

## A Cross-Sectional Study to Examine the Factors That Influence Breastfeeding Initiation in Women with Infants Younger Than One Year of Age

Monika<sup>1</sup>, Manoj Kumar Ram<sup>2</sup>, Alka Singh<sup>3</sup>

<sup>1</sup>Senior resident, Department of Pediatrics, Nalanda Medical College and Hospital, Patna, Bihar, India

<sup>2</sup>Assistant Professor, Department of Pediatrics, Nalanda Medical College and Hospital, Patna, Bihar, India

<sup>3</sup>Professor, Department of Pediatrics, Nalanda Medical College and Hospital, Patna, Bihar, India

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Corresponding author: Dr. Monika

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### Abstract

**Aim:** The aim of the present study was to assess timely initiation of breastfeeding and associated factors among mothers of children less than 12 months old.

**Methods:** The present study was conducted at department of Pediatrics, NMCH, Patna, Bihar, India and mothers who have a child less than 12 months of age were included in the study. Total 1000 mothers were included in the study.

**Results:** In this study, 500 mothers had infants less than 12 months participated in this study making the response rate 98%. The mean age of mothers that participated in this study was 24.96 with the standard deviation of ( $\pm 0.970$ ). About 700 (70) of respondents were Hindus in their religious affiliation. About 400 (40%) of mothers completed primary school and 750 (75%) of them were housewives. Around 520 (52%), and 480 (48%) of them were females and males respectively. About 900 (90%) of the study participants had exposure to mass media and the majority of respondents. The highest majority, 850 (95) of respondents had received antenatal care (ANC). About 800 (88.88%) of participants started their antenatal care before fifth month of gestation. Majority, 520 (57.77%) had four antenatal visits. 586 (65.12%) of the study participants had gotten counseling on breast feeding. 500 (55.55%) were receiving counseling on timely initiation of breastfeeding. 800 (80%) respondents delivered at health institutions and 440 (88%) of them were assisted by health professionals. 860 (86%) of the mothers had spontaneous vaginal delivery. About 34% mothers did not give breast milk within 1 hour after delivery to their infants because of maternal illness. The Bivariate logistic regression analysis yielded that sex of the child, place of delivery for the current child, mode of delivery, exposure to media and family type were statistically associated.

**Conclusion:** Mothers reported an 80% prevalence of timely commencement of breast feeding. Male infant, nuclear family, spontaneous vaginal birth, and ANC advice on timely breastfeeding initiation were associated with early breastfeeding.

**Keywords:** Breastfeeding, Early initiation, associated factors

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### Introduction

Timely initiation of breastfeeding (TIB) is defined as the placement of the newborn on the breast within the first hour of birth. [1] The widespread application of this practice, 1 of the 10 steps of successful breastfeeding, is extremely important in reducing neonatal deaths and illnesses all over the world. [2,3] The WHO and the UNICEF advise that children should be breastfed within the first hour of birth. Despite these recommendations, globally only about 42% of the newborns have the chance of

TIB. This means that breastfeeding is delayed to newborns all over the world. [1,4]

Many factors related to demographic, obstetric characteristics and counselling services interfere with TIB practice. Previous studies have reported that maternal education, parity, place, mode and type of delivery, gestational age and prenatal and postpartum counselling about breastfeeding were among the factors affecting the rate of TIB elsewhere. [5-8] Any attempt to interfere with the

skin-to-skin contact, such as bathing and weighing, undermines this process. [5,9]

The risk of death as a result of infection increases with increasing delay in initiation of breastfeeding after one hour. Late initiation of breastfeeding, after day one for example, was associated with a 2.6-fold increased risk of infection-specific neonatal mortality. [10] Whereas approximately 7.7 % and 19.1 % of all neonatal deaths may be avoided with universal initiation of breastfeeding within the first day and first hour of life respectively. [11]

The World Health Organization (WHO) and United Nation Children’s Fund (UNICEF) recommend initiation of breastfeeding within the first hour after birth and exclusive breastfeeding for the first six months followed by continued breastfeeding to age two years or beyond along with appropriate complementary feeding. [12] Despite these recommendations, only 39% of newborns in the developing world are put to the breast within one hour of birth, and only 37% of infants less than six months of age are exclusively breastfed. [13]

The aim of the present study was to assess timely initiation of breastfeeding and associated factors among mothers of children less than 12 months old.

