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Maternal and Neonatal Characteristics Associated with Early Initiation of Breastfeeding

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Abstract

Background: Early initiation of breastfeeding within the first hour of life is a critical intervention for reducing neonatal morbidity and mortality. However, timely initiation remains suboptimal in many settings. This study aimed to identify maternal and neonatal characteristics associated with early initiation of breastfeeding. ***Methods:*** This cross-sectional study was conducted in the Department of Obstetrics and Gynaecology at Dhaka Medical College Hospital from July 2012 to December 2012. A total of 100 postpartum mothers were enrolled using purposive sampling. Data were collected through direct interviews using a pre-designed data collection sheet and analyzed using SPSS software. ***Results:*** Among the 100 mothers, 57% were below 25 years of age, 62% had primary level education, 82% were housewives, 72% were Muslim and 68% resided in rural areas. The majority (58%) belonged to the lower socioeconomic group and 72% were primipara. Regarding neonatal characteristics, 74% of babies were born at term, 58% were male and 62% had low birth weight (< 2.5 kg). Statistically significant associations were observed for gestational age (P = 0.001) and birth weight (P = 0.001), while gender did not reach statistical significance (P = 0.060). ***Conclusion:*** Maternal characteristics such as younger age, lower education, primiparity, lower socioeconomic status, along with neonatal factors like preterm gestational age and low birth weight, were prominent among the study population. These findings highlight the need for targeted breastfeeding support and counseling, particularly for vulnerable groups, to promote early initiation and improve neonatal outcomes.

Keywords: Early initiation of breastfeeding, maternal characteristics, neonatal characteristics, postpartum mothers.

INTRODUCTION

Breastfeeding is universally recognized as the optimal mode of infant feeding, providing unparalleled nutritional, immunological and psychological benefits to both the mother and the newborn [1]. The World Health Organization recommends that breastfeeding be initiated within the first hour of life, a practice known as early initiation of breastfeeding. This golden hour is critical, as it takes advantage of the newborn's natural alertness and rooting reflex, while also facilitating maternal-infant bonding and the transfer of colostrum, which is rich in antibodies and essential nutrients [2,3].

Early initiation of breastfeeding has been shown to significantly reduce neonatal morbidity and mortality, primarily by providing passive immunity against infectious diseases and reducing the risk of hypothermia [4]. For the mother, early suckling stimulates the release of oxytocin, which promotes uterine contraction, reduces the risk of postpartum hemorrhage and aids in the expulsion of the placenta [5]. Furthermore, early initiation is associated with prolonged duration of exclusive breastfeeding and improved breastfeeding outcomes in the long term [6].

Despite the well-documented benefits, the prevalence of early initiation of breastfeeding remains suboptimal in many parts of the world [7]. A multitude of factors influence whether a mother is able to breastfeed her baby within the first hour after delivery.

These factors can be broadly categorized into maternal characteristics, neonatal characteristics and healthcare-related practices [8]. Maternal factors include age, parity, educational level, socioeconomic status, mode of delivery and the presence of any obstetric complications [9]. Neonatal factors encompass gestational age, birth weight, gender, Apgar score and the overall condition of the newborn at birth. Healthcare system factors, such as the practice of immediate skin-to-skin contact, delivery room protocols and postnatal counseling, also play a pivotal role [10].

Cesarean section delivery, for instance, has been consistently identified as a major barrier to early breastfeeding initiation due to maternal anesthesia, postoperative pain and delayed mother-infant contact [11]. Similarly, preterm infants and those with low birth weight often face difficulties with suckling and are more likely to be separated from their mothers for medical care, thereby delaying breastfeeding initiation. Maternal factors such as lower socioeconomic status, lack of education and inadequate antenatal counseling have also been associated with delayed initiation [12].

Understanding the specific maternal and neonatal characteristics that influence early initiation of breastfeeding is essential for developing targeted interventions and health policies. By identifying high-risk groups, healthcare providers can implement timely counseling and support measures to improve breastfeeding practices. The present study, therefore, aims to explore the maternal and neonatal characteristics associated with early initiation of breastfeeding, in order to contribute to the existing body of evidence and inform clinical practice for better maternal and child health outcomes.

