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Original Research Article

Early initiation of breastfeeding and associated factors among post-natal mothers in selected healthcare sectors, Rohtas, Bihar

Mohammed Umar[1]*, Shashika Tripathi[2], Saima[3], Pranjal Kumar Pandey[4], Anu Kumari[5], Jyoti Kumari[5], Abdul Quadir Khan[6], Dinesh Kumawat[7]

[1]Department of Community Health Nursing, Narayan Nursing College, Gopal Narayan Singh University, Sasaram, Rohtas, Bihar, India
[2]Department of Child Health Nursing, Narayan Nursing College, Gopal Narayan Singh University, Sasaram, Rohtas, Bihar, India
[3]Nursing Officer, King George's Medical University (KGMU), Lucknow, Uttar Pradesh, India
[4]Department of Community Health Nursing, Vananchal College of Nursing, Garhwa, Jharkhand, India
[5]Department of Obstetrics and Gynecology Nursing, Narayan Nursing College, Gopal Narayan Singh University, Sasaram, Rohtas, Bihar, India
[6]Nursing Tutor, Laganshah Memorial Nursing College, Makrana, Rajasthan, India
[7]Nursing Tutor, Narayan Nursing College, Gopal Narayan Singh University, Sasaram, Rohtas, Bihar, India

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***Correspondence:**
Mohammed Umar,
E-mail: umarrathore0786@gmail.com

ABSTRACT

Background: Breastfeeding is the best natural feeding and breast milk is the best milk. The basic food of an infant is the mother's milk. The study aimed to determine the estimated time of breastfeeding initiation among normal delivery mothers, identify the contribution factor for delayed initiation of breastfeeding among normal delivery mothers, and to find out the association between the selected demographic variables and initiation timing of breastfeeding.
Methods: The present study constituted a cross-sectional research design, involving 100 postnatal mothers from selected healthcare centers. A purposive sampling technique was employed to select the participants, and a semi-structured questionnaire was utilized to collect the data. The data was gathered through a self-administered questionnaire. Subsequently, inferential statistics, such as chi-square, were applied to determine the objective and hypothesis of the study.
Results: In the research, it was found that 56% of mothers-initiated breastfeeding within the first hour after giving birth. Furthermore, 30% of mothers-initiated breastfeeding between 1 and 24 hours, and 14% initiated breastfeeding 24 hours after giving birth. The study also revealed a categorical association (as determined via chi-square test, p value <0.005) between the timing of breastfeeding and certain socio-demographic factors, such as the occupational status of mothers (χ^2=11.65, p value <0.005), their educational level (χ^2=17.7, p value <0.005), and the family's monthly income (χ^2=13.7, p value <0.005).
Conclusions: Adopting breastfeeding-friendly policies at scale and utilizing monitoring data to increase accountability and improve service delivery can significantly reduce delayed breastfeeding initiation.

Keywords: Delay breastfeeding, Early initiation of breastfeeding, Health care sectors, Postnatal mothers

INTRODUCTION

Breastfeeding is often referred to as "breast milk is the first milk and saves one billion lives". This highlights the importance of providing babies with appropriate nutrition, affection, stimulation, and protection against infection.[1]

The two vital considerations for the infant in tropical countries are breastfeeding and avoidance of infection. All newborns, regardless of the type of delivery, should be given early and exclusive breastfeeding up to 6 months of age. Exclusive breastfeeding means giving nothing orally other than colostrum and breast milk, but medicine and vitamins may be allowed.[2]

Breastfeeding is the ideal way to meet these needs and provide children with the best possible start in life. Ideally, breastfeeding should be initiated within 20-30 minutes of a newborn's birth, provided there are no complications with the delivery.[3] This early initiation of breastfeeding promotes bonding and immune protection. Healthcare professionals have a crucial role to play in promoting and practicing early breastfeeding in the management of the third stage of labour. By doing so, they can help prevent infant and maternal mortality rates.[4]

Breast milk has many unique components that are not found in any other food, making it the best possible food for infants.[5] Breastfeeding alone has been found to reduce infant mortality rates by 13% and provides a strong foundation for good health throughout a child's life.[6]

Breastfeeding during the third stage of labour can help prevent several problems, including promoting early expulsion of the placenta, reducing blood loss, bonding between the mother and child, involution of the uterus to its normal size, and acting as a natural contraceptive. Additionally, breastfeeding reduces the risk of primary postpartum hemorrhage.[7]

According to WHO and UNICEF recommend that newborns should begin nursing within half an hour of birth. Nipple stimulation through immediate suckling following delivery can aid in uterine contraction, a practice that has been employed for many years and can be used in conjunction with various components of active management of the third stage of labour. It is important to note that the frequency of postpartum hemorrhage increases by 10 to 40 minutes after the birth of the baby.[8]

