

A Hospital Based Observational Study Assessing Associated Factors on Timely Initiation of Breastfeeding among Mothers of Children Age Less Than 12 Months

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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 in the Department of Pediatrics and mothers who have a child less than 12 months of age were included in the study. Total 500 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 (± 0.970). About 350 (70) of respondents were Hindus in their religious affiliation. About 200 (40%) of mothers completed primary school and 375 (75%) of them were housewives. Around 260 (52%), and 240 (48%) of them were females and males respectively.. About 450 (90%) of the study participants had exposure to mass media and the majority of respondents. The highest majority, 475 (95) of respondents had received antenatal care (ANC). About 400 (88.88%) of participants started their antenatal care before fifth month of gestation. Majority, 260 (57.77%) had four antenatal visits. 293 (65.12%) of the study participants had gotten counseling on breast feeding. 250 (55.55%) were receiving counseling on timely initiation of breastfeeding. 400 (80%) respondents delivered at health institutions and 440 (88%) of them were assisted by health professionals. 430 (86%) of the mothers had spontaneous vaginal 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.

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.

Keywords: Breastfeeding, Early Initiation, Associated Factors.

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Introduction

Early initiation of breastfeeding refers to initiation of breastfeeding within 1 h after birth. [1] The practice gives the best start in life a chance of infant to receive colostrum as a first diet and confers benefits that last for a lifetime. [2] Colostrum is highly rich in nutrients that help child growth and has antibodies that act as a first vaccine hence protects the newborn from infection. [2] Other benefits for the child include; body temperature and glucose regulation and stimulates more milk production. Early initiation of breastfeeding also introduces skin to skin contact with the mother, which is reported to extend the

duration of breastfeeding and contributing to an increase in exclusive breastfeeding. For mothers, early initiation of breastfeeding stimulates contraction of uterus after child birth, which reduces the risk of postpartum hemorrhage. [2] Delayed initiation of breastfeeding increases the risk of neonatal morbidity and mortality. Evidence from a systematic review conducted in Ghana, India, and Tanzania showed that infants who initiated breastfeeding more than 1 h after delivery had 50 and 11% higher risk of cough and breathing difficulties, respectively, during the first 6 months of life compared to those who began within 1 h after birth. [3] Also, neonates who started

breastfeeding 2–23 h after birth had a 33% greater risk of dying compared to those who began within 1 h after delivery and the risk doubles when initiation started after 24 h. [4-6]

In countries where there is high neonatal mortality, infection contributes to almost half of all neonatal deaths. Timely initiation of breastfeeding can help to prevent neonatal deaths caused by infections such as sepsis, pneumonia and diarrhea. [7,8] 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. [9] 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. [10] Globally, around four million newborns die, most from preventable causes each year. Death in the neonatal period accounts for 41 % of all deaths in children under five years. [7] Most of these deaths occur during the first seven days of life which is known as the early neonatal period. [8]

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. [11] 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. [12]

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 in the department of pediatrics, SKMCH, Muzaffarpur, Bihar for one year and mothers who have a child less than 12 months of age were included in the study. Total 500 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 [13], 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 variable. 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=500)	Frequency (%)
Age of the mother	<19	35(7)
	20-24	240(48)
	25-29	140(28)
	30-34	60(12)

	35 and above	25(5)
Marital status of mother	Married Divorced Widowed	460(92) 25(5) 5(1)
Religious affiliation	Hindu Muslim Others	350(70) 240 (28) 10(2)
Maternal educational level	Illiterate Completed primary Completed secondary College and above	25(5) 200(40) 165(33) 110(22)
Occupational status of mother	House wife Employed	375(75) 125(25)
Husbands educational status	Illiterate Primary level High school College and above Others (divorced and widowed)	20(4) 100(20) 175(35) 150 (30) 55(11)
Occupational status of husband	Employed Unemployed Others (divorced and widowed)	275(55) 200(40) 25(5)
Sex of infant	Male Female	240(48) 260(52)
Age of infant	Birth to 6 months 7 to 11 months	240(48) 260(52)
Family type	Nuclear Extended	450(90) 50(10)
Number of under-five children	Less than 3 4 and above	495(99%) 5(1%)
Exposure to mass media	Exposed Not exposed	460(92) 40(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 (± 0.970). About 350 (70) of respondents were Hindus in their religious

