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Original Research Article

Time of initiation of breastfeeding in various modes of delivery and to observe the effect of low birth weight and period of gestation on initiation of breastfeeding

Navneet Badaya*, Sanjiv Jain, Nayan Kumar

Department of Pediatrics, Jawahar Lal Nehru Medical College, Ajmer, Rajasthan, India

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***Correspondence:**
Dr. Navneet Badaya,
E-mail: navneetbadaya05@gmail.com

ABSTRACT

Background: There are certain factors influencing early initiation of breastfeeding, most of them can be corrected by paying little attention and by making certain strategies for the other factors. Study the difference between the time of initiation of breastfeeding in vaginally delivered and caesarean born deliveries, evaluate the effect of low birth weight and period of gestation on initiation of breastfeeding and to promote and encourage the breastfeeding.
Methods: This observational prospective study was conducted on 500 newborns delivered at Department of RMC, Ajmer and outborn section of Department of Pediatrics, JLN MC, Ajmer. The study group was divided two groups, group- I 250 newborn delivered vaginally and group-II 250 newborn delivered by caesarean section.
Results: Among birth weight >2500gm, in 146 (41.83%) cases breastfeeding was started in 0-1 hr, in 172 (49.28%) cases in 1-4 hours. Thus 91.11% initiated breastfeeding in first 8 hours (p value <0.00002), showing early initiation of breastfeeding in >2500g newborn. Among term babies, out of 398 (79.6%) babies with period of gestation 37-41 weeks, in 162 (40.70%) cases breastfeeding was initiated in 0-1 hour, in 185 (46.48%) cases in 1-4hr (p value <0.0391). Thus, 347(81.18%) initiated breastfeeding in first 8 hours.
Conclusions: Term gestation is positively associated while low birth weight and prematurity of baby has negative impact on early initiation of breastfeeding.

Keywords: Breastfeeding, Period of gestation, Rajkiya Mahila Chikitsalaya

INTRODUCTION

The power of first impression is well known. None may be more significant than the first experience of a newborn baby exiting mother's womb. Baby's first impression of life outside the womb, the welcome reception it receives immediately after birth, may colour his/her perceptions of life as difficult or easy, hostile or safe, painful or comforting, frightening or reassuring, cold and lonely or warm and welcoming. The events surrounding birth have the potential to set the stage for patterns of subconscious thought processes and behaviours that persists for a life time.

Advantages of Breastfeeding

Breastfeeding is the natural way of providing babies and young children with nutrients required for healthy growth and development.[1]

The advantage of breastfeeding are widely documented and, in general, undisputed. In the developing world

breastfeeding is strongly correlated to a reduction in infant mortality and morbidity.

1. In the developed world, there is overwhelming evidence to suggest that breastfeeding offers babies some protection from:
   - Sudden infant death syndrome
   - Eczema
   - Juvenile onset diabetes
2. Breastfed babies are at a significantly reduced risk of gastrointestinal, urinary and respiratory infections.
3. Breastfeeding can enhance neurodevelopment.
4. Breastfeeding may protect women from developing breast cancer and certain ovarian cancers.
5. The literature also identifies a range of psychosocial advantage for breastfeeding women and babies.[2]

It is estimated that 10-15% of deaths in children aged 5 years in-resource poor countries could be prevented through achievement of 90% coverage with exclusive breastfeeding alone.[3]

Time of initiation

Initiation of breastfeeding is defined as the first time when the mother feeds the baby after delivery. In the half hour after birth, the baby's suckling reflex is the strongest and the baby is more alert, so it is the ideal time to start breastfeeding. Early breastfeeding is associated with fewer night time feeding problem.[4] Skin-to-skin contact improves physiologic stability for both mother and baby in the vulnerable period immediately after birth. It increases maternal attachment behaviour, protects against the negative effects of maternal-infant separation and supports optimal infant brain development. It promotes initiation of the first breastfeeding, resulting in increased breastfeeding initiation and duration rates.[5]

Determinants of breastfeeding initiation

There are many independent determinants of the decision to breastfeed and, as such, it is necessary to control for many different factors

- Mother's age
- Geographical area
- Parity of mother
- Gender of baby
- Mode of delivery:
- Birth weight of the baby
- Period of gestation.

METHODS

This observational prospective study was conducted on 500 newborns delivered at Department of Rajkiya Mahila Chikitsalaya (RMC), Ajmer and outborn section of Department of Pediatrics, Jawaharlal Nehru Medical College and Hospital.