Oxytocin, a medication typically used to aid in uterine contraction, is not usually recommended unless the uterus is not contracting properly. Instead, it is recommended that new mothers be encouraged to feed their babies as soon as possible after delivery, as this can help stimulate certain physiological changes and may aid in preventing severe bleeding.[9]

Research has shown that the World Health Organization supports the idea that there is a connection between early breastfeeding and longer feeding duration. In addition to promoting uterine contraction and preventing severe bleeding, nursing immediately or soon after birth can also aid in the establishment of the initial mother-child bond.[10]

The infant's rooting and suckling reflexes are strong immediately after delivery, and placing the baby on the breast soon after birth can help strengthen the initial bond between mother and child. Additionally, this can stimulate the release of oxytocin, which helps facilitate uterine contraction and the complete expulsion of the placenta and membranes during the third stage of labour.[11]

Early initiation of breastfeeding practice is essential for promoting quality health care for children and reducing specific health problems. IMR is a sensitive indicator of the health status of a community and reflects the general standard of living of the people and the effectiveness of interventions taken for improving maternal and child health in a country.[12]

Early breastfeeding should be initiated as soon as possible (within one hour of delivery) with support from health care personnel/peers and providing kangaroo mother care for one hour during the first three hours after birth has a positive impact on breastfeeding.

METHODS

Study design and period

The current study was a community-based cross-sectional study to assess the timing of breastfeeding and associated factors that contribute to delayed breastfeeding in postnatal mothers conducted during January 2024 in health care sectors at Rohtas district.

Sample and technique

A purposive nonprobability sampling technique was used to recruit 100 participants who were eligible according to the inclusion and exclusion criteria under study. Rao soft size calculator was used to estimate the sample size. This calculator allows for a 5% margin error, 95% confidence interval level, and, assumes that per month delivery rate in hospital. The sample size was 100 when the 10% non-response rate was included.

Participants of the study

Mothers who were willing to participate in the study were admitted to the labour, post-natal room during the data collection period, as well as those who were able to read both Hindi and English. Furthermore, were excluded from the study if they had a major referral complication of labour, mothers who were critically ill or had received sedatives within the last hours of data collection, as well as those with psychiatric problems, were not included in this research.

Data collection procedure and tool

The data collection was divided into three sections. The first section comprised 12 items, which may have included demographic characteristics such as age in years, number of children, mode of delivery, gestational age, religion, occupational status of mothers, educational status of mothers, residential area of the family, family income, health information, and health education. The second section was an observational, self-structured questionnaire designed to assess the timing of the initiation of breastfeeding. The third section was designed to gather information on the factors that influence the initiation of breastfeeding. These factors included maternal and neonatal complications, as well as the delay in handing the baby over to the mother. The responses collected from this section were intended to provide insight into the factors that contribute to the initiation of breastfeeding.

Data analysis and statistical plan

The data was analyzed using IBM-SPSS (version-26). The researcher developed a master data sheet to compute the data and used both descriptive and inferential statistics to calculate the results based on the objectives and hypothesis of the study. The demographic profile, which included participants' characteristics, was evaluated with frequency and percentage. The chi-square test with a significance threshold of <0.05 was employed to examine the association for categorical variables.

Ethical consideration

Ethical approval for the study was taken from the institute ethics committee. After being informed about the research, and the confidentiality and anonymity of the information, participants were asked to sign a written consent.

RESULTS

The data provided in Table 1 indicates that 56% of the 100 study participants were mothers aged between 21 and 26 years old. Nearly half of these mothers 44% had two children. All of the mothers were Hindu, and 39% belonged to joint families. A substantial majority, 74%, of the mothers were housewives, and 35% had no formal education. The majority of the families 68%, consumed a mixed diet, and 62% of families had an income of less than Rs. 5000 per month. A considerable proportion 40%, of the families received information through Anganwadi workers. The majority of the mothers 82%, had normal vaginal deliveries, and 60% had already pre-lactated to their babies.

The data presented in Figure 1 indicates that within the study group, 56% of mothers-initiated breastfeeding within the first hour after delivery. Additionally, 30% of mothers-initiated breastfeeding between 1 and 24 hours, while 14% of mothers initiated breastfeeding 24 hours after delivery.

Table 1: Demographic characteristics (n=100).