affiliation. About 200 (40%) of mothers completed primary school and 375 (75%) of them were housewives. Around 260 (52%), and 240 (48%) of them were females and males respectively. About 450 (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 No	475(95) 25(5)
Gestational age of first antenatal visits(n=450)	Before 5 th month After 5 th month	400(88.88) 50(11.12)
Number of antenatal visits(450)	1 2-3 4 and above	23(5.12) 167(37.11) 260(57.77)
Counseling on breast feeding during antenatal care(n=450)	Yes No	293(65.12) 157(34.8)
Counseling on timely initiation of breastfeeding during antenatal care(n=450)	Yes No	250(55.5) 45(10)
Place of delivery(n=500)	Health institution Home	400 (80) 100 (20)
Birth attendants(n=500)	Health care workers Family Traditional attendants	440(88) 35(7) 25(5)

Mode of delivery(n=500)	Spontaneous vaginal delivery Caesarean section	430(86) 70(14)
Infants birth order	First Second Third and above	225(45) 150(30) 125(25)
Breastfed within 1 hour of delivery	Yes No	400 (80) 100 (20)
Heard about timely initiation of breast feeding	Yes No	425 (85) 75 (15)
Think early initiation of breast feeding is important	Yes No	415 (83) 85 (17)
Fed other than breast milk within 1 hour of birth	Yes No	100 (20) 400 (80)
Feeding based on demand of infant	Yes No	425 (85) 75 (15)

The highest majority, 475 (95) of respondents had received antenatal care (ANC). About 400 (88.88%) of participants started their antenatal care before fifth month of gestation. Majority, 260 (57.77%) had four antenatal visits. 293 (65.12%) of the study participants had gotten counseling on breast feeding. 250 (55.55%) were receiving counseling on timely initiation of breastfeeding. 400 (80%) respondents delivered at health institutions and 440 (88%) of them were assisted by

health professionals. 430 (86%) of the mothers had spontaneous vaginal 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.

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% out of 100 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		Odds ratio (95% CI)		P-value
	Yes	No	COR (95%CI)	AOR (95%CI)	
Sex of the child					
Male	180(45%)	60(60%)	1.83(1.11-3.00)	3.39(1.49-7.71)	0.003
Female	220(55%)	40(40%)	1.00	1.00	
Family Type					
Nuclear	372(93%)	78(78%)	4.6(2.25-9.43)	3.49(1.09-11.12)	0.02
Extended	28(7%)	22(22%)	1.00	1.00	
Exposure to mass media					
Yes	390(97.5%)	70(70%)	0.71(0.41-1.20)	1.49(0.58-4.0)	0.45
No	10(2.5%)	30(30%)	1.00	1.00	
Mode of delivery					
SVD	365(91.25%)	65(65%)	5.02(2.78-9.07)	4.67(1.92-11.33)	0.001
CS	35(8.75%)	35(35%)	1.00	1.00	
Place of last birth					
Home	85(21.25%)	15(15%)	2.47(1.42-4.29)	1.73(0.64-4.65)	0.22
Health institution	315(78.75%)	85(85%)	1.00	1.00	

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. [14,15] Breast milk delivers well-known short-term paybacks in reducing the danger of death and transmittable illnesses. [16] Studies have also established the long-term protection breastfeeding offers against non-communicable diseases. [14,17] 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. [18,19] Timely initiation of breastfeeding is well-defined as introducing the newborn to the human milk within 1 hour of birth [20] 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. [21,22] Early initiation of breastfeeding also boosts attachment between the mother and her newborn, and accelerates the production of consistent breast milk. [23,24]

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 (± 0.970). About 350 (70) of respondents were Hindus in their religious affiliation. About 200 (40%) of mothers completed primary school and 375 (75%) of them were housewives. Around 260 (52%), and 240 (48%) of them were females and males respectively.. About 450 (90%) of the study participants had exposure to mass media and the majority of respondents. The highest majority, 475 (95) of respondents had received antenatal care (ANC). About 400 (88.88%) of participants started their antenatal care before fifth month of gestation. Majority, 260 (57.77%) had four antenatal visits. 293 (65.12%) of the study participants had gotten counseling on breast feeding. 250 (55.55%) were receiving counseling on timely initiation of breastfeeding. 400 (80%) respondents delivered at health institutions and 440 (88%) of them were assisted by health professionals. 430 (86%) of the mothers had spontaneous vaginal delivery. 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. [25] 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. [26] 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. [25,27] 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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