Original Article

Positive influencers for early initiation of breastfeeding

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Abstract

Background: The practice of newborns being put to the breasts soon after birth results in a reduction in neonatal mortality. Factors such as antenatal care attendance, delivery at the Baby Friendly Hospital Initiative (BFHI) facility, mode of delivery, number of children, and various socio-cultural practices are found to have a positive impact on the early initiation of breastfeeding. The present study was performed to determine the socio-demographic, maternal, and neonatal factors affecting the early initiation of breastfeeding. **Methodology:** A hospital-based cross-sectional study was performed at the Immunization Clinic and Nursery situated in a government tertiary care hospital for assessing the pattern of breastfeeding initiation. Children born at the hospital and also those reporting to the clinic from outside were included in the study. **Results:** Breastfeeding initiation within 1 hour after delivery was only 30%, and 9% did not initiate breastfeeding at all. About half of the reasons for not initiating breastfeeding were related to mothers, followed by 30% related to babies. **Conclusion:** Upon regression analysis, it was found that urban residence, higher educational status of the mothers, and those mothers who were not counselled on breastfeeding during antenatal visits had higher odds of not initiating breastfeeding and that was statistically significant.

Keywords: Antenatal care, breastfeeding, prelacteal feeds, time of initiation

Introduction

The World Health Organization (WHO) and UNICEF recommend that breastfeeding should be initiated within 1 hour of birth, exclusively for 6 months and later on to be continued for a minimum of 2 years or beyond along with complementary feeding.[1,2] Breastfeeding initiation within the first hour of life followed by exclusive breastfeeding improves the health and survival status of newborns.[3]

A meta-analysis reported that the initiation of breastfeeding within 24 hour of birth was significantly associated with a decline in "all-cause neonatal mortality," "low birth weight-related neonatal mortality," and "infection-related neonatal mortality" among all live births.[4] This reduction was to the extent of 22.3% for the first hour of birth and only 16.3% for the second hour of birth to 24 hours.

As per the National family health survey (NFHS) 5, the figures for initiation of breastfeeding within 1 hour of birth among children under 3 years of age for national (India), state (Punjab), and district (Patiala) are 41.8%, 53.1%, and 36.4% (urban-28.9 and rural-42.9), respectively.[5]

Breastfeeding practice is affected by a combination of influencing factors such as family and maternal, sociodemographic, biomedical factors, healthcare, psychosocial factors, the type and availability of social support, local community attitudes, and public policy.[6]

It is important to identify various sociodemographic, maternal, and neonatal factors associated with delayed initiation of

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breastfeeding. Identifying the lacunae will impart insight into how to improve the rates of early initiation of breastfeeding. So, the present study was undertaken with the objective to determine the factors affecting the timely initiation of breastfeeding.

Material and Methods

Study design

Hospital-based cross-sectional study.

Study setting

The study was performed at the Immunization Clinic and Nursery situated in a government tertiary care hospital, Patiala, for assessing the pattern of breastfeeding initiation.

Study period

From February 2021 to April 2021.

Inclusion criteria

Children born at the Obstetrics and Gynaecology Department of the hospital and also those reporting at the clinic from outside were included in the study.

Exclusion criteria

Children with congenital malformations and incompatible with breastfeeding.

Sample size

As per NFHS 4,[7] initiation of breastfeeding within an hour is reported to be 30.7%.

$N = (1.96)^2 pq/l^2$; 1.96*1.96*0.31*0.69/0.06*0.06 = 272.

Sampling technique

Consecutive sampling was performed till the completion of the sample size.

Ethical permissions and informed consent

Ethical permission was obtained from the Institutional Ethics committee from the ethics committee is obtained on 06/07/2020, and informed consent was taken from the respondents.

Data collection method

Respondents (consenting mothers/attendants) reporting with a newborn were interviewed face to face with a pretested, semi-structured questionnaire after explaining the purpose of the study.

Data tools

The questionnaire contained questions regarding sociodemographic details, breastfeeding initiation, and prelacteal feeds.