Socio-demographic variables	Frequency	Percentage
Age (in years)		
21-26	56	56
27-33	33	33
34 and above	11	11
Number of children		
1	7	7
2	44	44
3	30	30
4 and above	19	19
Religious		
Hindu	100	100
Type of family		
Nuclear	37	37
Joint	39	39
Extend family	24	24
Occupational status of the mother		
Agriculture	22	22
Job (Government/ private)	2	2
Business	2	2
House maker	74	74
Educational status of the mother		
No formal education	35	35
Primary education	25	25
Secondary education	31	31
Graduation	9	9
Diet pattern of family		
Vegetarian	30	30
Non-vegetarian	2	2
Mixed diet	68	68
Income of family per month		
<5000	62	62
5001-10000	27	27
10000- 15000	9	9
>15000	2	2
Source of health information		
Family and friends	6	6
Mass media	21	21
Anganwadi center	40	40
No information	33	33
Mode of delivery		
Normal vaginal delivery	82	82
Cesarean section	10	10
Forceps delivery	8	8
Prelacted to baby		
Yes	60	60
No	40	40

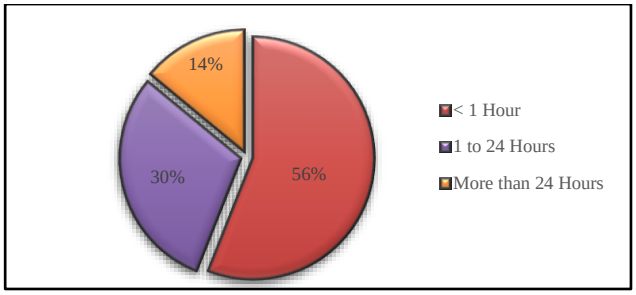

Figure 1: Timing of breastfeeding (n=100).

Table 2: Factors affecting initiation of breastfeeding (n=100).

Factors affecting	N	%
Delay in handing over the baby	14	31.81
Maternal complication	15	34.9
Neonatal complication	5	11.36
Cesarean section	7	15.9
Misconception of not enough milk	3	6.8

Table 2 shows among the study group, 44% of mothers did not initiate breastfeeding within the first hour after delivery. In 14 (31.81%) of mothers, there was a delay in handing over the baby to the mother and were responsible for non-initiating breastfeeding within the first hour after delivery. Maternal complications such as postpartum hemorrhage, preeclampsia, etc. resulted in non-initiation in 15 (34.09%) of mothers. Neonatal complications such as birth asphyxia, neonatal sepsis, neonatal seizures, etc. led to non-initiation in 5 (11.36%) of mothers. Cesarean section perse resulted in non-initiation in 7 (15.90%) of mothers, and the misconception of not enough milk was 3 (6.8%) of mothers.

Table 3 depicts the appropriate degree of freedom, the socio-demographic variables, such as age (χ^2=7.6, p value- 0.47), number of children (χ^2=4.17, p value- 0.65), type of family (χ^2=8.94, p value- 0.17), diet pattern of the family (χ^2=1.62, p value- 0.80) and source of health information (χ^2=8.01, p value- 0.23, so there was no significant between time of breastfeeding and socio-demographic variables (age, number of children, type of family, diet patter of family, and source of health information). The researcher has computed the other socio-demographic variables such as occupational status of mothers (χ^2=11.65, p value <0.005), educational status of mothers (χ^2=17.7, p value <0.005), and income of family per month (χ^2=13.7, p value <0.005) so there significant was available between time of breastfeeding and socio-demographic variables. Hence researcher hypothesis (H_2) was accepted and the null hypothesis was rejected.

Table 3: Categorical (chi-square) association between selected demographic variables and timing of breastfeeding (n=100).

Demographic variables	Timing of breastfeeding						χ^2	df	P value
	<1 hour		1-24 hours		>24 hours				
Age (years)	**N**	**%**	**N**	**%**	**N**	**%**			
21-26	19	33.9	36	64.3	1	1.0	7.61	08	0.47
27-33	12	37.5	19	57.3	2	6.3			
>34	3	30	5	50	2	20			
Number of children									
1	1	14.3	6	85.7	0	0			
2	15	34.1	27	61.4	2	4.5	4.17	06	0.65
3	10	33.3	19	63.3	1	3.3			
>4	8	42.1	9	47.4	2	10.5			
Religion									
Hindu	33	33.3	61	61.6	5	5.1	-	-	-
Type of family									
Nuclear	13	35.1	24	64.9	0	0			
Joint	12	30.8	22	51.4	5	12.8	8.94	06	0.17
Extended	9	39.1	14	60.9	0	0			
Occupational status of the mother									
Agriculture	10	45.5	11	50	1	4.5			
Job (government/private)	0	0	2	20	0	0	11.65	06	*0.00
Business	0	0	1	50	1	50			
Housemaker	24	32.4	47	63.5	3	4.1			
Educational status of the mother									
No formal education	19	54.3	15	42.9	1	2.9	17.7	6	*0.000
Primary education	10	40	15	60	0	0			

Continued.