Study was conducted on 500 newborn babies consisting of two groups. Group-I was consisted of 250 newborn babies delivered vaginally and Group-II was consisted of 250 newborn babies delivered by caesarean section as per inclusion criteria. An informed consent was taken from the mother.

Inclusion criteria

- Babies born at or beyond 33 weeks of gestation.
- Babies born with birth weight 2000g and more and handed over to mother with satisfactory conditions.

Exclusion criteria

- Babies who were sick and admitted to NICU for different conditions like Birth Asphyxia, with Respiratory Distress and other conditions.
- Babies born with period of gestation less than 33 weeks and with birth weight less than 2000g.
- Babies of HIV positive mothers.
- Babies of mothers having PIH and on $MgSo_4$ treatment.
- Babies of mothers who were on treatment with cytotoxic drugs and on anti-thyroid drugs.

Gestational age was calculated from the first date of LMP to date of delivery. It was compared to new Ballard's Scoring System (1991). Discrepancy of ±2 weeks was considered as normal.[6]

Babies were classified as preterm, term, postterm according to period of Gestation.[7]

- Preterm were the babies born up to 36 completed weeks of gestation.
- Term were the babies born between 37-41 weeks of gestation.
- Postterm were the babies born at 42 or more weeks of gestation.

Babies were classified as low birth weight having birth weight ≤2500g.

The birth weight of neonate was recorded on electronic weighing machine manufactured by Smart care baby weighing machine with increment/decrement of 5gm. The birth weight was recorded immediately after birth after stabilization of child.

Babies were classified as AGA, SGA, LGA according to birth weight appropriate for that particular age of gestation.[8]

- AGA were babies whose birth weight lied between 10th and 90th percentile of the weight for gestational age.
- SGA were babies whose birth weight was less than 10th percentile.

- LGA were babies whose birth weight was more than 90th percentile.

Antenatal details of mothers including risk factors and bio data of mother including parity of mother (multipara/primipara), mode of delivery (caesarean/vaginal), whether anaesthesia during delivery given or not, address (urban/rural), antenatal counselling was provided, and other basic details were noted. Age of the mother was noted and categorized into 4 groups as age group 19-23 years, 24-28 years, 29-33 years and 34-38 years.

Statistical analysis

The time of initiation of breastfeeding was noted. Qualitative variables were compared using Pearson Chi-square test. 'p' value <0.05 was taken as significant.

A total of 500 newborn babies were selected in the study. They were divided into two groups each based on mode of delivery (I and II). Group I was having cases who underwent vaginal delivery and group II where caesarean section was the mode of delivery. Both the groups were studied for their effect on initiation of breastfeeding along with the effect of low birth weight and period of gestation on initiation of breastfeeding. During study special consideration was given to other determinants of initiation of breastfeeding to promote the early initiation and the following observations were made which have been depicted in tabular form.

RESULTS

Comparison of initiation of breastfeeding with mother's age

It was observed that in the mother age group of 19-23 years, out of 214 (42.8%) cases, 81 (37.85%) cases initiated breastfeeding in 0-1 hour, 99 (46.26%) cases in 1-4 hours, 27 (12.61%) cases in 4-8 hours and 7 (3.27%) initiated breastfeeding in >8 hours.

Table 1: Comparison of initiation of breastfeeding with mother's age.

Mother's Age (in years)	Time of initiation of breastfeeding (min-hrs) (group-I and group-II)								P value
	0-1hr		1-4hr		4-8hr		>8hr		
	No.	%	No.	%	No.	%	No.	%	
19-23 (N=214)	81	37.85	99	46.26	27	12.61	7	3.27	0.0012S
24-28 (N=190)	72	37.89	95	50.0	17	8.94	6	3.15	
29-33 (N=76)	47	61.84	26	34.21	2	2.63	1	1.31	
34-38 (N=20)	8	40.0	7	35.0	2	10	3	15	

Table 2: Comparison of initiation of breastfeeding with geographical area.

Geographical Area	Time of initiation of breastfeeding (min-hrs) (group-I and group-II)								P Value
	0-1hr		1-4hr		4-8hr		>8hr		
	No.	%	No.	%	No.	%	No.	%	
Rural (N=280)	95	33.2	130	46.2	33	11.78	22	7.85	0.391677
Urban (N=220)	88	40	86	39.09	26	11.81	20	9.09	NS

In mother age group of 24-28 years, out of 190 (38.0%) cases, 72 (37.89%) cases initiated breastfeeding in 0-1 hour, 95 (50.0%) cases in 1-4 hours, 17 (8.94%) cases in 4-8 hours and 6 (3.15%) initiated breastfeeding in >8 hours.