Data analysis

Data was analyzed using MS Excel and Epi Info Version 7.2.5. Descriptive analysis was used to depict the baseline characteristics of study participants. Multivariate logistic regression was performed to assess the statistical association between the variables. A *P* value less than 0.05 was considered significant.

Results

The study was conducted among 276 mothers/respondents. The mean age of the mothers at marriage and first childbirth was 22.3 ± 3.66 and 26.7 ± 4.61 years, respectively. Nearly half were first-birth order babies and 95% of them were singleton [Table 1]. Three-quarters of babies (76%) had a normal birth weight and 25% of babies got admitted to the ICU/Nursery for various reasons–respiratory distress (29.8%), prematurity (22.5%), infection (13.4%), LBW (low birth weight) (13.4%), jaundice (10.4%), meconium aspiration (4.5%), and for observation, etc., [Figure 1].

Nearly 90% of the mothers had opted for government health centers for antenatal care. Also, 85% of the mothers had more than four antenatal visits, and 82% of the mothers received antenatal care from doctors. The breast examination during antenatal visits was done for 31% of the mothers and almost 80% were counseled on breastfeeding during antenatal visits, of which two thirds were counselled by doctors [Table 2]. Near half (54%) of the women gave birth to male children, 88% had institutional deliveries in public health facilities, and about half were normal vaginal deliveries.

Table 1: Baseline characteristics related to baby (*n*=276)

Variable	Frequency
Gender	
Male	150 (54.3)
Female	126 (45.7)
Single	262 (94.9)
Twins	14 (5.1)
Birth order	
One	129 (47.7)
Two	101 (36.6)
>Three	46 (16.7)
Place of delivery	
Private institution	32 (11.6)
Public institution	244 (88.4)
Type delivery	
NFTVD	139 (50.4)
LSCS	137 (49.6)
Gestation	
Full-term	243 (88)
Preterm	33 (12)
Birth weight	
Normal	209 (75.7)
LBW	67 (24.3)
Admitted to ICU/Nursery	
Yes	67 (24.3)
No	209 (75.7)

Table 2: Distribution of variables based on antenatal care

Variable	Frequency (%)
Place of ANC (*n*=276)	
Government health facility	246 (89.2)
Private	28 (10.1)
No. ANC done	02 (0.7)
No. of Antenatal visits (*n*=274)	
<4	40 (14.6)
>4	234 (85.4)
ANC was given by (*n*=274)	
Doctor	224 (81.8)
Health worker	50 (18.2)
Breast examination performed during ANC visits (*n*=274)	
Done	86 (31.4)
Not done	178 (68.6)
Counselling on BF during ANC visits (*n*=274)	
Yes	216 (78.8)
No	58 (21.2)
Counselling was given by (*n*=216)	
Doctor	144 (66.7)
Health worker	72 (33.3)

Breastfeeding initiation within 1 hour after delivery was only 30%, the time of initiation of breastfeeding was delayed in 61%, and 9% did not initiate breastfeeding at all [Figure 2]. About half of the reasons for not initiating breastfeeding were related to mothers, followed by 32% to babies and 20% had not mentioned any specific reasons [Figure 3]. Upon regression analysis [Tables 3 and 4], it was found that urban residents, higher educational status of the mothers, and mothers who were not counselled on breastfeeding during antenatal visits had higher odds of not initiating breastfeeding and that was statistically significant. Figures for initiation of breastfeeding within an hour were lesser for babies born out of LSCS (lower section cesarean section) and babies with LBW as compared to the babies from normal vaginal deliveries and with normal birth weights in the present study [Table 5].

Some mothers (n = 27) had complications such as post-partum hemorrhage (PPH, n = 6), breast problems (n = 7), extended hospital stay (n = 10), and rest (n = 4) had anemia, infections, and seizures [Figure 4]. The custom of pre-lacteal feeds was there in 20% (n = 56) of the families. Honey was given to 78% of the babies as pre-lacteal feed, water to 7%, and the remaining (14.3%) were given sugar water, glucose water, and tea [Figure 5]. Top feeds were given to around half (47.8%) of the babies. Of those who were top-fed, infant milk formula was given to 83% of the babies, and the rest were given diluted (12%) and undiluted animal milk (5%).