Demographic variables	Timing of breastfeeding						χ^2	df	P value
	<1 hour		1-24 hours		>24 hours				
Secondary education	3	9.7	25	80.6	3	9.7			
Graduation	2	22.2	6	66.7	1	11.1			
Diet pattern of family									
Vegetarian	11	36.7	18	60	1	3.3			
Non-vegetarian	0	0	2	100	0	0	1.62	04	0.80
Mixed diet	23	33.8	41	60.3	4	5.9			
Income of family per month									
5000	26	41.9	34	54.8	2	3.2			
5001-10000	6	22.2	19	70.4	2	7.4			
10000-15000	2	22.2	7	77.8	0	0	13.7	06	*0.003
>15000	0	0	1	50	1	50			
Source of health information									
Family and friends	1	16.7	4	66.7	1	16.7			
Mass media	8	38.1	11	52.4	2	9.5	8.01	06	0.023
Anganwadi centre	11	27.5	29	72.5	0	0			
No information	14	42.4	17	51.5	2	6.1			

*p<0.05.

DISCUSSION

The purpose of the study was to determine the estimated time of initiation of breastfeeding among normal delivery mothers. All newborns, regardless of the type of delivery, should be given early and exclusive breastfeeding up to 6 months of age. Exclusive breastfeeding means giving nothing orally other than colostrum and breast milk, but medicine and vitamins may be allowed.[2]

The present study showed that 56% of mothers initiated breastfeeding within the first hour after delivery. This is consistent with a study conducted in India the prevalence rate of early initiation of breastfeeding was 76%, and Debre Birhan and slightly lower than the findings from 68.6%, Arsi at 67.3%, Motta 78.8%, and Southern Ethiopia at 83.7%, but this result is lower than studies.[5,13-16]

This study indicated that 44% of mothers did not initiate breastfeeding within the first hour after delivery. Early initiation of breastfeeding, within one hour of birth, protects the newborn from acquiring infection and reduces newborn mortality. It facilitates the emotional bonding of the mother and the baby and has a positive impact on the duration of exclusive breastfeeding. However, in Bihar NFHS-5, 35.1% of mothers were breastfed within 1 hour.[17]

The absence of breastfeeding increases the risk of illness in the infant from infectious diseases, 53% of hospitalizations occur due to diarrhea, and 27% of low respiratory tract infections can be reduced through breastfeeding.[4] Overall, 16% of neonatal deaths can be saved if infants are breastfed from day one of birth and if 22% of the breastfeeding starts within an hour of birth.

In the present study group, 44% of mothers did not initiate breastfeeding within the first hour after delivery. In 31.81% of mothers, there was a delay in handing over the baby to the mother who were responsible for non-initiating breastfeeding within the first hour after delivery. Maternal complications such as postpartum hemorrhage, preeclampsia, etc. resulted in non-initiation in 34.09% of mothers. Neonatal complications such as birth asphyxia, neonatal sepsis, neonatal seizures, etc. led to non-initiation in 11.36% of mothers. The cesarean section perse resulted in non-initiation in 15.90% of mothers, and the misconception of not having enough milk was 6.8% of mothers. Moreover, a similar study showed that the delay in rooming in and maternal exhaustion were cited to be the main reasons for the delay in the initiation of breastfeeding after childbirth. However, the shortage of staff and the time taken for the completion of procedures such as episiotomy were the common themes that evolved during the interview conducted among the staff nurses attending these postnatal mothers.

Mothers who had delivered their child vaginally were 4.6 times more likely to start breastfeeding than those who delivered by cesarean section. This study is in line with different studies from South Asia, India, Tanzania, Uganda, Amibara, Debre Berhan, Gurage, and Ethiopia. This might be explained because mothers who deliver their child vaginally are close to their children due to different tasks for the children like immediate new-borne care and skin-to-skin contact.[12,14,18-20]

CONCLUSION

Stakeholders must increase their focus on improving breastfeeding practices in public health care sectors. Instituting policies that protect mothers' privacy and finding innovative ways to accommodate and promote

safe traditional practices in the intrapartum and postpartum period in healthcare sectors will improve the early breastfeeding of newborns in the primary or lower level of health care. Results of the study indicate that 44% of mothers did not initiate breastfeeding within the first hour after delivery. Maternal and child health program managers must design interventions adopting a breastfeeding-friendly policy for institutional and home births. Adopting breastfeeding-friendly policies at scale and utilizing monitoring data to increase accountability and improve service delivery can significantly reduce delayed breastfeeding initiation.

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