In mother age group of 29-33 years, out of 76 (15.2%) cases, 47 (61.84%) cases in 0-1 hour, 26 (34.21%) cases in 1-4 hours, 2 (2.63%) cases in 4-8 hours and 1 (1.31%) initiated breastfeeding in >8 hours.

In the mother age group of 34-38 years, out of 20 (4%) cases, 8 (40.0%) cases in 30 min -1 hour, 7 (35.0%) cases in 1-4 hours, 2 (10%) cases in 4-8 hours and 3 (20%) initiated breastfeeding in >8 hours.

The data given above thus depicts that as the mother age advances, chances of early initiation also increases, the age of 29-33 years is the most appropriate age for early initiation of breastfeeding. The difference between various age groups according to time of initiation of breastfeeding was found to be significant.

Comparison of initiation of breastfeeding with geographical area

It was observed that out of 280(56%) mothers in rural area, 95 (33.2%) cases initiated breastfeeding in 0-1 hour, 130 (46.2%) cases in 1-4 hours, 33 (11.78%) cases in 4-8 hours and 22 (7.85%) cases initiated breastfeeding in >8 hours.

Out of 220 (44%) mothers in the urban area, 88 (40%) cases initiated breastfeeding in 0-1 hour, 86 (39.09%) cases in 1-4 hours, 26 (11.81%) cases in 4-8 hours and 20 (9.09%) cases initiated breastfeeding in >8 hours.

The difference between geographical areas in relation to initiation of breastfeeding was found to be non-significant (Table 2).

Comparison of initiation of breastfeeding with parity of mother

It was observed table that in a total of 198 primiparous mothers, 60 (30.3%) cases initiated breastfeeding in 0-1 hour, 95 (47.97%) cases in 1-4 hours, 29 (14.64%) cases initiated breastfeeding in 4-8 hours and 14 (7.07%) initiated breastfeeding in >8 hours.

Table 3: Comparison of initiation of breastfeeding with parity of mother.

Parity of mother	Time of initiation of breastfeeding (min-hrs) (group-I and group-II)								P value
	0-1hr		1-4hr		4-8hr		>8hr		
	No.	%	No.	%	No.	%	No.	%	
Primipara (N=198)	60	30.3	95	47.97	29	14.64	14	7.07	0.001914
Multipara (N=302)	142	47.01	118	39.07	27	8.94	15	4.96	S

Out of 302 multiparous mothers, 142 (47.01%) cases initiated breastfeeding in 0-1 hour, 118 (39.07%) cases in 1-4 hours, 27 (8.94%) cases in 4-8 hours and 15 (4.96%) initiated breastfeeding in >8 hours.

Above data shows that multipara mothers were likely to initiate breastfeeding earlier than primipara mothers making the difference significant (Table 3).

Comparison of initiation of breastfeeding with gender of the baby

It was observed that out of 254 (63.5%) male babies, in 111(43.70%) cases breastfeeding was initiated in 0-1 hour, in 108 (42.51%) cases in 1-4 hours, in 19 (7.48%) cases in 4-8 hours and in 16 (6.29%) breastfeeding was initiated in >8 hours.

Table 4: Comparison of initiation of breastfeeding with gender of the baby.

Gender of baby	Time of initiation of breastfeeding (min-hrs) (group-I and group-II)								P value
	0-1hr		1-4hr		4-8hr		>8hr		
	No.	%	No.	%	No.	%	No.	%	
Male (N=254)	111	43.70	108	42.51	19	7.48	16	6.29	0.32299
Female (N=246)	97	39.43	110	44.71	28	11.38	11	4.47	NS

In a total of 246 (61.5%) girl babies, in 97 (39.43%) cases breastfeeding was initiated in 0-1 hour, in 110 (44.71%) cases in 1-4 hours, in 28 (11.38%) cases initiated breastfeeding in 4-8 hours and in 11 (4.47%) initiated breastfeeding in >8 hours. Initiation of breastfeeding in both groups were almost comparable showing non significant with respect to gender of the baby (Table 4).