METHODOLOGY & MATERIALS

This cross-sectional study was conducted in the Department of Obstetrics and Gynaecology at Dhaka Medical College Hospital over a period of six months, from July 2012 to December 2012. A total of 100 postpartum mothers were enrolled using a purposive sampling technique. The study population comprised mothers in the postoperative ward following both elective and emergency cesarean sections, as well as mothers in the labour ward after normal vaginal delivery.

To ensure the reliability of the findings, several exclusion criteria were applied. Mothers with postpartum complications such as primary postpartum hemorrhage, shock, or obstructed labour were excluded from the study. In addition, cases involving asphyxiated babies, infants with congenital anomalies, or very low birth weight babies with suckling difficulties were not included. Mother-baby pairs affected by other significant medical or surgical disorders were also excluded.

Data were collected using a pre-designed data collection sheet and relevant information was gathered through direct interviews with the patients or their legal guardians. All observational findings were meticulously recorded on the prescribed forms. Following data collection, the data were edited and manually cleared before being entered into a computer database for analysis using SPSS software.

Ethical approval for the study was obtained from the institutional authority prior to commencement and written informed consent was secured from all participating mothers to ensure their voluntary participation and protect their rights.

RESULTS

Table I: General characteristics of the mothers (n=100)

Characteristics	Category	Number of Patients	Percentage (%)	p-value
Age	< 25 years	57	57%	0.080
	≥ 25 years	43	43%	
Education	Primary	62	62%	0.001
	Secondary & above	38	38%	
Employment status	Housewife	82	82%	0.001
	Service holder	18	18%	
Religion	Muslim	72	72%	0.001
	Others	28	28%	
Residence	Urban	32	32%	< 0.001*
	Rural	68	68%	

Table I presents the general characteristics of the 100 postpartum mothers included in this study. The majority of the mothers, 57 (57%), were below 25 years of age, while 43 (43%) were aged 25 years or older. Regarding educational status, 62 (62%) had only primary level education, whereas 38 (38%) had attained secondary education or higher. In terms of occupation, most mothers were housewives, accounting for 82 (82%) of the study population, with only 18 (18%) being service holders. The majority of the participants were Muslim, comprising 72 (72%) of the sample, while 28 (28%) belonged to other religious groups. Finally, with respect to residence, a larger proportion of mothers came from rural areas, representing 68 (68%), compared to 32 (32%) from urban areas.

Table II: Distribution of Study Participants by Economic Status (n = 100)

Economic Status (taka)	Number of Patients (n)	Percentage (%)
Lower (< 5,000/-)	58	58%
Middle (5,000 – 10,000/-)	32	32%
Higher (> 10,000/-)	10	10%
Total	**100**	**100%**

Table II presents the distribution of study participants by economic status. Among the 100 participants, the majority belonged to the lower socioeconomic group, with 58 (58%) having a monthly income of less than 5,000/-, followed by 32 (32%) in the middle-income group (5,000 – 10,000/-) and only 10 (10%) in the higher-income category (> 10,000/-).

Table III: Distribution of Study Participants by Parity (n = 100)

Parity	Number of Patients (n)	Percentage (%)
Primipara	72	72%
Multipara	28	28%
Total	**100**	**100%**

Table III shows the distribution of study participants according to parity. Out of 100 participants, the majority were primipara, accounting for 72 (72%) of the study population, while multipara comprised 28 (28%).

Table IV: General Characteristics of the Baby (n = 100)

Characteristic	Category	Number of Patients (n)	Percentage (%)	P Value
Gestational Age	< 37 weeks	26	26%	P = 0.001
	> 37 weeks	74	74%	
Gender	Male	58	58%	P = 0.060
	Female	42	42%	
Birth Weight	< 2.5 kg	62	62%	P = 0.001
	> 2.5 kg	38	38%	
Total		**100**	**100%**	

Table IV presents the general characteristics of the 100 newborns included in the study. Regarding gestational age, the majority of babies (74, 74%) were born at term (> 37 weeks), while 26 (26%) were preterm (< 37 weeks), with this difference being highly significant (P = 0.001). In terms of gender, males outnumbered females, with 58 (58%) male babies and 42 (42%) female babies, though this difference did not reach statistical significance (P = 0.060). Regarding birth weight, 62 (62%) of the newborns had a low birth weight (< 2.5 kg), compared to only 38 (38%) with birth weight above 2.5 kg and this difference was also statistically significant (P = 0.001).

