

Study of timing of initiation of breast feeding and various factors affecting the initiation of breast feeding

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Abstract

WHO recommends breast feeding as soon as possible after delivery within first hour of birth to all newborns. Early initiation of breast feeding has significant short term and long term benefits, also reducing the neonatal mortality. The study included 704 newborn babies delivered in district hospital Chamrajanagar during the period of May 2017 to September 2017. Data regarding the various parameters like mother's age, geographic location, baby weight, maturity, mode of delivery, time of initiation of breast feeding was collected. The present study showed the percentage of babies breast fed within one hour of birth was 55%. There was a significant delay in the breast feeding in babies delivered through caesarean section, primigravida mothers, mothers with younger age group and mothers with low education status.

Key Words: breast feeding.

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INTRODUCTION

WHO recommends breast feeding as soon as possible after delivery within first hour of birth to all newborn. Provision of mother's breast milk to infants within one hour of birth is referred to as "early initiation of breastfeeding" and ensures that the infant receives the colostrum, or "first milk", which is rich in protective factors. Skin-to-skin contact between mother and infant soon after delivery helps to initiate early breastfeeding and increases the likelihood of exclusive breastfeeding for first four months of life as well as the overall duration of

breastfeeding¹. Newborn care immediately after the birth is vital since 40% of all neonatal mortality happens on the first day of life and 56% during the first 3 days³

The timing of breastfeeding initiation is found to be the most significant risk factor which affects neonatal deaths timely initiation of breastfeeding is beneficial for child survival within the first 28 days of birth, including all causes of mortality⁴ Exclusive breast feeding has various advantages. The risk of lower respiratory tract infections in the first year is reduced by 72% if infants breastfed exclusively for more than 4 months^{5,6}. Breastfeeding has been found to reduce the incidence of Otitis Media by 23%⁵. Also breastfeeding is associated with a 64% reduction in the incidence of gastrointestinal tract infections, and protection continues after cessation of breastfeeding^{5,6}. Human milk has been shown to be protective against Necrotizing Enterocolitis (NEC)⁷. It has been found to decrease rates of Sudden Infant Death Syndrome (SIDS) in the first year of life. Exclusive breastfeeding for 3 to 4 months can result in a lower incidence of asthma, atopic dermatitis and eczema⁵ There is a reduced risk of coeliac disease and inflammatory bowel disease due to the immunoglobulins present in

breast milk.^{8,9} Long term benefits like reduction in overweight, obesity and reduction in incidence of both type 1 and type 2 Diabetes mellitus^{5,10}. Breastfeeding may have a protective role in prevention of malignancy like Acute Lymphoid Leukemia.⁶ Breast feeding is associated with favourable neurodevelopmental outcomes which may be significant when compared to overall population¹¹ In this regard no studies have been done regarding timing of initiation of breast feeding various factors affecting it in the district hospital chamaranagar. Karnataka.

MATERIAL AND METHODS

The present study is a retrospective descriptive study. The study included 704 newborn babies delivered in district hospital chamaranagar during the period of May 2017 to September 2017. The data was collected from the records of lactation clinic register. Data regarding the various parameters like mother's age, location, baby weight, maturity, mode of delivery, time of initiation of breast feeding was collected. Birth weight was measured within one hour of delivery by digital weighing machine accurate up to +/-5 grams. Newborn maturity was assessed using LMP from mother's record and new Ballard score assessment for prematurity. Inclusion criteria all newborn delivered in the hospital during the study period, except those mentioned in exclusion criteria.

The study excluded sick newborn admitted to SNCU and preterm babies less than 2 kg birth weight and gestational age less than 32 weeks. Mothers taking anti-metabolites and anti-thyroid drugs were excluded. Mothers with HIV positive status were excluded. Term is defined as 37- 42 weeks of gestational age Preterm is defined as babies born alive before 37 weeks. Low birth weight (LBW) is defined as a birth weight of less than 2500 g (up to and including 2499 g), as per the World Health Organization (WHO). Low birth weight is further categorized into very low birth weight (VLBW <1500 g) and extremely low birth weight (ELBW <1000 g).¹² Data was entered in Microsoft excel windows 10 and analysed using SPSS software version 20.