Comparison of initiation of breastfeeding with mode of delivery

It was observed that out of 500 (100%) cases, 250 (50%) cases underwent vaginal delivery and rest 250 (50%) underwent caesarean delivery.

Table 5: Comparison of initiation of breastfeeding with mode of delivery.

Mode of delivery	Time of initiation of breastfeeding (min-hrs) (group-I and group-II)								P Value
	0-1hr		1-4hr		4-8hr		>8hr		
	No.	%	No.	%	No.	%	No.	%	
Vaginal (N=250)	163	65.2	76	30.4	9	3.6	2	0.8	0.00001
Caesarean (N= 250)	35	14	161	64.4	40	16	14	5.6	S

In vaginally delivered group, 163 (65.2%) cases started breastfeeding in 0-1 hr, 76 (30.4%) cases in 1-4 hours, 9 (3.6%) cases in 4-8 hours and 2(0.8%) cases in >8 hours thus 99.2% mother initiated breastfeeding in first 8 hours to the neonate.

Out of 250 (50%) mothers who underwent caesarean delivery, 35 (14%) cases started breastfeeding in 0-1 hour, 161 (64.4%) cases in 1-4 hours, 40 (16%) cases in 4-8 hours and 14 (5.6%) cases started breastfeeding in >8 hours in the neonate thus delaying initiation of breastfeeding for many hours.

Thus, above table shows that the effect of mode of delivery on initiation of breastfeeding was found to be significant (Table 5).

Comparison of initiation of breastfeeding in first hour of birth with mode of delivery

It was observed that in vaginal delivery group, out of 250 (50%) mothers, 163 (65.2%) started initiation of breastfeeding in first hour of birth and further out of 163 (65.2%) cases, 61(24.4%) cases started initiation of breastfeeding in first half an hour of birth and rest 102 (40.8%) cases in 30min-1hr.

Table 6: Comparison of initiation of breastfeeding in first hour with mode of delivery.

Mode of delivery	Time of initiation of breastfeeding (min-hrs)						P value
	0-30 min		30 min-1hr		Total (0-1hr)		
	No.	%	No.	%	No.	%	
Vaginal	61	24.4	102	40.8	163	65.2	0.002 S
Caesarean	4	1.6	31	12.4	35	14	

Out of 250 (50%) mothers who underwent caesarean-section, 35 (14%) cases started initiation of breastfeeding in first hour of birth and further out of 35 (14%) cases, only 4 (1.6%) cases started initiation of breastfeeding in first half an hour of birth and rest 31 (12.4%) cases in 30min-1 hr. Thus, the data was statistically significant and it showed early initiation of breastfeeding in vaginal deliveries (Table 6).

Comparison of initiation of breastfeeding with birth weight of baby

It was observed that out of 151(37.75%) babies who were found to be having birth weight ≤2500g, in 44 (29.13%) cases breastfeeding was initiated in 0-1 hour, in 70 (46.35%) cases in 1-4 hours, in 25 (16.55%) cases in 4-8 hours and in 12 (7.94%) cases breastfeeding was started in >8 hours.

Table 7: Comparison of initiation of breastfeeding with birth weight of baby.

Birth weight of baby	Time of initiation of breastfeeding (min-hrs) (group-I and group-II)								P Value
	0-1hr		1-4hr		4-8hr		>8hr		
	No.	%	No.	%	No.	%	No.	%	
≤2500g (N=151)	44	29.13	70	46.35	25	16.55	12	7.94	0.00002
>2500g (N=349)	146	41.83	172	49.28	23	6.59	8	2.29	S

In babies where birth weight was >2500g, in 146 (41.83%) cases breastfeeding was started in 0-1 hr, in 172 (49.28%) cases in 1-4 hours, in 23 (6.59%) cases in 4-8 hours and in 8 (2.29%) breastfeeding was initiated in >8 hours. The effect of low birth weight of baby on initiation of breastfeeding was found to be significant (Table 7).

Comparison of initiation of breastfeeding with period of gestation

It was observed that out of 98 (19.6%) babies were born with period of gestation ≤36 weeks, in 25 (25.5%) cases breastfeeding was initiated in 0-1 hour, in 56 (57.14%) cases in 1-4 hours, in 12 (12.24%) cases in 4-8 hours and in 5 (5.10%) initiated breastfeeding in >8 hours.

