

Factors Associated with Timely Initiation of Breast Feeding among Mothers Attending Maternal and Child Health Clinic at Government Institutions of Biratnagar

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ABSTRACT

Background: Timely initiation of breastfeeding (TIBF) means giving breast milk to newborn within the first hour after birth, as recommended by WHO. This is an important part of good breast feeding practices that helps to reduce infant illness and death. So, this study is conducted to identify the factors associated with TIBF among mothers having child of 9-15 months attending at government health institutions.

Methods: A cross-sectional research design was used among purposively selected 206 mothers having children 9-15 months who were attending the Maternal and Child Health (MCH) clinics at Koshi Hospital and Family Planning Association of Nepal in Morang district. Data was collected through interview using a self-developed structured questionnaire. Data was analyzed using descriptive statistics, additionally factors affecting TIBF were analyzed by bivariate and multivariate logistic regression analysis.

Findings: The findings reveal that among 206 mothers, less than half (49%) had initiated breast feeding within one hour of birth and more than half (56.8%) had done exclusive breastfeeding to their baby till 6 months. Mothers belonging to madhesi ethnicity (OR= 2.394, 95% CI=1.219-4.700, p - 0.011), mothers having normal delivery (OR= .461, 95% CI= 0.250- 0.851, p -0.013), multiparous (OR=1.965, 95%, CI= 1.099- 3.514, p - 0.023), lower middle economic class (OR=1.848, 95%CI=1.009-3.382, p - 0.047) were more likely TIBF than others. TIBF is significantly associated with exclusive breastfeeding (p =0.007).

Conclusion: The study concludes that ethnicity, mode of delivery, parity and socio-economic status are the factors associated with TIBF. Furthermore, TIBF is connected with practice of exclusively breast feeding.

Keywords: Timely Initiation of Breast Feeding, Government Institution, Mothers

INTRODUCTION

Breastfeeding is a process of providing complete food to newborns for their healthy growth and development. Breast milk has nutritious as well as immunological properties which are very beneficial to infant growth and development, moreover beneficial to mothers, family and society. Components of Optimal breastfeeding practice includes timely starting of breastfeeding, exclusive breastfeeding for the first six months and continued breastfeeding

up to two years of age and beyond, accompanying with supplementary food. Timely initiation of breastfeeding refers to the purveying of mother's breast milk to newborn within one hour of birth and which ensures that the infant gets the colostrum, or "first milk", that is copious in safeguarding factors. WHO recommends that breastfeeding should be started as soon as possible after birth to promote and support exclusive breast feeding which is one of the vital indicators to identify infant and young child feeding practices.^{1,2,3,4}

Infants born to the mother of 20-29 years and >30 years of age were less likely to breastfeed their infants in comparison to the mother of below 20 years. Likely, mother who had agriculture as an occupation was 28% more likely to breastfeed their infants in comparison to the mothers who were unemployed. In the same study coexistence of breastfeeding practices with other indicators of breastfeeding were also assessed which revealed that infants provided pre-lacteal feed were 51% less likely to be breast fed within 1 hour of birth in comparison to those who did not fed pre-lacteal feeds, likewise 55% less likely breastfed through six month of age.⁵

Regardless the advantages of EIBF, a significant portion of newborns are not breastfed timely after birth as per WHO recommendation in many countries. National Demographic survey of Nepal 2016 shows only 55% of children under age 2 are breastfed within 1 hour of birth and 51.6% in province 1.⁶ Research conducted in Bardia district of Nepal 65.5% mothers started breastfeeding in one hour of birth.⁷ In a study conducted in a community of Assam, the prevalence of early initiation of breastfeeding 54.8%.⁸ A study carried out in Saudi Arabia only 11.4% mothers commenced breast feeding were given timely breastfeeding in one hour of birth.⁹

Globally, various factors are associated with timely initiation of breastfeeding like place of residence, education, place of delivery, working mother, poor mother, parity, modes of delivery, discarding initial breast milk, antenatal care counseling, practice of pre-lacteal feed. In addition, the frequency of prenatal visit has been associated with timely initiation of breastfeeding.^{10,11,12,13,14,15}

Analyzing Nepal Demographic and Health Survey (NDHS) 2011 reported that mothers' education, occupation, ethnicity, place of delivery, size of baby, and geographical region were significantly associated with early initiation of breastfeeding.¹⁶ In a study conducted among disadvantaged ethnic group in mid-western Nepal ethnicity, place of delivery and counseling during ANC period were found to be associated with commencing of breastfeeding in right time.¹⁷ In extensive analysis of NDHS 2016, mothers delivered vaginally in health facility were strongly associated with timely initiation of breastfeeding.¹⁸ Main aim of the study is to identify the factors associated with timely initiation of breastfeeding among mothers who has baby at age of 9 to 15 months.

