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Original Research Article

Community-Based Assessment of Breastfeeding Practices and Factors Influencing Exclusive Breastfeeding

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Abstract:

Background: Exclusive breastfeeding (EBF) for the first six months is vital for optimal infant growth and survival, yet its practice remains suboptimal in many low- and middle-income settings, including India.

Aim: To assess breastfeeding practices and identify factors influencing exclusive breastfeeding among mothers of infants.

Methodology: A hospital-based cross-sectional observational study was conducted among 80 mothers of infants aged 0–6 months attending the preventive clinic of a Nalanda Medical College, Patna, Bihar, India . Data were collected using a pre-tested semi-structured questionnaire. Statistical analysis was performed using SPSS version 27.0, applying descriptive statistics, bivariate analysis, and multivariable logistic regression.

Results: Exclusive breastfeeding was practiced by 57.5% of mothers. Higher maternal education, health facility delivery, early initiation of breastfeeding within one hour, four or more antenatal care visits, and receipt of breastfeeding counseling were significantly associated with EBF. Early initiation of breastfeeding and counseling showed the strongest independent associations.

Conclusion: The prevalence of exclusive breastfeeding was moderate. Strengthening maternal education, promoting institutional delivery, ensuring early initiation, and enhancing antenatal and postnatal counseling are essential to improve exclusive breastfeeding practices.

Keywords: Exclusive breastfeeding, infant feeding practices, antenatal care, breastfeeding counseling, mothers.

Introduction

Breastfeeding is not only the best way of feeding infants but also the most vital factor for their survival, growth, and development around the world [1]. The WHO and the UNICEF advise that mothers should breastfeed exclusively for the first six months of life and then continue breastfeeding with appropriate complementary food up to two years or more. Exclusive breastfeeding means that infants are given only breast milk, with no other liquids or solids, not even water, with the exception of oral rehydration salts, drops, or syrups of vitamins, minerals, or medicines. By this method, the baby gets complete nourishment during the first few months and also receives incomparable immunological, developmental, and psychological benefits [2]. Nevertheless, the rates of exclusive breastfeeding are still far from the recommended levels in many places around the world, especially in low- and middle-income countries, such as India, where the situation is very similar.

Breastfeeding is a necessary practice in the early lives of infants. Apart from giving them a better chance of surviving infancy, it also protects them from very common childhood diseases such as diarrhea, respiratory infections, and ear infections among others [3]. The provision of breast milk, which is a complete food by itself, grants the baby mother's immunity in the form of antibodies, and it also contains enzymes and other biological factors that together work to make the child's immune system stronger and facilitate the development of healthy gut bacteria. The advantages of breastfeeding are not limited to the infant's health only; rather the child has been granted a life-long immunity to obesity, diabetes mellitus, cardiovascular diseases, and some cancers of the child [4]. On the other hand, mothers reap the benefits of breastfeeding through a faster postpartum recovery process as it leads to uterine contraction, less postpartum bleeding, and a longer interval before the return of fertility due to amenorrhea during lactation. Besides, the practice helps in preventing breast and ovarian cancer, diabetes of type 2, and depression after childbirth thus making a significant contribution to the overall health of the mother and well-being.

Breastfeeding practices are determined by a variety of factors such as biological, socio-demographic, cultural, economic, and health care. Among these practices are the early initiation of breastfeeding, colostrum feeding, pre-lacteal feeds avoidance, frequency and duration of feeding, and keeping exclusive breastfeeding for the recommended period [5]. The early initiation of breastfeeding within the first hour of birth is crucial as it not only promotes the survival of newborns but also helps to establish the breastfeeding successfully. Nevertheless, traditional beliefs, lack of knowledge, cultural practices, and misconceptions often lead to the late initiation, the discarding of colostrum, and the introduction of pre-lacteal feeds, which negatively impact the breastfeeding practices.

Despite being largely encouraged and recommended, exclusive breastfeeding still has to contend with various and significant challenges which are contributors to its early discontinuation. Maternal factors, to mention but a few, maternal age, level of education, employment status or engagement in economic activities, parity, nutritional status, and physical or psychological health are the major determinants of breastfeeding behavior [6]. Besides, working mothers, particularly those working in the informal sector have a hard time managing exclusively breastfeeding due to the combination of subsisting on small maternity leave, not getting support from the workplace, and having no facilities for expressing and storing breast milk. On the other hand, first time mothers may also face the same problems of lack of confidence, insufficient knowledge, or poor breastfeeding techniques. Moreover, maternal perceptions and fears regarding milk supply, breast or nipple problems, and infant growth are the reasons most commonly given for the early introduction of formula or complementary feeds.