With majority of cases belonging to term babies category, out of 398 (79.6%) term babies with period of gestation 37-41 Weeks, in 162 (40.70%) cases breastfeeding was initiated in 0-1 hour, in 185 (46.48%) cases in 1-4 hours, in 34 (8.54%) cases in 4-8 hours and in 17 (4.27%) initiated breastfeeding in >8 hours. Out of 4 (0.8%) post term babies born at period of gestation >41 Weeks, in 1 (25%) cases breastfeeding was initiated in 0-1 hour, in

1(25%) case breastfeeding was initiated in 1-4 hours, in 1(25%) case breastfeeding was initiated in 4-8 hours, in 1(25%) cases breastfeeding was initiated in >8 hours. The effect of period of gestation of baby on initiation of breastfeeding was found to be significant (Table 8).

Table 8: Comparison of initiation of breastfeeding with period of gestation.

Period of gestation (in weeks)	Time of initiation of breastfeeding (min-hrs) (group-I and group-II)								P value
	0-1hr		1-4hr		4-8hr		>8hr		
	No.	%	No.	%	No.	%	No.	%	
≤36 (N=98)	25	25.5	56	57.14	12	12.24	5	5.10	0.0391 S
37-41 (N= 398)	162	40.70	185	46.48	34	8.54	17	4.27	
≥42 (N=4)	1	25	1	25	1	25	1	25	

DISCUSSION

The present study was carried out to understand the various determinants of initiation of breastfeeding and to investigate factors influencing time of breastfeeding among women in India, focusing on health care utilization related issues and to grab a chance to promote the early initiation and exclusive breastfeeding.

This study was conducted on 500 newborn babies delivered at Department of Pediatrics J.L.N. Medical College and Hospital, Ajmer. Out of 500 newborn babies, 250 were born through vaginal delivery and rest 250 were born through caesarean selection.

Researches on breastfeeding initiation time are limited and the data differ from country to country.

Comparison of initiation of breastfeeding with mother's age in various study and present study

In Present study we observed that women belonging to age group of 29-33 years reported highest percentage of initiation of breastfeeding within one hour i.e. 61.84% followed by age of 34-38 years, where 40.0% mothers initiated breastfeeding in first hour of birth. Further as the age advances or decreases i.e. in age group of 24-28 and 19-23 years, the initiation of breastfeeding was delayed as compared to other groups with initiation in breastfeeding in first hour as 37.89% and 37.85% respectively, age group 19-23 being the last one to initiate early.

So present study depicts the effect of mother's age on initiation of breastfeeding was statistically highly significant. Present study was comparable to studies conducted by Ekambaram et al, Amin et al and Kamalarupan et al, where similar result was obtained related to mother's age. Similarly in studies done by Bhatt et al,Victor et al and Esteves et al showed that younger age of the mother delayed the initiation in baby. Also, as depicted in present study, Khanal et al in his study revealed delayed initiation of breastfeeding in mother's of age 30-45 years. Whereas Mahanum et al reported delayed initiation in age group of 26-30 years is contrary to our results.[9-15]

Further exploration of the reasons that mothers younger than 24 years old are less likely to initiate breastfeeding may yield useful information for public health practice. Women in these groups could also be considered a priority population to target for increasing breastfeeding duration rates.

Comparison of initiation of breastfeeding with geographical area in various studies and present study

In present study, it was observed that there was no statistically significant difference between early breastfeeding initiation in babies belonging to Urban or Rural areas. As per results it was seen that in urban area 40% cases and in Rural area 33.2% cases initiated breastfeeding in first hour. As per results in both groups most of the mothers initiated breastfeeding in first four hours of birth. Present study was comparable to Yadav et al and Khanal et al where no effect of geographical area on initiation of breastfeeding was seen. Some studies were contradictory to present study, as study done by Setegn et al and Thu et al showed positive relation between rural residence and early initiation thus opposite to our results.[16-18]

Thus, present study shows that area does not have any relation with initiation of breastfeeding as in rural early initiation is being practiced as a natural cost free best feed to baby and in urban area it is mainly done because of appropriate knowledge in regards to early breastfeeding thus statistically not significant.

Comparison of initation of breastfeeding with parity of mother in various studies and present study

Present study observed a positive association between multiparity and early initiation of breastfeeding. As shown in present study, 47.01% multiparious women-initiated breastfeeding in first hour of birth as compared to primiparous where only 30.3% gave first breastfeed in

first hour. Thus, results were in favour of multiparity in relation to early initiation of breastfeeding.