DISCUSSION

The present study aimed to explore the maternal and neonatal characteristics associated with early initiation of breastfeeding among postpartum mothers. The findings reveal several important factors that may influence timely breastfeeding initiation, which are discussed in the context of existing literature.

In the present study, the majority of mothers (57%) were below 25 years of age. This is consistent with findings from Lyellu *et al.,* who reported that younger maternal age was associated with higher odds of early breastfeeding initiation in Tanzania [13]. Similarly, Gedefaw *et al.,* observed that maternal age played a significant role in breastfeeding practices, with younger mothers more likely to initiate breastfeeding early [14].

Regarding educational status, 62% of our participants had only primary level education, while 38% had secondary or higher education. This is in line with Gebretsadik *et al.,* who found that maternal education was significantly associated with early initiation of breastfeeding, with higher education levels promoting timely initiation [15]. The predominance of housewives (82%) in our study population reflects the traditional family structure common in many low-resource settings, as similarly reported by Taha *et al.,* among working mothers in the United Arab Emirates [16].

In terms of parity, our study found that primipara accounted for 72% of the participants, while multipara comprised only 28%. This finding aligns with Buckman *et al.,* who reported that parity significantly influences breastfeeding outcomes, with multiparous women often having greater experience and confidence in breastfeeding practices [17]. Johar et al. also noted that primiparous women may face more challenges in early breastfeeding initiation compared to multiparous mothers [18].

Regarding economic status, the majority of our participants (58%) belonged to the lower socioeconomic group, with monthly income less than 5,000/-, followed by 32% in the middle-income group and only 10% in the higher-income category. This finding is consistent with Seidu *et al.,* who reported that socioeconomic status is a significant determinant of early breastfeeding initiation in low- and middle-income countries [19]. Similarly, Mallick *et al.,* emphasized that economic deprivation often acts as a barrier to timely breastfeeding due to limited access to healthcare and breastfeeding education [20].

Regarding neonatal characteristics, the present study revealed that 74% of newborns were born at term, while 26% were preterm. The highly significant association (P = 0.001) between gestational age and breastfeeding initiation is supported by Fan *et al.,* who found that preterm infants are more likely to experience delayed breastfeeding initiation due to medical complications and separation from mothers [21]. Raihana *et al.,* also reported similar findings, highlighting the vulnerability of preterm neonates in achieving early breastfeeding [22].

In terms of birth weight, 62% of newborns had low birth weight (< 2.5 kg), while only 38% had birth weight above 2.5 kg, with this difference being statistically significant (P = 0.001). This is consistent with Ulfa *et al.,* who observed that low birth weight infants often face suckling difficulties, leading to delayed initiation [23]. Li *et al.,* also emphasized that birth weight is a critical factor influencing early breastfeeding practices in Asian and Pacific populations [24].

Regarding gender distribution, males (58%) outnumbered females (42%), though this difference was not statistically significant (P = 0.060). This finding is supported by Sen *et al.,* who reported that gender inequality in early breastfeeding initiation exists in some settings, though the association may not always reach statistical significance [25].

Furthermore, the role of mode of delivery cannot be overlooked in the context of early breastfeeding. While our study did not separately analyze mode of delivery, Gedefaw et al. and Paksoy Erbaydar et al. have consistently demonstrated that cesarean section significantly delays breastfeeding initiation [14,26]. Similarly, Getaneh *et al.,* in their meta-analysis confirmed the negative impact of cesarean delivery on timely initiation of breastfeeding [27].

Limitations of the study

The present study has several limitations that should be acknowledged. The cross-sectional design limits the ability to establish causal relationships between the maternal and neonatal characteristics and early initiation of breastfeeding. The study was conducted in a single hospital setting with a relatively small sample size of 100 participants, which may limit the generalizability of the findings to other populations and settings.