Discussion

In the present study, 85% of the mothers had more than four antenatal visits and 88% had institutional deliveries in public health facilities, whereas Borah *et al.*[8] stated that 91% of their study subjects had >4 antenatal visits, and 95% had institutional deliveries almost similar to the present study. Also, 80% were counselled on breastfeeding during antenatal visits, of which two

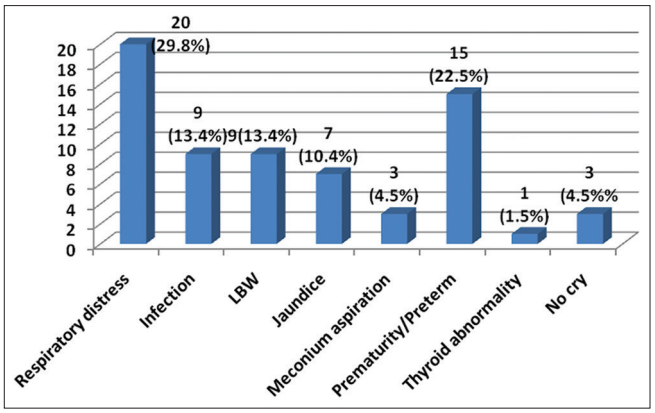

Figure 1: Reasons for ICU/Nursery admission (n = 67)

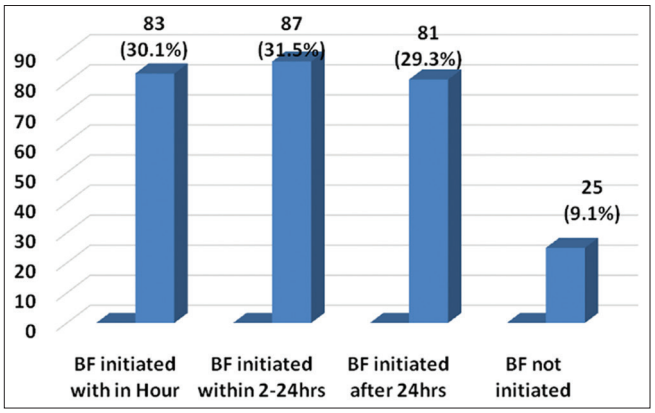

Figure 2: Bar diagram showing the distribution as per the time of initiation of breastfeeding

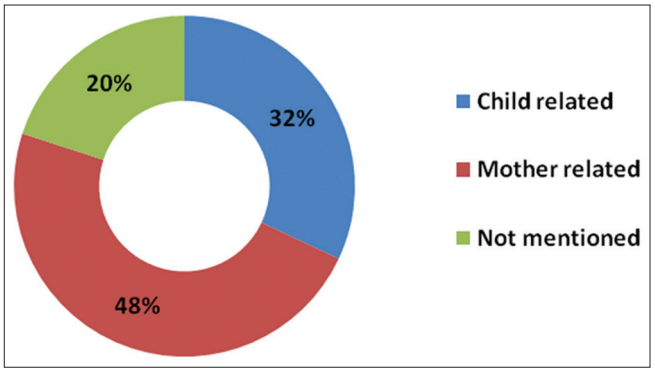

Figure 3: Reasons for not initiating BF (n = 25)

thirds were counselled by doctors in this study. Setegn *et al.*,[9] in their study, found that the mothers, who were counselled/advised on breastfeeding, were about 52% more likely to initiate breastfeeding within the first hour of delivery. This states that antenatal advice on breastfeeding has a significant impact on the initiation of breastfeeding and thus it should be promoted.