Present study was comparable to studies conducted by Orun et al, Amin et al, EI Gilany et al and Pereira et al where results showed the positive relation between multiparity and early initiation. Similarly, studies done by Bautista et al, Scott JA et al and Yahya and Adebayo et al support present study and found the negative association of primiparity with early initiation of breastfeeding. Studies conducted by Sandor M et al and Mahanum AM et were not comparable to present study as per results, where primiparity was positively associated with early initiation of breastfeeding.[19-25]

Thus, primiparity is identified as one of the significant factors which have been directly associated with the delay in breastfeeding initiation. Therefore, these target groups must be given priority when giving health education and physical and emotional support during the antenatal and postnatal stages.

Comparison of initiation of breastfeeding with gender of the baby in various studies and present study

Present study observed that there is no relation between gender of the baby with the initiation of breastfeeding. It was observed that in male babies, in (43.70%) cases and girl babies, in (39.43%) cases breastfeeding was initiated in first hour. This shows that results were comparable in both the groups. Thus, it was revealed that data was statistically not significant and no relation between gender of the baby and initiation of breastfeeding was found. Similar results were shown by the study done by Orun et that there was no relation between gender of the baby with initiation of breastfeeding.

Comparison of initiation of breastfeeding with mode of delivery in various studies and present study

The comparison of mode of delivery to see the effect on initiation of breastfeeding was done, analyzed and discussed below. It was observed that in cases who underwent caesarean-section, 35 (14%) cases started initiation of breastfeeding in first hour of birth and further out of 35 (14%) cases, only 4 (1.6%) cases started initiation of breastfeeding in first half an hour of birth and rest31 (12.4%) cases in 30min-1hr and in vaginal delivery group, 163 (65.2%) started initiation of breastfeeding in first hour of birth and further out of 163 (65.2%) cases, 61 (24.4%) cases started initiation of breastfeeding in first half an hour of birth and rest 102 (40.8%) cases in 30min-1hr.

From present results caesarean section seems to be a major barrier to early breastfeeding initiation as results were highly significant showing negative association between caesarean section and early initiation of breastfeeding. Present study was comparable to many studies done previously as done by Mansbach et al, Habib et al, Awi et al, Wang et al, Esteves et al and Khanal et al where delayed initiation was seen in caesarean deliveries.[26-29]

Studies done by Pandit et al, Vieira et al, Amin et al and Seid et al showed similar results of early initiation in vaginal deliveries.[30-32]

Thus, it was observed that caesarean deliveries as the biggest concern related to early initiation of breastfeeding. Adverse effects of anaesthesia on mother-infant pairs, maternal discomfort and delayed onset of lactation are cited for the late initiation of breastfeeding in caesarean section deliveries.

Thus, measure preventing of breastfeeding section without medical indication should be implemented. In fact, measures should also be implemented to prevent a portion of elective caesarean sections, such as in situations where the mother has extreme delivery phobia, prefers delivery comfort, requests caesarean section.

Comparison of initiation of breastfeeding with birth weight of baby in various studies and present study

In present study it was seen that most of the babies where birth weight was more i.e. >2500g were able to initiate breastfeeding in first hour of birth as compared to babies with birth weight ≤2500g i.e. 41.83 % and 29.13 % respectively. Thus, showing that initiation of breastfeeding in low birth weight babies were significantly delayed.

Present study was comparable to Bautista et al, Senarath et al and Khanal V et al where delayed initiation was seen in low birth weight of babies.[33] Similarly studies done by Thu et al, Kamalarupan et al, Pereira at el noticed early initiation of breastfeeding in babies having high birth weight whereas Oren et al showed that there is no effect of birth weight on initiation of breastfeeding, thus contradictory to our results.

So present study reveals that birth weight of baby also influence the initiation of breastfeeding in a newborn. This could be due to poor sucking capacity or associated illness among the low birth weight infants. Therefore, future breastfeeding promotion programs should focus on immediate breastfeeding of low birth infants.

