0 (0.0)				
Class-II	5 (1.7)				
Class-III	26 (9.0)				
Class-IV	132 (45.7)				
Class-V	126 (43.6)				

On bivariate analysis, parity, birth order, mode of delivery, duration of labour pain, number of ANC visit, time of the first ANC visit and awareness about the ideal time to initiate breastfeeding after birth were significantly associated with timely initiation of breastfeeding at 5% level of significance (Table 3).

Table 2: Description of biomedical factors of respondents (n=289).

Characteristics of subjects	N (%)					
Total living children	- ( ( ) )					
1	97 (33.8)					
2	93 (32.2)					
3	51 (17.6)					
4	26 (9.0)					
>5	22 (7.6)					
Birth order	== (,,,,)					
1	110 (38.1)					
2	84 (29.1)					
3	49 (17.0)					
4	28 (9.3)					
≥5	19 (6.6)					
Type of delivery						
Normal	214 (74.0)					
Assisted	36 (12.5)					
Caesarean	39 (13.5)					
Child gender						
Male	148 (51.2)					
Female	141 (48.8)					
Birth type						
Singleton	289 (100.0)					
Labor conductor						
Obstetrician	201 (69.6)					
Certified Doctor	20 (6.9)					
Nurse	68 (23.5)					
Labor duration (Hours)*						
Less than 12	66 (22.8)					
12-18	57 (19.7)					
>18 hrs	35 (12.1)					
Number of ANC						
0	30 (10.4)					
<4	78 (27.0)					
4	49 (17.0)					
>4	132 (45.7)					
First ANC visit						
I <sup>st</sup> trimester	86 (29.8)					
II <sup>nd</sup> trimester	163 (56.4)					
III <sup>rd</sup> trimester	40 (13.8)					
Information about initiation abo	, ,					
during ANC visit	8					
Yes	68 (23.5)					
No	221 (76.5)					
Told about initiation about breas	st feeding					
Yes	66 (22.9)					
No	223 (77.1)					
Breast feeding guided by health staff						
Yes	220 (76.1)					
No	69 (23.9)					

Staring of breast feeding after delivery					
≤1 hour	186 (64.4)				
1-4 hour	82 (28.4)				
>4 hour	21 (7.3)				
Faced any problem					
Yes	26 (9.0)				
No	293 (91.0)				
Colostrum given					
Yes	277 (95.8)				
No	12 (4.2)				
Anything given before breast feeding					
Yes	32 (11.1)				
No	257 (88.9)				

#### **DISCUSSION**

To enable mothers to establish and sustain exclusive breastfeeding for 6 months WHO and UNICEF recommend:

- a. Initiation of breastfeeding within the 1<sup>st</sup> hour.
- b. Exclusive breast feeding.
- c. Breast feeding on demand.
- d. No use of artificial nipples, pacifier or teats.

While breastfeeding is a natural act, it is also a learned behavior. Extensive research has demonstrated that mothers and other caregivers require active support for establishing and sustaining appropriate breast feeding practices. In India, breastfeeding is almost universal. However, the rates of early initiation, exclusive breastfeeding are far from desirable. Any maternal or infant factor that limits exclusive breastfeeding should be identified early and solve the problems immediately offer the best chance of successful lactation.

In this study, we observed that 186 (64.4%) mothers had started the breast feeding within 1 hour after delivery. Almost similar results were observed by a study done by Tilahun et al in Ethiopia in 2013 that revealed the prevalence rate of timely initiation of breastfeeding was 62.6%. Setegn et al, in 2010 found that the prevalence of timely initiation of breastfeeding was 52.4%. Bivariate analysis showed that attendance of formal education, being urban resident, institutional delivery and postnatal counseling on breast feeding were significantly associated with timely initiation of breastfeeding (p<0.05).

Sharma et al in 2013 stated that the education and occupation of mothers, education of husband, income, counseling of mother during antenatal visits about need of breast feeding, hospital delivery, delivery conducted by trained person and mother who received post natal advice were significantly associated with early initiation of breastfeeding. In bivariate analysis we found that parity, birth order, mode of delivery, duration of labor

pain, number of ANC visit, timing of the first ANC visit, awareness about the ideal time to initiate breastfeeding

after birth were significantly associated with timely initiation of breastfeeding.

Table 3: Bivariate analysis of timely initiation of breastfeeding with related variables among mothers.

Variables	Timely initiation of breastfeeding		<sub>χ</sub> <sup>2</sup> Value	P-value	COR (95%CI)	P-value		
	≤1 hour after birth (Yes)	>1 hour after birth (No)						
Dowitz	N (%)	N (%)						
Parity 1-2	122 (65.6)	71 (69.0)			0.005 (0.012.0.720)	0.024		
3-4	122 (65.6)	71 (68.9)			0.095 (0.012-0.730)			
	46 (24.7)	31 (30.1)	8.47	0.014	0.082 (0.010-0.650)	0.018		
4+	18 (9.7)	1 (1.0)			1	-		
Birth order	107 (57.0)	50 (57 0)			0.010 (0.010 0.050)	0.042		
1-2	125 (67.2)	69 (67.0)	1	0.037	0.213 (0.048-0.950)	0.043		
3-4	44 (23.7)	32 (31.1)	6.610		0.162 (0.035-0.750)	0.020		
4+	17 (9.1)	2 (1.9)			1	-		
Mode of delivery								
Normal	162 (87.1)	52 (50.5)			37.38 (11.05-126.44)	0.000		
Assisted	21 (11.3)	15 (19.6)	67.168	0.000	16.80 (4.35-64.89)	0.000		
Caesarean	3 (1.6)	36 (35.0)			1	-		
Duration of labor p	pain							
Less than 12	55 (53.9)	11 (19.6)		0.000	3.75 (1.05-5.32)	0.000		
12-18	27 (26.4)	30 (53.5)	18.37		1.84 (0.945-2.33)	0.000		
>18 hrs	20 (19.6)	15 (26.8)			1	-		
Number of ANC vi	sit							
0	26 (14.0)	4 (3.9)		0.013	1	-		
<4	42 (22.6)	36 (35.0)			3.250 (1.068-9.893)	0.038		
4	30 (16.1)	19 (18.4)	10.78		0.583 (0.329-1.035)	0.066		
>4	88 (47.3)	44 (42.7)			0.789 (0.400-1.555)	0.495		
First ANC visit								
I <sup>st</sup> trimester	62 (33.1)	24 (23.3)		0.049	0.980 (0.424-2.267)	0.962		
II <sup>nd</sup> trimester	95 (55.1)	68 (66.0)	6.022		0.530 (0.248-1.132)	0.102		
III <sup>rd</sup> trimester	29 (15.6)	11 (10.7)			1	-		
Aware about the ideal time to initiate breastfeeding after birth								
Yes	143 (78.1)	63 (63.0)	7.486	0.006	2.100 (1.228-3.590)	0.007		
No	40 (21.9)	37 (37.0)			1	-		
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