**Materials and Methods**

The present study was conducted at department of Pediatrics, NMCH, Patna, Bihar, India and mothers who have a child less than 12 months of age were included in the study. Total 1000 mothers were included in the study.

**Inclusion and Exclusion Criteria**

Mothers who have a child less 12 months of age, resided in the study area for at least six months and provided informed consent were included in the study and mothers who were seriously ill and who did not volunteer to participate in the study were excluded.

**Data Collection Procedure and Tools**

Structured, pre-tested and interviewer administered questionnaires were used to collect data. The tools

were from the World Health Organization (WHO) indicators for assessing infant and young child feeding practices and adapted to the Ethiopian context (15). Five professional nurses and five health officers collected data.

**Data Quality Management**

Before data collection, the questionnaire was first prepared in English and translated into Hindi. Two days training was given to data collectors and supervisors by the principal investigator before data collection. A pretest was conducted on 5% of total sample size. Questionnaires were revised and edited after pretest. Daily check-up of data for completeness and consistency was done during data collection by the principal investigator and supervisors.

**Operational Definitions**

Based on the WHO standard<sup>14</sup>, poor initiation of breast feeding: if 0-29 % of mothers initiated breast feeding within one hour of delivery, fair initiation of breast feeding: if 30-49 % of mothers began breast feeding within one hour of delivery, good initiation of breast feeding: if 50- 89% of mothers experienced breast feeding within one hour of delivery, very good initiation of breast feeding: if 90-100% of mothers practiced breast feeding within one hour of delivery.

**Data Analysis Procedures**

The data were coded, entered, cleaned and edited by EPI-data version 3.1, and exported to SPSS software version 25.0 for analysis. Bivariable analysis was computed to test the statistical association between the outcome and each independent Variables with p- value of less than 0.2 were taken as candidate for multiple logistic regression analysis. Multiple logistic regression analysis was done and variables with P- values ≤ 0.05 were considered as associated factor for timely initiation of breastfeeding. Adjusted Odds Ratio (AOR with 95% CI) was used to declare the strength of statistical significance.

**Results**

**Table 1: Socio-demographic and economic characteristics of the respondents (mothers) among mothers of infants less than 12 months of age**

Variables	Category(n=1000)	Frequency (%)
Age of the mother	<19	70(7)
	20-24	480(48)
	25-29	280(28)
	30-34	120(12)
	35 and above	50(5)
Marital status of mother	Married	920(92)
	Divorced	50(5)
	Widowed	10(1)
Religious affiliation	Hindu	700(70)

	Sikh	230(23)
	Muslim	50(5)
	Others	20(2)
Maternal educational level	Illiterate	50(5)
	Completed primary	400(40)
	Competed secondary	330(33)
	College and above	220(22)
Occupational status of mother	House wife	750(75)
	Employed	250(25)
Husbands educational status	Illiterate	40(4)
	Primary level	200(20)
	High school	350(35)
	College and above	300 (30)
	Others(divorced and widowed)	110(11)
Occupational status of husband	Employed	110(55)
	Unemployed	400(40)
	Others(divorced and widowed)	50(5)
Sex of infant	Male	480(48)
	Female	520(52)
Age of infant	Birth to 6 months	480(48)
	7 to 11 months	520(52)
Family type	Nuclear	900(90)
	Extended	100(10)
Number of under-five children	Less than 3	90(99%)
	4 and above	10(1%)
Exposure to mass media	Exposed	920(92)
	Not exposed	80(8)

In this study, 500 mothers had infants less than 12 months participated in this study making the response rate 98%. The mean age of mothers that participated in this study was 24.96 with the standard deviation of ( $\pm 0.970$ ). About 700 (70) of respondents were Hindus in their religious

affiliation. About 400 (40%) of mothers completed primary school and 750 (75%) of them were housewives. Around 520 (52%), and 480 (48%) of them were females and males respectively. About 900 (90%) of the study participants had exposure to mass media and the majority of respondents.