Comparison of initiation of breastfeeding with period of gestation in various studies and present study

In this study, preterm infants had significantly lower rates of early initiation of breastfeeding than term infants. As per results it was observed that babies born with period of gestation ≤36 weeks, in (25.5%) cases breastfeeding was initiated in 0-1 hour, in term babies (37-41 weeks), in (40.70%) cases breastfeeding was initiated in 0-1 hour and in post term babies (>41 weeks), in (25%) cases breastfeeding was initiated in 0-1 hour (because of very

low number of babies in this group). This clearly shows the positive relation between higher gestation and early initiation of breastfeeding. Our data was consistent with those observed previously. Present study was comparable to Merewood et al, Donath et al, Nakao et al and Ayton et al where it showed negative association between prematurity and early initiation of breastfeeding. Similarly, studies conducted by Orun et al, Paitel A et al and Yadav et al showed the positive association between term gestation and early initiation of breastfeeding thus comparable to present study.[34-35]

Thus, it is concluded that lesser the gestation, so delayed is the initiation of breastfeeding. This result may be explained by the coincident common problems, such as limited oral-motor skills, hypoglycemia, maternal adaptation to having a small infant, and delayed lactogenesis in premature infants. Thus, effective antenatal care to prevent premature births will contribute to early breastfeeding initiation.

CONCLUSION

It was concluded that caesarean delivery has negative impact on early initiation of breastfeeding.

- The residential area does not have any effect on time of initiation of breastfeeding
- Multiparity helps in early initiation of breastfeeding whereas primiparity delays it.
- Higher education level of mother is positively associated with early initiation of breastfeeding.
- Low family income has negative impact on initiation of breastfeeding delaying it to some extent.
- By providing antenatal counseling to the mother, early initiation of breastfeeding can be achieved.
- Mother's beliefs regarding colostrums, exclusive breastfeeding duration and prelacteal feed has great impact on initiation of breastfeeding.
- The gender of baby does not have any effect on the time of breastfeeding initiation.
- Low birth weight of baby has negative impact on timely initiation of breastfeeding.
- Prematurity has negative association with timely initiation of breastfeeding.

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REFERENCES

1. Breastfeeding: World Health Organization. Available at http://www.who.int/topics/breastfeeding/en/
2. Earle S. Factors affecting the initiation of breastfeeding: implications for breastfeeding promotion. Health promotion international. 2002 Sep;17(3):205-14.
3. Widstrom AM, Wahlberg V, Mathiesen AS, Eneroth P, Uvnas-Moberg K, Werner S et al. Short-term effects of early suckling and touch of the nipple on maternal behaviour. Early Hum Dev. 1990;21(3):153-63.
4. Renfrew MJ, Lang S, Woolridge MW. Early versus delayed initiation of breastfeeding. Cochrane Database Syst Rev. 2000;(2):CD000043.
5. Chamberlain D. Babies remember birth and other extraordinary scientific discoveries about the mind and the personality of your newborn. NY, New York: Ballantine Books. 1990.
6. Ballard JL, Khoury JC, Wedig K, Wang L, Eilers-Walsman BL, Lipp R. New Ballard Score, expanded to include extremely premature infants. J Pediatr. 1991;119(3):417-23.
7. Bhargava SK and Ghosh S. Nomenclature for the newborns. Indian Pediatr. 1974;11(6):443-47.
8. Battaglia FC and Lubchenco LO. A practical classification of newborn infants by weight and gestational age. J Pediatr. 1967;71(2):150-63.
9. Ekambaram M, Bhat VB, Asif P. Knowledge, attitude and practice of breastfeeding among postnatal mothers. Curr Pediatr Res. 2010;14(2):119.
10. Amin T, Hablas H, Al Qader AA. Determinants of initiation and exclusivity of breastfeeding in AI Hassa, Saudi Arabia. Breastfeed Med. 2011;6(2):59-68.
11. Kamalarupan L, Sivapalan K, Sivarajah N, SurendraKumar N. Factors affecting the early initiation of breastfeeding at birth in the Jaffna Municipal Council Area. Regional Meeting of the Physiological Society of Sri Lanka. 2013:1-6.
12. Bhatt S, Parikh P, Kantharia N Dahat A, Parmar R. Knowledge, attitude and practice of postnatal mothers for early initiation of breast feeding in the obstetric wards of a tertiary care hospital of vadodara city. National J Comm Med. 2012;3(2):305-9.
13. Victor R, Baines SK, Agho KE, Dibley MJ. Determinants of breastfeeding indicators among children less than 24 months of age in Tanzania: a secondary analysis of the 2010. Tanzania Demographic and Health Survey. BMJ open. 2013;3(1)pii:e001529.
14. Esteves TM, Daumas RP, Oliveira MI, Andrade CA, Leite IC. Factors associated to breastfeeding in the first hour of life: systematic review. Rev Saude Publica. 2014;48(4):697-708.
15. Mahanum AM, Leong Joyce WS, Anita Ar, Ching SM, Enoma A. The prevalence and factors associated with the delay in the initiation of beastfeeding. IJLSM. 2014;2(1):5-10.
16. Yadav R, Khanna A, Singh A, Tripathi P, Dugesar R, Pallavi S. Knowledge, attitude and practice of