However, in the present study, in spite of good knowledge of breastfeeding and counselling of mothers on breastfeeding during antenatal visits, breastfeeding initiation within 1 hour after delivery was only 30%, delayed initiation of breastfeeding was 61%, and 9% did not initiate breastfeeding at all. Amongst those who had

Table 3: Regression analysis of the sociodemographic profile and time of initiation of BF (*n*=276)

Variable	BF initiated (*n*=251)	BF not initiated (*n*=25)	OR (CI)	*P*
Residence				
Urban	123	18	0.37 (0.15-0.92)	0.033
Rural	128	7		
Family type				
Nuclear	60	4	1.956 (0.64-5.93)	0.235
Joint	161	21		
Education of mother				
Illiterate	44	3	2.27 (0.63-8.21)	0.208
Up to high school	104	6	2.69 (1.01-7.15)	0.046
Above high school	103	16 (Ref)		
Education of father				
Illiterate	27	3	1.28 (0.34-4.76)	0.706
Up to high school	119	7	2.42 (0.95-6.18)	0.062
Above high school	105	15 (Ref.)		
Religion				
Sikh	102	14	0.53 (0.23-1.23)	0.142
Hindu	149	11		

Table 4: Regression analysis of BF initiation and obstetric variables

Obstetric history	BF initiated (*n*=251)	BF not initiated (*n*=25)	OR (CI)	*P*
Mode of delivery				
Normal	130	9	1.90 (0.81-4.48)	0.137
LSCS	121	16		
Place of delivery				
Private institution	29	3	0.95 (0.26-3.40)	0.947
Government sector	222	22		
Sex of child	136	14		
Male	115	11	0.92 (0.40-2.12)	0.862
Female				
Birth weight of baby				
Normal	192	17	1.53 (0.62-3.72)	0.347
LBW	59	8		
Birth order				
One	117	12	0.94 (0.41-2.15)	0.894
>One	134	13		
Admission to ICU/Nursery				
Yes	57	10	0.440 (0.187-1.03)	0.059
No	194	15		
No. of antenatal visits (*n*=274)				
<4	39	1	4.25 (0.55-32.40)	0.162
>4	211	23		
Counselling on BF (*n*=274)				
Yes	204	12	4.43 (1.87-10.49)	0.0007
No	46	12		

not initiated breastfeeding (*n* = 25), about half of the reasons were related to mothers, followed by 32% to babies and 20% had not mentioned any specific reasons. This shows that almost 7 children out of 10 do not receive any breast milk during their first hour of life, though delayed breastfeeding is proven to be linked to neonatal mortality.[10] Borah *et al*.,[8] Pamarthi K (2019) *et al*.,[11] Borah M *et al.,*[8] and Karol (2018) *et al*.,[12] reported that initiation of breast breastfeeding within one hour in their study was 48.7%, 54.8% and 73.8% respectively. A study by Sadiq and Salih (2020) *et al*.[13] found that 69% did initiate breastfeeding. In a study by El-Gilany *et al*.,[14] they observed that only 11.4% were given timely breastfeeding, that is, within 1 hour after birth. As compared to these studies, the present study reports timely initiation in 30% and delayed initiation in 61% of cases, here a window of opportunity is there where mothers are willing to initiate breastfeeding; hence, a more proactive and supportive role of the health system will definitely improve early initiation of breastfeeding figures alongwith problems faced by mothers. Prevailing social customs and beliefs in the region may be responsible for the delay.

The present study concluded that birth weight, birth order, sex of the newborn, number of antenatal visits, type and place of delivery have no significant association with the time of initiation of breastfeeding. These findings were similar to a study by Sadiq and Salih (2020) *et al*.[13] Another study by Radwan *et al*.[15] found that the initiation of breastfeeding was influenced by the

Table 5: Time of initiation of breastfeeding

Obstetric history	BF initiated within 1 hour (*n*=83)	BF initiated 2-24 hours (*n*=87)	BF initiated later than 24 hours (*n*=81)	BF not initiated (*n*=25)
Mode of delivery				
Normal	51 (37%)	42 (30%)	37 (27%)	9 (6%)
LSCS	32 (23%)	45 (33%)	44 (32%)	16 (12%)
Birth weight of baby				
Normal	67 (32%)	71 (34%)	54 (26%)	17 (8%)
LBW	16 (24%)	16 (24%)	27 (40%)	8 (12%)