**Table 2: Obstetric, health care service utilization and breast feeding practices among mothers with infants from birth to 12 months of age**

Variables	Categories or responses	Frequency (%)
Antenatal visits	Yes	950(95)
	No	50(5)
Gestational age of first antenatal visits(n=900)	Before 5 <sup>th</sup> month	800(88.88)
	After 5 <sup>th</sup> month	100(11.12)
Number of antenatal visits(900)	1	46(5.12)
	2-3	334(37.11)
	4 and above	520(57.77)
Counseling on breast feeding during antenatal care(n=900)	Yes	586(65.12)
	No	314(34.8)
Counseling on timely initiation of breastfeeding during antenatal care(n=900)	Yes	910(90)
	No	90(10)
Place of delivery(n=1000)	Health institution	800 (80)
	Home	200 (20)
Birth attendants(n=1000)	Health care workers	880(88)
	Family	70(7)
	Traditional attendants	50(5)
Mode of delivery(n=1000)	Spontaneous vaginal delivery	860(86)
	Caesarean section	140(14)

Infants birth order	First Second Third and above	450(45) 300(30) 250(25)
Breastfed within 1 hour of delivery	Yes No	800 (80) 200 (20)
Heard about timely initiation of breast feeding	Yes No	850 (85) 150 (15)
Think early initiation of breast feeding is important	Yes No	830 (83) 170 (17)
Fed other than breast milk within 1 hour of birth	Yes No	200 (20) 800 (80)
Feeding based on demand of infant	Yes No	850 (85) 150 (15)

The highest majority, 850 (95) of respondents had received antenatal care (ANC). About 800 (88.88%) of participants started their antenatal care before fifth month of gestation. Majority, 520 (57.77%) had four antenatal visits. 586 (65.12%) of the study participants had gotten counseling on breast feeding. 500 (55.55%) were receiving counseling on timely initiation of breastfeeding. 800 (80%) respondents delivered at health institutions and 440 (88%) of them were assisted by

health professionals. 860 (86%) of the mothers had spontaneous vaginal delivery. About 450 (45%) of infants were first in their birth order. From 1000 mothers who participated, 800 (80%) initiated feeding within one hour of delivery. About 850 (85%) of respondents heard about early initiation of breast feeding, 830 (83) thought that giving breast milk within 1 hour of birth is important. 850 (85%) were giving breast milk based on the demand of the child.

**Table 3: Reasons why mothers did not give breast milk within 1 hour after delivery**

Reasons	%
Child sick	42%
Mother sick	34%
Cultural issues	24%

About 34% mothers did not give breast milk within 1 hour after delivery to their infants because of maternal illness.

**Table 4: Factors affecting timely in initiation of breast-feeding among mothers with children age less than 12 months**

Variables	Breastfeed child within an hour		P-value
	Yes	No	
Sex of the child Male Female	360(45%) 440(55%)	120(60%) 80(40%)	0.003
Family Type Nuclear Extended	744(93%) 56(7%)	156(78%) 44(22%)	0.02
Exposure to massmedia Yes No	80(97.5%) 20(2.5%)	140(70%) 60(30%)	0.45
Mode of delivery SVD CS	730(91.25%) 70(8.75%)	130(65%) 70(35%)	0.001
Place of last birth Home Health institution	170(21.25%) 630(78.75%)	30(15%) 170(85%)	0.22

The Bivariate logistic regression analysis yielded that sex of the child, place of delivery for the current child, mode of delivery, exposure to media and family type were statistically associated.