mothers regarding early initiation of breast feeding in the obstetric wards of a tertiary care hospital of Rohtak city of India. IJIMS. 2015;2(5):18-23.
17. Setegn T, Belachew T, Gerbaba M, Deribe K, Deribew A, Biadgilign S. Factors associated with exclusive breastfeeding practices among mothers in Goba district, south east Ethiopia: a cross-sectional study. Int Breastfeeding J. 2012;7:17.
18. Thu HN, Eriksson B, Khanh TT, Petzold M, Bondjers G, Kim CNT etal. Breastfedding practices in urban and rural Vietnam. BMC Public Health. 2012;12:964.
19. Orun E, Yalcin SS, Madendag Y, Ustunyurt-Eras Z, Kutluk S, Yurdakok K. Factors associated with breastfeeding initiation time in a Baby-Friendly Hospital. Turk J Pediatr. 2010;52(1):10-6.
20. EI-Gilany AH, Sarraf B, AI-Wehady A. Factors associated with timely initiation of breastfeeding in AI-Hassa province, Saudi Arabia. East Mediterr Health J. 2021;18(3):250-4.
21. Pereira CR, Fonseca Vde M, Couto de Oliveira MI, Souza IE, Reis de Mello R. Assessment of factors that interfere on breastfedding within the first hour of life. Rev Bras Epidemiol. 2013;16(2):525-34.
22. Bautista LE. Factors associated with initiation of breast-feeding in the Dominican Republic. Rev Panam Salud Publica. 1997;1(3):200-7.
23. Scott JA, Binns CW, Oddy WH. Predictors of delayed onset of lactation. Matern Child Nutr. 2007;3(3):186-93.
24. Yahya WB and Adebayo SB. Modelling the trend and determinants of breastfeeding initiation in Nigeria. Child Dev Res. 2013;Article ID 530396:1-9.
25. Sandor M, Dalal K. Influencing factors on time of breastfeeding initiation among a national representative sample of women in India. Health. 2013;5:2169-80.
26. Mansbach IK, Greenbaum CW, Sulkes J. Onset and duration of breast feeding among Israeli mothers: relationships with smoking and type of delivery. Soc Sci Med. 1991;33(12):1391-7.
27. Habib FA. Monitoring the practice and progress of initiation of breastfeeding within half an hour to one hour after birth, in the labor room of King Khalid University Hospital. J Fam Comm Med. 2003;10(3):41-48.
28. Awi DD, Alikor EA. Barriers to timely initiation of breastfeeding among mothers of healthy full-term babies who deliver at the University of Port Harcourt Teaching Hospital. Niger J Clin Pract. 2006;9(1):57-64.
29. Wang BS1, Zhou LF, Zhu LP, Gao XL, Gao ES. Prospective observational study on the effects of caesarean section on breastfeeding. Zhonghua Fu Chan Ke Za Zhi. 2006;41(4):246-8.
30. Pandit N, Yeshwanth M, Albuquerque SI. Factors influencing initiation of breastfeeding in an urban set up. Indian Pediatr. 1994;31(12):1558-60.
31. Vieira TO, Vieira GO, Giugliani ER, Mendes CM, Martins CC, Silva LR. Determinants breastfeeding initiation within the first hour of life in a Brazilian population: cross-sectional study of. BMC Public Health. 2010;10:760.
32. Seid AM. Vaginal delivery and maternal knowledge on correct breastfeeding initiationtime as predictors of early breastfeeding initiation: lesson from a commmuniyt-based cross-sectional study. Hindawi Publishing Corporation. 2014;904609:1-6.
33. Senarath U, Dibley MJ, Godakandage SS, Jayawickrama H, Wickramasinghe A, Agho KE. Determinants of infant and young child feeding practices in Sri Lanka: secondary data analysis of Demographic and Health Survey 2000. Food Nutr Bull. 2010;31(2):352-65.
34. Merewood A, Brooks D, Bauchner H, MacAuley L, Mehta SD. Maternal birthplace and breastfeeding initiation among term and preterm infants: a statewide assessment for Massachusetts. Pediatrics. 2006;118(4):e1048-54.

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