Data Analysis

Table 1: Table showing comparison of timing of initiation of breast feeding overall

Time for initiation	N	Percentage
0-30 mins	117	16
30 min-1 hour	279	39
1-4hrs	308	43
>4hrs	15	2
Total	704	100

The above table shows the percentage of neonates breast fed with one hour as 55%. Highest percentage of breast feeding was between 30 minutes to 1 hour.

Table 2: Showing comparison of timing of initiation of breast feeding with respect to mode of delivery

	0-30 mins		30 min-1 hour		1-4hrs		.>4hrs		TOTAL	P value
	no	Percent	No	percent	no	Percent	No	percent		
Normal	142	35	224	55	57	14	4	1	408	0.01
LSCS	41	14	88	30	159	54	6	2	296	

44 % of newborns were breast fed in LSCS delivery group compared to 90% in normal vaginal delivery group. The difference was statistically significant.

Table 3: Showing comparison of timing of initiation of breast feeding with respect to sex of the baby

	0-30 minutes		30 minutes-1 hour		1-4hrs		.>4hrs		TOTAL	P value
	no	Percent	No	percent	no	Percent	no	percent		
Male	94	30	82	26	132	42	6	2	315	0.12
Female	97	25	120	31	167	43	7	2	389	

No significant difference was found between male and female neonates in initiation of breast feeding.

Table 4: Showing comparison of timing of initiation of breast feeding with respect weight of the baby

	0-30 mins		30 min-1 hour		1-4hrs		.>4hrs		TOTAL	P value
	no	Percent	no	Percent	no	Percent	No	percent		
>2500gms	221	35	189	30	214	34	6	1	632	0.02
<2500gms	18	26	17	24	35	49	1	1	72	

Significant difference was found in the timing of initiation of breast feeding between the two groups. The percentage of initiation of breast feeding was lower in Low birth weight babies.

Table 5: Showing comparison of timing of initiation of breast feeding with respect to Gestational age of the baby

	0-30 minutes		30 min-1 hour		1-4hrs		.>4hrs		TOTAL	P value
	No	Percent	No	percent	No	Percent	No	percent		
Term	220	35	195	31	195	31	12	2	630	0.02
Preterm	15	20	27	36	29	40	3	4	74	

Significant difference was found in the timing of initiation of breast feeding between the two groups. Prematurity was associated with higher time for initiation of breast feeding.

Table 6: Showing comparison of timing of initiation of breast feeding with respect age of the mother

Age(yrs)	0-30 mins		30 min-1 hour		1-4hrs		.>4hrs		TOTAL	P value
	No	Percent	No	percent	No	Percent	No	percent		
19-24	48	27	35	20	85	48	3	2	178	0.01
25-29	105	35	75	25	114	38	6	2	300	
29-33	106	38	73	26	95	34	6	2	281	
>33	16	34	12	26	18	40	0	0	46	

There was a significant difference in the timing of initiation of breast feeding, The percentage of initiation of breast feeding within the first hour was low in mothers in age group 19-24 years compared to other 3 groups.

Table 7: Showing comparison of timing of initiation of breast feeding with respect to parity of the mother

Age(yrs)	0-30 mins		30 min-1 hour		1-4hrs		.>4hrs		TOTAL	P value
	No	Percent	No	Percent	No	Percent	No	percent		
Primi	75	20	109	29	181	48	11	3	378	0.02
Multi	114	35	101	31	105	32	6	2	328	

There was a significant difference in the initiation of breast feeding in primigravida mothers compared to multigravida.

Table 8: Showing comparison of timing of initiation of breast feeding with respect to geographical location of the mother

Age(yrs)	0-30 mins		30 min-1 hour		1-4hrs		.>4hrs		TOTAL	P value
	No	Percent	No	Percent	No	Percent	No	percent		
Urban	50	34	35	24	59	41	1	1	148	0.12
Rural	172	31	150	27	216	39	16	3	556	

There was no significant difference in timing of initiation of breast feeding in between rural and urban area mothers.