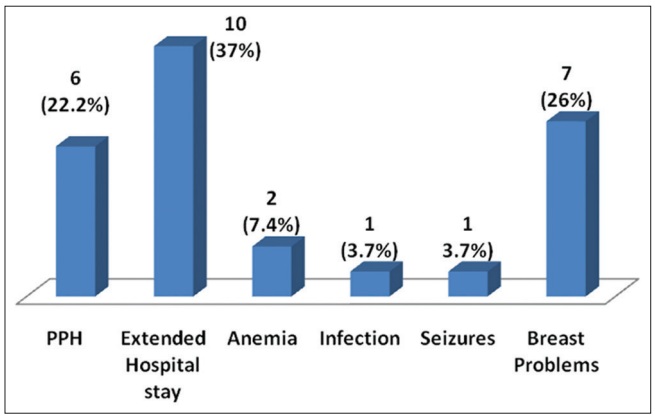

Figure 4: Maternal complications (*n* = 27)

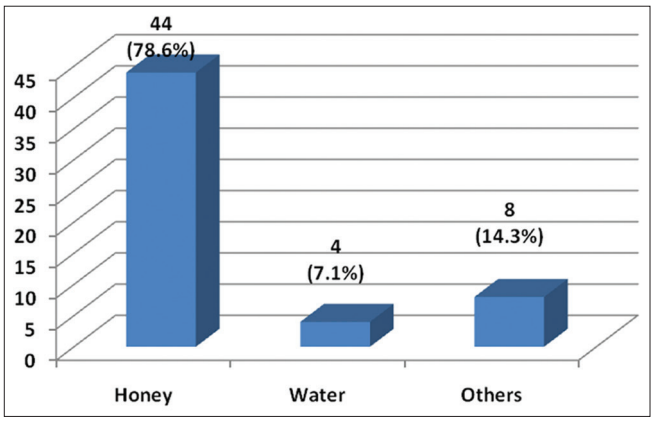

Figure 5: Customs of pre-lacteal feeds (*n* = 56)

mother's age and education. Patel *et al.* and Karkee, Lee,[16,17] also reported the cesarean section to be a major risk factor for delayed initiation of breastfeeding, increased risk of prelacteal feeding, and lower duration of exclusive breastfeeding. Pamarthi (2019) and Mekonen *et al.*(2018) *et al.*[11,18] revealed that there was a significant difference in the initiation of breastfeeding within an hour between literates and illiterates in their study. Gavhane *et al.*[19] observed that lack of education, cesarean deliveries, parity of mother, and lack of counselling by staff nurses were found to have increased the time of initiation of breastfeeding. Hassan (2018) *et al.*[20] found that the mode of delivery, having received breastfeeding education, and paternal education level and occupation were found to be associated with the initiation of breastfeeding in bivariate analysis.

Though both birth weight and type of delivery were not found to have a statistically significant relationship with the early initiation of breastfeeding, a trend was observed that the proportion of babies initiated earlier was more in babies with normal deliveries and birthweight as compared to LSCS and LBW babies. This insight will help primary physicians to prioritize the mother–child pairs who need more attention so that timely action can be taken for early initiation of breastfeeding.

Conclusion

Timely initiation of breastfeeding, that is, within 1 hour after delivery was only 30%, and 9% did not initiate breastfeeding at all. In this study, only counselling on breastfeeding during antenatal visits was found to statistically influence the time of initiation of breastfeeding. Neither birth weight, birth order, sex of the newborn, number of antenatal visits, or type and place of delivery had a significant association. Urban residence and higher educational status of the mothers had higher odds of not initiating breastfeeding and that was statistically significant.

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Conflicts of interest

There are no conflicts of interest.

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