METHODS

A cross-sectional research design was used among 206 mothers with children aged 9-15 months. The selection of mother was done in purposefully. Inclusion criteria for mothers who were visiting the Maternal and Child Health (MCH) clinic at Koshi Hospital and Family Planning Association of Nepal (FPAN) in Morang district for the purpose of immunizing their child with the first dose of the measles-rubella vaccine.

Data was collected through interviews using a structured questionnaire developed by researcher herself. The research instrument consisted of four parts:

- Part I: Questions related to socio-demographic characteristics of mother
- Part II: Questions related to obstetric characteristics of mother
- Part III: Questions related to characteristics of the children
- Part IV: Questions related to breastfeeding pattern.

Before data collection, ethical approval was obtained from Institutional Review Committee, Tribhuvan University, Institute of Medicine, Kathmandu, Maharajgunj (Ref. no536(6-11)E2). Before data collection, permission was obtained from the relevant authority. Prior to data collection, informed consent was obtained from each respondents, and safety precaution were implemented to every stage of the study to protect the right and wellbeing of the respondents. Respondents were given the option to withhold the interview any time if they wished to do so. Confidentiality was maintained by using a code number. Time taken for interview was 15-20 minutes for each respondent. The data collection process occurred in May and June of 2022.

The obtained data were edited, coded, and organized before entry into the computer software system. Data entry and analysis was done using the computer software Statistical Package for Social Sciences (SPSS) version 16. The collected data was analyzed using descriptive statistical methods such as frequency, percentage, mean, standard deviation. Additionally, inferential statistics bivariate analysis (Chi-square test) was used to measure the association between TIBF with selected variables. Further, the multivariate logistic regression model was used to delve deeper into influencing factors. All variables with a p-value <0.10 in bivariate analysis were included in multivariate logistic regression analysis. P-value <0.05 was considered significant at 95% level of significance.

RESULTS

Among 206 respondents, majority 176(85.4%) were from 21-30 years of age group, 90(43.7%) were studied secondary level education. Nearly half of the respondents 98(47.6%) belonged to madhesi ethnicity and 106(51.5%) were multiparous (Table 1).

Table 1: Socio Demographic Characteristics of the Respondents (n =206)

Characteristics	Number	Percent
Age in completed years		
<20	7.0	3.4
21-30	176	85.4
>30	23	11.2
Mean age ± (SD)25.5(±4.15)		
Literacy status(Mother)	11	5.3
Illiterate	12	5.8
literate	29	14.1
Primary	90	43.7
Secondary	64	31.1
Higher secondary and above		
Literacy status of husband		
Illiterate	5	2.4
Literate	17	8.3
Primary	28	13.6
Secondary	80	38.8
Higher secondary and above	76	36.9
Type of family		
Nuclear	65	31.6
Joint	141	68.4
Ethnicity		
Brahmin/chhetri	34	16.5
aadibasi / Janajati	45	21.8
Dalit	8	3.9
Muslim	21	10.2
Madhesi	98	47.6
Occupation of husband		
Service	47	22.8
Business	76	36.9
clerical, farmer, shop owner	2	1.0
skilled worker	15	7.3
unskilled worker	66	32.0
Occupation of respondents		
Service	19.0	9.2
Business	4.0	1.9
clerical, farmer, shop owner	1.0	0.5
unskilled worker	2	1.0
Unemployment	180	87.4
Economic status		
lower upper	62	30.1
Lower middle	61	29.6
Upper middle	73	35.4

Upper	10	4.9
Number of children		
1 child	100	48.5
>1 child	106	51.5

Regarding types of delivery, 124(60.2%) mothers delivered vaginally, 110(53.4%) of respondents did not get information about breastfeeding during antenatal visit. Most of the baby 191(92.7%) had no any complications during birth, likewise 167(81.1%) baby were not provided pre-lacteal feeding. More than half of the respondents 105(51%) didn't initiate breastfeeding within 1 hour, similarly, 117(56.8%) mothers had done exclusive breastfeeding till 6 months and more (Table 2).