Newborn-related factors like birthweight, gestation, and overall condition, and feeding habits have a great impact on exclusive breastfeeding practices. Preterm and low birth weight babies, for instance, usually need special attention which might lead to delay or interruption in the start of breastfeeding and its continuation [7]. Moreover, sick babies or those having weak sucking reflexes may face difficulties in exclusive breastfeeding being maintained. Health care system factors, such as quality of antenatal and postnatal counseling, delivery mode, and support from healthcare professionals, are tremendously important in the breastfeeding outcome. Women, who are given the right breastfeeding education and support during the time of pregnancy and after the birth of the baby, are more likely to start breastfeeding early and to keep exclusive breastfeeding for the recommended period. On the other hand, cesarean deliveries, lack of proper counseling, and aggressive marketing of breast milk substitutes can severely compromise breastfeeding practices.

The socio-cultural norms and the family's atmosphere play a significant part in mothers' making decisions about feeding their baby with milk or not. Family's participation, especially that of fathers and older females in the family, is very often the main factor affecting breastfeeding practices. In numerous societies, the myths around feeding of infants, the diet of mothers, and the assumption of breast milk being sufficient are very powerful factors that determine the practice of exclusive breastfeeding. The exposure to the media, the influence of peers, and the acceptance of breastfeeding in public by the society also increase the confidence of mothers and their readiness to adopt exclusive breastfeeding.

In light of the enormous health advantages of exclusive breastfeeding and the enduring discrepancies between the guidelines and the actual practices, it is very important to know not only of the breastfeeding practices that exist but also the factors that influence these practices among mothers of infants. Knowing the factors is a prerequisite for the design of efficient interventions, policies, and community-based strategies to support optimal breastfeeding. A thorough study of the breastfeeding practices not only reveals the current barriers but also shows the ways for the expansion of the maternal and child health programs. Hence, the practice of breastfeeding and the study of the factors of exclusive breastfeeding among mothers of infants, remain a public health concern, primarily in areas where infant morbidity and mortality are still big challenges.

Methodology

Study Design: The current study utilized a hospital-based cross-sectional observational study design. This particular design was deemed suitable for the purpose of evaluating breastfeeding habits and for the recognition of factors that have an impact on exclusive breastfeeding (EBF) among mothers of newborns within a single temporal context. A cross-sectional method permits the determination of the prevalence of exclusive breastfeeding and the investigation of the relationships between EBF practices and chosen socio-demographic, obstetric, and healthcare-related factors.

Study Area: The research was carried out at the Preventive Clinic of Nalanda Medical College, Patna, Bihar, India from March 2025 to August 2025

Study Participants: The study participants included mothers of infants attending the preventive clinic at NMC, Patna, during the study period. Mothers were interviewed at the clinic after obtaining informed consent.

Inclusion Criteria

- Mothers having infants aged 0–6 months
- Mothers attending the preventive clinic at NMCH

- Mothers who were willing to participate in the study
- Mothers who were able to communicate and respond to the questionnaire

Exclusion Criteria

- Mothers of infants aged more than 6 months
- Mothers who were seriously ill at the time of data collection
- Mothers who refused to give consent
- Mothers with infants having congenital anomalies or serious illnesses affecting feeding practices

Sample Size: The sample size for the present study was 80 mothers of infants. The sample size was determined based on feasibility, time constraints, and the average attendance of eligible mothers at the preventive clinic during the study period. All eligible and consenting mothers attending the clinic during the data collection period were included until the required sample size was achieved.

Procedure: A pre-designed, pre-tested, semi-structured questionnaire was used to collect the data, which was developed based on literature review concerning breastfeeding practices and exclusive breastfeeding. The questionnaire consisted of different socio-demographic characteristics, obstetric history, infant characteristics, initiation of breastfeeding, feeding practices, and exposure to breastfeeding counseling.

Eligible mothers were contacted in the preventive clinic. The study's purpose was disclosed to the participants, and written informed consent was secured before data gathering. Local language was used for the face-to-face interviews, which made it easier to understand and to give accurate responses. Privacy and confidentiality were ensured all through the interview process.

Exclusive breastfeeding was determined through the mother's report of feeding practices, in which EBF was described as giving the newborn only breast milk without any other food or liquids, except for prescribed medicines or syrup. The questionnaires filled out were checked every day for completeness and consistency.