Table 9: Showing comparison of timing of initiation of breast feeding with respect to economic status of the mother

Age(yrs)	0-30 mins		30 min-1 hour		1-4hrs		.>4hrs		TOTAL	Pvalue
	No	Percent	No	percent	No	Percent	No	percent		
APL	15	35	13	30	14	33	1	2	43	0.013
BPL	132	20	191	29	323	49	13	2	661	

There was significant difference in the timing of initiation of breast feeding with respect to economic status of the mother

Table 10: Showing comparison of timing of initiation of breast feeding with respect to education of the mother

Age(yrs)	0-30 mins		30 min-1 hour		1-4hrs		>4hrs		TOTAL	P value
	no	percent	no	Percent	no	percent	no	Percent		
ILLITERATE	21	20	25	24	58	55	1	1	105	0.01
PRIMARY	51	35	44	30	48	33	3	2	146	
SECONDARY	46	33	35	25	54	39	4	3	140	
HIGH SCHOOL	83	32	62	24	111	43	7	3	260	
GRADUATE	15	30	18	35	17	33	1	2	53	

There was less percentage of breast feeding within one hour amongst the illiterate mothers compared to other groups. The difference was significant.

DISCUSSION

The overall timing of initiation of breast feeding within one hour was 55% in the present study. National data in this regard has been shown to be in increasing trend from

24.5% in 2006 to 44.6% in 2014.¹³ Our study is in trend with the national data may be due to the improved encouragement of breast feeding with a lactation clinic and active participation based on baby friendly hospital guidelines. The present study showed there is a significant difference in initiation of breast feeding in babies born through Caesarean section (44%) compared to vaginal delivery (90%). Present study was comparable to studies done by Mansbach *et al*, Habib *et al*.^{14,15} Delays in breastfeeding initiation accompanying c-section delivery are associated with maternal/infant separation, reduced suckling ability, decreased infant receptivity, and insufficient milk supply, which are predictive of shortened breastfeeding duration^{16,17,18,19} Caesarean mothers need counselling, comfort and adequate skin to skin contact of the baby and mother as soon as possible for early initiation of breast feeding. There is no relation to sex of the baby in the present study with initiation of breast feeding, a previous study done by Orun *et al* showed similar results²⁰. There was a significant difference in the timing of early breast feeding in the low birth weight group. In babies less than 2500 gms it was delayed, similar results were found in study done by Bautista *et al*²¹ and Senarath *et al*²². LBW babies need more assistance to breastfeed due to poor suck swallowing coordination. Mothers in the age group of 19-24 years had a delay in breast feeding compared to mothers in 25-29 years and 29-33 years group. Ekambaram *et al*²³ and Kamalarupan *et al*²⁴ had obtained similar results with respect to mothers age. Young mothers may lack the knowledge, skill and attitude required for breast feeding. Multipara mothers had higher percentage of early initiation of breast feeding compared to primigravida similar results were obtained by Orun *et al*²⁰, Amin *et al*²⁵ Badaya N *et al*²⁶, in their studies. But study conducted by Mahanum *et al*²⁷ showed primigravida mothers had earlier initiation. The present study showed there was no difference in initiation breast feeding between urban and rural area mothers. Our study is comparable to the results of study done by Yadav *et al*²⁸. Low economic status in mothers is associated with delayed initiation of breast feeding the percentage of early initiation was 65% in APL group compared to 49% in BPL group, may be due to maternal malnutrition, poor health status of the mother. Mothers with low education showed a delay in initiation of breast feeding. illiterate mothers had a delay in breast feeding. The study done by Mukunya D *et al*²⁹ had similar results.

CONCLUSION

The present study showed the percentage of babies breast fed within one hour of birth was 55%. There was a significant delay in the breast feeding in babies delivered

through caesarean section, primigravida mothers, mothers with younger age group and mothers with low education status. There is a concern in these groups of babies and measures should be taken for early initiation to reap the benefits of early breastfeeding for better survival of neonates for both short term and long term.

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