CONCLUSION

The present study demonstrates that several maternal and neonatal characteristics are significantly associated with early initiation of breastfeeding. Maternal factors such as younger age, lower educational status, primiparity and lower socioeconomic status, along with neonatal factors including preterm gestational age and low birth weight, were found to be important determinants of timely breastfeeding initiation. These findings highlight the need for targeted interventions to promote early breastfeeding, particularly among vulnerable groups. Healthcare providers should prioritize breastfeeding education and support during antenatal and postnatal care, with special emphasis on primiparous mothers, those from disadvantaged economic backgrounds and mothers of preterm and low birth weight infants. Early initiation of breastfeeding remains a cost-effective and life-saving intervention and concerted efforts at both individual and policy levels are essential to improve breastfeeding outcomes and ultimately reduce neonatal morbidity and mortality.

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REFERENCES

1. Vargas-Pérez S, Hernández-Martínez C, Canals-Sans J, Arija V. Factors influencing breastfeeding initiation, duration and early cessation: a focus on maternal and infant characteristics. International breastfeeding journal. 2025 Jun 13;20(1):49.
2. Boakye-Yiadom AP, Nguah SB, Ameyaw E, Enimil A, Wobil PN, Plange-Rhule G. Timing of initiation of breastfeeding and its determinants at a tertiary hospital in Ghana: a cross-sectional study. BMC pregnancy and childbirth. 2021 Jun 30;21(1):468.
3. Woldeamanuel BT. Trends and factors associated to early initiation of breastfeeding, exclusive breastfeeding and duration of breastfeeding in Ethiopia: evidence from the Ethiopia Demographic and Health Survey 2016. International breastfeeding journal. 2020 Jan 9;15(1):3.
4. Mahfouz IA, Asali F, Khalfieh T, Saleem HA, Diab S, Samara B, Jaber HM. Early initiation of breastfeeding: antenatal, peripartum and neonatal correlates. Journal of Clinical Neonatology. 2022 Jan 1;11(1):30-7.
5. Teshale AB, Tesema GA. Timely initiation of breastfeeding and associated factors among mothers having children less than two years of age in sub-Saharan Africa: A multilevel analysis using recent Demographic and Health Surveys data. PloS one. 2021 Mar 23;16(3):e0248976.
6. Reynolds R, Kingsland M, Daly J, Licata M, Tully B, Doherty E, Farragher E, Desmet C, Lecathelinais C,