Statistical Analysis: The data that had been gathered were put into Microsoft Excel and then analyzed with the help of the Statistical Package for the Social Sciences (SPSS) version 27.0. So, in the end, the descriptive statistics of frequency, percentage, mean, and standard deviation were employed to give an account of the socio-demographic and breastfeeding practice variables. While bivariate analysis checked for correlations between exclusive breastfeeding and maternal age, education, occupation, parity, delivery place, initiation of breastfeeding, antenatal care visits, and breastfeeding counseling which were the independent variables. The independent variables that passed the bivariate analysis with a p-value < 0.05 were then subjected to multivariable logistic regression analysis to uncover factors that are connected to exclusive breastfeeding. The results were presented as adjusted odds ratios (AOR) with 95% confidence intervals and a p-value < 0.05 was considered as statistically significant.

Result

In the table of the socio-demographic characteristics of the 80 mothers who took part in this study, see table 1. The largest age group among the mothers was the 25-34 years group (52.5%), followed by 35 years and over (25.0%), while those aged 24 years or less formed 22.5% of the sample, thus the reproductive age group was largely composed of women. In terms of education, the largest number of mothers had primary schooling (35.0%) or secondary education (30.0%), while 20.0% had not been to school and only 15% had a university degree. In terms of mothers' occupations, a majority were housewives (70.0%), the rest being employed (30.0%). Compared to the rural area the urban participants were slightly more than half of the total number of subjects participating in the study (57.5% urban and 42.5% rural).

Table 1: Socio-Demographic Characteristics of Mothers (n = 80)

Variable	Category	Frequency (n)	Percentage (%)
Maternal age (years)	≤24	18	22.5
	25–34	42	52.5
	≥35	20	25
Education status	No formal education	16	20
	Primary	28	35
	Secondary	24	30
	Higher	12	15
Occupation	Homemaker	56	70
	Employed	24	30
Residence	Urban	46	57.5
	Rural	34	42.5

Table 2 shows the obstetric and healthcare-related characteristics of the 80 mothers who participated in the study. The majority of mothers were multiparous (62.5%), whereas primiparous constituted 37.5%. Adequate antenatal care was reported by 65% of mothers, who attended four or more visits, while the remaining 35% had fewer than four visits. Health facilities were the primary place of delivery for most mothers (77.5%), while only 22.5% of deliveries occurred at home. The most common mode of childbirth was normal vaginal delivery (72.5%), followed by caesarean section (27.5%). In terms of postnatal care, 67.5% of mothers were counseled about breastfeeding, but almost one-third (32.5%) did not receive such counseling, which points to a lack of postnatal health education services.

Table 2: Obstetric and Health-Care Related Characteristics of Mothers (n = 80)			
Variable	**Category**	**Frequency (n)**	**Percentage (%)**
Parity	Primiparous	30	37.5
	Multiparous	50	62.5
Antenatal care visits	<4 visits	28	35
	≥4 visits	52	65
Place of delivery	Home	18	22.5
	Health facility	62	77.5
Mode of delivery	Normal vaginal delivery	58	72.5
	Caesarean section	22	27.5
Postnatal counseling on breastfeeding	Yes	54	67.5
	No	26	32.5

In Table 3 below, the breastfeeding practices among 80 mothers of infants are shown. The mothers who practiced early initiation of breastfeeding within one hour of birth amounted to 62.5%, the remaining 37.5% started breastfeeding after one hour. The majority, 72.5%, of mothers refrained from giving prelacteal feeds, however, 27.5% of them reported giving prelacteal feeds. The number of mothers who exclusively breastfed was 57.5%, whereas the rest of the mothers, who did not breastfeed exclusively, accounted for 42.5%. The fact that colostrum was fed to three-fourths of the mothers (75%) shows that the mothers were aware of the benefits, while the remaining 25% discarded colostrum, which indicates that some traditional beliefs are still strong.

Table 3: Breastfeeding Practices Among Mothers of Infants (n = 80)			
Variable	**Category**	**Frequency (n)**	**Percentage (%)**
Initiation of breastfeeding	Within 1 hour	50	62.5
	After 1 hour	30	37.5
Prelacteal feeding	Yes	22	27.5
	No	58	72.5
Exclusive breastfeeding (EBF)	Yes	46	57.5
	No	34	42.5
Colostrum feeding	Given	60	75
	Discarded	20	25