**Discussion**

Providing breast milk is a fundamental for child health because it has a straight impact on the development and quality of health. [15,16] Breast

milk delivers well- known short-term paybacks in reducing the danger of death and transmittable illnesses. [17] Studies have also established the long-term protection breastfeeding offers against non- communicable diseases. [15,18] World Health Organization recommend breastfeeding begin within the first hour of life and be exclusive for the first six months with continuation up to two years. [19,20] Timely initiation of breastfeeding is well-

defined as introducing the newborn to the human milk within 1 hour of birth [21] and it is therefore imperative for both the mother and the child. The first breast milk is extremely nutritious and has antibodies that shield the newborn from diseases. [22,23] Early initiation of breastfeeding also boosts attachment between the mother and her newborn, and accelerates the production of consistent breast milk. [24,25]

In this study, 500 mothers had infants less than 12 months participated in this study making the response rate 98%. The mean age of mothers that participated in this study was 24.96 with the standard deviation of ( $\pm 0.970$ ). About 700 (70) of respondents were Hindus in their religious affiliation. About 400 (40%) of mothers completed primary school and 750 (75%) of them were housewives. Around 520 (52%), and 480 (48%) of them were females and males respectively. About 900 (90%) of the study participants had exposure to mass media and the majority of respondents. About 34% mothers did not give breast milk within 1 hour after delivery to their infants because of maternal illness. The highest majority, 850 (95) of respondents had received antenatal care (ANC). About 800 (88.88%) of participants started their antenatal care before fifth month of gestation. Majority, 520 (57.77%) had four antenatal visits. 586 (65.12%) of the study participants had gotten counseling on breast feeding. 500 (55.55%) were receiving counseling on timely initiation of breastfeeding. 800 (80%) respondents delivered at health institutions and 440 (88%) of them were assisted by health professionals. 860 (86%) of the mothers had spontaneous vaginal delivery. About 450 (45%) of infants were first in their birth order. From 1000 mothers who participated, 800 (80%) initiated feeding within one hour of delivery. About 850 (85%) of respondents heard about early initiation of breast feeding, 830 (83) thought that giving breast milk within 1 hour of birth is important. 850 (85%) were giving breast milk based on the demand of the child. Timely initiation of breastfeeding is influenced by varied and complex interrelated factors and multivariate logistic analysis showed that the odds of timely initiation of breastfeeding among mothers who had antenatal care was increased 3.2 times compared to mothers who had no antenatal care. Correspondingly, mothers that received antenatal care have relative reduced risks of about 8% of delaying breastfeeding initiation than mothers without antenatal care. [26] The possible reason could be that pregnant women who had antenatal care might be informed about timely initiation of breastfeeding by healthcare providers.

The variance between the present study and others may be because of maternal socio-demographic and economic features like, access to information,

socio-economic status, infrastructure, educational status, cross cultural changes in breastfeeding practice, and health service utilization individualities. The finding of the current study showed that children living with nuclear family were 3.49 times more likely to be timely initiated to breast feeding than those children living with extended family. This finding is consistent with a study conducted in Debre Birhan town, Northwest Ethiopia, which showed that having extended family is negatively associated with timely initiation of breast feeding. [27] This could be due to the high support for the mother to initiate breast feeding in her child soon after delivery.

About 225 (45%) of infants were first in their birth order. From 383 mothers who participated, 400 (80%) initiated feeding within one hour of delivery. About 425 (85%) of respondents heard about early initiation of breast feeding, 415 (83) thought that giving breast milk within 1 hour of birth is important. 425 (85%) were giving breast milk based on the demand of the child. About 34% out of 100 mothers did not give breast milk within 1 hour after delivery to their infants because of maternal illness. The Bivariate logistic regression analysis yielded that sex of the child, place of delivery for the current child, mode of delivery, exposure to media and family type were statistically associated. Mothers who were not counseled about timely initiation of breastfeeding during their antenatal visits were less likely to initiate breastfeeding timely as compared to mothers who were counseled. This finding was supported by the study conducted in Brazil and India. [26,28] This might be due to counseling mothers about the timely initiation of breastfeeding at antenatal clinics enabled mothers to give emphasis on timely initiation of breastfeeding after delivery and led them to practice as compared to those who did not get the service.

### Conclusion

Prevalence of timely initiation of breast feeding experienced by mothers was 80%. Being male infant, living with nuclear family, spontaneous vaginal delivery and counseling on timely initiation of breast feeding during ANC were factors associated with early initiation of breastfeeding. We suggest researchers to conduct qualitative studies on both rural and urban settings.

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