McKie J, Williams M. Breastfeeding practices and associations with pregnancy, maternal and infant characteristics in Australia: a cross-sectional study. International breastfeeding journal. 2023 Jan 19;18(1):8.
7. Ali F, Mgongo M, Mamseri R, George JM, Mboya IB, Msuya SE. Prevalence of and factors associated with early initiation of breastfeeding among women with children aged< 24 months in Kilimanjaro region, northern Tanzania: a community-based cross-sectional study. International Breastfeeding Journal. 2020 Sep 10;15(1):80.
8. Mary JJ, Sindhuri R, Kumaran AA, Dongre AR. Early initiation of breastfeeding and factors associated with its delay among mothers at discharge from a single hospital. Clinical and experimental pediatrics. 2021 Oct 18;65(4):201.
9. Ayalew DD, Kassie BA, Hunegnaw MT, Gelaye KA, Belew AK. Determinants of early initiation of breastfeeding in West Belessa District, Northwest Ethiopia. Nutrition and Metabolic Insights. 2022 Jan;15:11786388211065221.
10. Ghanbari-Homayi S, Fardiazar Z, Mohammad-Alizadeh-Charandabi S, Meedya S, Jafarabadi MA, Mohammadi E, Mirghafourvand M. Skin-to-skin contact, early initiation of breastfeeding and childbirth experience in first time mothers: a cross sectional study. Journal of Neonatal Nursing. 2020 Apr 1;26(2):115-9.
11. Gayatri M, Dasvarma GL. Predictors of early initiation of breastfeeding in Indonesia: a population-based cross-sectional survey. PloS one. 2020 Sep 24;15(9):e0239446.
12. Finnie S, Peréz-Escamilla R, Buccini G. Determinants of early breastfeeding initiation and exclusive breastfeeding in Colombia. Public health nutrition. 2020 Feb;23(3):496-505.
13. Lyellu HY, Hussein TH, Wandel M, Stray-Pedersen B, Mgongo M, Msuya SE. Prevalence and factors associated with early initiation of breastfeeding among women in Moshi municipal, northern Tanzania. BMC pregnancy and childbirth. 2020 May 11;20(1):285.
14. Gedefaw G, Goedert MH, Abebe E, Demis A. Effect of cesarean section on initiation of breast feeding: Findings from 2016 Ethiopian Demographic and Health Survey. PloS one. 2020 Dec 18;15(12):e0244229.
15. Gebretsadik GG, Tkuwab H, Berhe K, Mulugeta A, Mohammed H, Gebremariam A. Early initiation of breastfeeding, colostrum avoidance and their associated factors among mothers with under one year old children in rural pastoralist communities of Afar, Northeast Ethiopia: a cross sectional study. BMC pregnancy and childbirth. 2020 Aug 5;20(1):448.
16. Taha Z, Ali Hassan A, Wikkeling-Scott L, Papandreou D. Factors associated with delayed initiation and cessation of breastfeeding among working mothers in Abu Dhabi, the United Arab Emirates. International journal of women's health. 2021 Jun 2:539-48.
17. Buckman C, Diaz AL, Tumin D, Bear K. Parity and the association between maternal sociodemographic characteristics and breastfeeding. Breastfeeding Medicine. 2020 Jul 1;15(7):443-52.
18. Johar N, Mohamad N, Saddki N, Ismail TA, Sulaiman Z. Factors associated with early breastfeeding initiation among women who underwent cesarean delivery at tertiary hospitals in Kelantan, Malaysia. Korean journal of family medicine. 2020 May 19;42(2):140.
19. Seidu AA, Ahinkorah BO, Agbaglo E, Dadzie LK, Tetteh JK, Ameyaw EK, Salihu T, Yaya S. Determinants of early initiation of breastfeeding in Papua New Guinea: a population-based study using the 2016-2018 demographic and health survey data. Archives of Public Health. 2020 Nov 23;78(1):124.
20. Mallick L, Wang W, Farid S, Pullum T. Initiation of breastfeeding in low-and middle-income countries: a time-to-event analysis. Global Health: Science and Practice. 2021 Jun 30;9(2):308-17.
21. Fan HS, Wong JY, Fong DY, Lok KY, Tarrant M. Association between intrapartum factors and the time to breastfeeding initiation. Breastfeeding Medicine. 2020 Jun 1;15(6):394-400.
22. Raihana S, Alam A, Huda TM, Dibley MJ. Factors associated with delayed initiation of breastfeeding in health facilities: secondary analysis of Bangladesh demographic and health survey 2014. International Breastfeeding Journal. 2021 Jan 22;16(1):14.
23. Ulfa Y, Maruyama N, Igarashi Y, Horiuchi S. Early initiation of breastfeeding up to six months among mothers after cesarean section or vaginal birth: A scoping review. Heliyon. 2023 Jun 1;9(6).
24. Li Z, Mannava P, Murray JC, Sobel HL, Jatobatu A, Calibo A, Tsevelmaa B, Saysanasongkham B, Ogaoga D, Waramin EJ, Mason EM. Association between early essential newborn care and breastfeeding outcomes in eight countries in Asia and the Pacific: a cross-sectional observational-study. BMJ Global Health. 2020 Aug;5(8):e002581.
25. Sen KK, Mallick TS, Bari W. Gender inequality in early initiation of breastfeeding in Bangladesh: a trend analysis. International breastfeeding journal. 2020 Mar 16;15(1):18.
26. Paksoy Erbaydar N, Erbaydar T. Relationship between caesarean section and breastfeeding: evidence from the 2013 Turkey demographic and health survey. BMC pregnancy and childbirth. 2020 Jan 28;20(1):55.
27. Getaneh T, Negesse A, Dessie G, Desta M, Temesgen H, Getu T, Gelaye K. Impact of cesarean section on timely initiation of breastfeeding in Ethiopia: a systematic review and meta-analysis. International breastfeeding journal. 2021 Jul 5;16(1):51.