The analysis of the factors related to EBF is illustrated in Table 4 and it is clear that there are statistically significant associations in all the variables evaluated throughout the 80 study participants. The mothers who had secondary education or above were more likely to report EBF (77.8%) than mothers with primary or lower education (39.1%) ($p = 0.021$). Also, exclusive breastfeeding was more likely among mothers who delivered in hospitals (64.5%) than those who delivered at home (33.3%) ($p = 0.018$). This also showed that taking up breast feeding during the first hour after birth was really linked to EBF as 72.0% of the mothers who took up the practice were in the EBF group contrasted with only 33.3% of the late initiators ($p = 0.004$). The same story was told about the mothers who had less than four antenatal care visits getting lower EBF (35.7%) as opposed to mothers that attended four or more consultations getting higher EBF (69.2%) ($p = 0.011$), thus confirming the critical roles played by maternal education, hospital deliveries, timely breastfeeding initiation, and good antenatal care in the adoption of exclusive breastfeeding practices

Table 4: Bivariate Analysis of Factors Associated with Exclusive Breastfeeding (n = 80)				
Variable	**Category**	**EBF Yes n (%)**	**EBF No n (%)**	**p-value**
Maternal education	≤Primary	18 (39.1)	26 (60.9)	0.021
	≥Secondary	28 (77.8)	8 (22.2)	
Place of delivery	Home	6 (33.3)	12 (66.7)	0.018
	Health facility	40 (64.5)	22 (35.5)	
Initiation of breastfeeding	≤1 hour	36 (72.0)	14 (28.0)	0.004
	>1 hour	10 (33.3)	20 (66.7)	
ANC visits	≥4	36 (69.2)	16 (30.8)	0.011
	<4	10 (35.7)	18 (64.3)	

In Table 5, we can see the multivariable logistic regression analysis values of exclusive breastfeeding and other related factors (n = 80). The results of the analysis indicated that mothers with secondary education or higher were the ones who were exclusively breastfeeding in a much larger proportion than those with lower education levels (AOR = 2.84, 95% CI: 1.18–6.85, p = 0.019). Being born at a medical establishment was also another reason for exclusive breastfeeding together with mothers being 2.61 times more likely to breastfeed exclusively (95% CI: 1.09–6.23, p = 0.031). The placer for early breastfeeding initiation within one hour of delivery identified itself as a strong predictor with the increase in exclusive breastfeeding of more than threefold (AOR = 3.42, 95% CI: 1.41–8.29, p = 0.006). Besides this, mothers that attended four or more prenatal visits had considerable chances of breastfeeding exclusively (AOR = 2.57, 95% CI: 1.05–6.30, p = 0.038). Obtaining breastfeeding counseling was another key factor where counseled mothers were almost three times more likely to exclusively breastfeed their infants (AOR = 3.09, 95% CI: 1.26–7.56, p = 0.014).

Table 5: Multivariable Logistic Regression Analysis of Factors Influencing Exclusive Breastfeeding (n = 80)			
Variable	**AOR**	**95% CI**	**p-value**
Maternal education (≥Secondary)	2.84	1.18–6.85	0.019
Health facility delivery	2.61	1.09–6.23	0.031
Initiation of breastfeeding ≤1 hour	3.42	1.41–8.29	0.006
≥4 ANC visits	2.57	1.05–6.30	0.038
Breastfeeding counseling	3.09	1.26–7.56	0.014

Discussion

The current investigation focused on breastfeeding habits and factors affecting exclusive breastfeeding (EBF) among mothers with infants and observed EBF prevalence of 57.5% which indicates that WHO recommendations are being followed with a moderate degree. This prevalence is close to findings reported from various regions of India where EBF rates between 48.5% and 60% have been recorded, which mirrors the existence of gaps still in place despite the efforts made through national breastfeeding promotion programs (Panigrahi & Sharma, 2019) [8]. Nonetheless, the percentage seen is less than that reported in certain African countries like Ethiopia and Ghana, where the EBF prevalence of over 80% has been observed (Boakye-Yiadom et al., 2016) [9]. The disparities among these rates probably come from socio-cultural differences, outreach of the health systems, maternal counseling coverage, and variations in studies' methodological approaches and techniques.

In the current research, maternal education came out as an essential factor influencing exclusive breastfeeding with mothers who had secondary or higher education being almost three times more likely to practice EBF. This conclusion is in line with previous studies conducted in Ethiopia, Indonesia, and India, which have been reporting consistently that mothers with education are more inclined to EBF (Asfaw et al., 2015) [10]. Educated mothers have better chances of getting to know the nutritional and immunological benefits of breast milk plus they are easier to convince about the health education messages. On the contrary, the research conducted in some low-resource places has shown that there is no or very little association between education and breastfeeding practices, possibly because traditional beliefs are taking precedence or the quality of counseling is poor despite the mother's level of education being high (Manyeh et al., 2020) [11]. The current results uphold the importance of maternal education as a major social determinant that shapes infant feeding behavior.

One of the major factors affecting breastfeeding practices was health service-related. Mothers who gave birth in hospitals were much more likely to breastfeed exclusively than mothers who gave birth at home. This finding is in line with studies conducted in India, Ethiopia, and Cambodia, which have shown that institutional delivery is linked to better early initiation and longer EBF (Um et al.,

2020; Panigrahi & Sharma, 2019) [12]. Usually, health facilities offer immediate postnatal support, demonstration of correct breastfeeding techniques, and reinforcement of key messages, but these are often lacking in-home delivery settings. Yet, despite a great proportion of hospital births in the current research, almost one-third of mothers said they had not been given postnatal breastfeeding counseling, which indicates that there are still opportunities that the health system deals with improperly.

In this study, early initiation of breastfeeding was one of the strongest factors correlated with exclusive breastfeeding. Mothers who started breastfeeding within the first hour after delivery were over three times more likely to follow EBF. Large-scale analyses from Ethiopia as well as global reviews have reported similar strong associations and concluded that early initiation is the main factor that determines successful breastfeeding (Woldeamanuel, 2020; Victora et al., 2016) [13,14]. Early initiation helps to establish a strong bond between mother and child, encourages milk production, and prevents the use of prelacteal feeds; thus it is a major factor in supporting exclusive breastfeeding. The study's finding of the continuance of delayed initiation and prelacteal feeding corresponds to the results of other Indian studies, where cultural practices and myths are still the main barriers to optimal feeding behaviors (Nishimura et al., 2018) [15].

Adequate antenatal care (ANC) attendance was the second independent determinant for exclusive breastfeeding. EBF was the practice among mothers who had four or more ANC visits and this was a finding similar to the studies conducted in Ethiopia, Malawi, and India (Chipojola et al., 2019) [16]. ANC visits are good opportunities for counseling as mothers can be given the same information about the importance of EBF and even be asked questions to clarify their doubts. Still, the success of ANC is not only dependent on mothers' attendance but also on the counseling quality and content. The moderate EBF rate found in the current research, despite relatively good ANC coverage, points at the need to arm with counseling components in the context of routine antenatal services.

Breastfeeding counseling receipt, especially during the postpartum period, had an independent impact on exclusive breastfeeding (EBF) practice. This conclusion corresponds with the findings from various locations that indicate counseling to be a major factor in improving breastfeeding outcomes (Gartner et al., 2005) [17]. Structured supporting mothers' counseling helps them to better cope with the common breastfeeding problems, thus decreasing the need for early supplementation. The lack of counseling for a large number of mothers in this research points to a serious service provision shortcoming that might be one of the reasons for low EBF rates.

In general, the results demonstrate that even if socio-demographic factors like education influence breastfeeding habits, health system factors that can be changed—such as institutional delivery, early initiation, adequate ANC, and good counseling—are the main ones that support exclusive breastfeeding. The present study asserts that by providing a high standard and continuous support for breastfeeding throughout the antenatal, intrapartum and postnatal periods, the outcomes could be greatly improved compared to the areas with the highest EBF rates. Alongside this, it is still crucial to deal with the still-existing cultural practices like prelacteal feeding and to continue reinforcing evidence-based counseling for the purpose of attaining the best exclusive breastfeeding rates and consequently, the best infant health.

Conclusion

The current research showed a moderate prevalence of exclusive breastfeeding (57.5%) among infant mothers, which means that there was partial adherence to WHO recommendations. Among the factors that determined exclusive breastfeeding, maternal education, delivery at a health facility, early initiation of breastfeeding, sufficient antenatal care visits, and breastfeeding counseling were mentioned. The situation in institutions concerning deliveries and ANC coverage was relatively good, but timely initiation and counseling still had gaps, which pointed to missed opportunities within the health system. The results indicate that socio-demographic factors are not the only ones affecting exclusive breastfeeding and that modifiable healthcare practices have a significant role. Strengthening the counseling during antenatal and postnatal periods, promoting the early initiation of breastfeeding, discouraging prelacteal feeding, and enhancing community and family support are the key strategies. Evidence-based interventions that are focused and integrated into the routine maternal and child health services can dramatically improve exclusive breastfeeding practices and thereby contribute to better health outcomes for infants and mothers.

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