Table 2: Respondents Information on Breastfeeding (n=206)

Variables	Number	Percent
Prelacteal feeding		
Yes	39	18.9
No	167	81.1
Breastfeeding after birth		
Yes	206	100
Initiation of breastfeeding		
≤ 1 hour	101	49
> 1 hour	105	51
Colostrum feeding		
Yes	185	89.8
No	21	10.2
Exclusive Breastfeeding		
≤6 months	89	43.2
>6 months	117	56.8

In bivariate analysis, there was statistically significant association in timely initiation of breast feeding with economic status ($p=0.029$). There was no statistically association with timely initiation of breast feeding on age, educational status, ethnicity and occupation status (Table 3).

Table 3: Association between Timely Initiation of Breastfeeding and Selected Demographic Variables (n=206)

Variables	Timely Initiation of BF		p-value
	≤ 1hr n (%)	>1hr n(%)	
Age in years			
< 20 years	4(1.9)	3(1.5)	0.786#
20 -30	87(42.2)	89(43.2)	
>30	10(4.9)	13(6.3)	
Educational status(Wife)			
Illiterate	3(1.5)	8(3.9)	0.224
Up to secondary	23(11.2)	18(8.7)	
Higher secondary &>	75(36.4)	79(38.3)	
Ethnicity			
Madhesi	40(19.4)	58(28.2)	

Janjati	24(11.7)	21(10.2)	0.069
Others	37(18)	26(12.6)	
Religion			
Hinduism	90(43.7)	91(44.2)	0.836#
Islamic	9(4.4)	12(5.8)	
Others	2(1.0)	2(1.0)	
Occupation(Wife)			
Unemployment	90(43.7)	90(43.7)	0.463
Employment	11(5.3)	15(7.3)	
Type of family			
Nuclear	28(13.6)	37(18)	0.246
Joint	73(35.4)	68(33)	
Economic status			
Upper class	33(16)	50(24.3)	0.029
Lower middle class	68(33)	55(26.7)	

* $P < 0.05$ considered significant# fisher exact test

There was a statistically significant association between timely initiation of breast feeding with type of delivery ($p=0.009$) and parity ($p=0.025$) respectively (Table 4).

Table 4 :Association between Timely Initiation of Breastfeeding and Obstetric Characteristics (n=206)

Variables	Timely Initiation of Breastfeeding		p-value
	$\leq 1\text{hr}$ n (%)	$>1\text{hr}$ n (%)	
ANC visit			
Yes	100(48.5)	103(50)	1.000#
# No	1(0.5)	2(1.0)	
NO. of ANC Visit			
<4	11(5.3)	10(4.9)	0.746
≥ 4	70(64.8)	38(35.2)	
Information about BF			
Yes	48(23.3)	48(23.3)	0.795
No	21(72.4)	8(27.6)	
Type of Delivery			
Normal	70(34)	54(26.2)	0.009*
Cesarean Section	31(15)	51(24.8)	
Parity			
Primipara	41(19.9)	59(28.6)	0.025*
Multipara	60(29.6)	46(22.3)	

* $P < 0.05$ considered significant #fisher exact test

Likewise, timely initiation of breastfeeding was significantly associated with exclusive breastfeeding with p-value (0.007).

Table 5: Association between Timely initiation and Exclusive Breastfeeding**(n=206)**

Variables		Exclusive Breastfeeding		p-value
		<6months	≥6months	
Timely Initiation of Breastfeeding	≤ 1 hour	34(16.5%)	67(32.5%)	0.007
	>1hour	55(26.7%)	50(24.3%)	

In multivariate analysis, timely initiation of breastfeeding was associated with ethnicity, economic status, parity and mode of delivery. In this study mothers belong to madhesi ethnicity had 2.394 more likely to timely initiation of breastfeeding than others. Similarly, mothers from upper class were 1.848 times less likely to initiate breastfeeding than lower middle class. Primi mothers are 1.96 times less likely to timely initiation of breastfeeding than multi parity. Likewise, regarding type of delivery, mothers who delivered vaginally were 0.461 times more likely to start breastfeeding in right time than mothers who delivered by caesarean section (Table 5).

Table 5: Association of Timely Initiation of Breastfeeding with Demographic Variables (n =206)

Variables	within one hour	more than one hour	Unadjusted OR	CI	p-Value
Ethnicity					
madhesi	40(19.4)	58(28.3)	2.394	1.219-4.700	0.011*
Janajati	24(11.7)	21(10.2)	1.076	0.460-2.402	0.905
others	37(18)	26(12.6)	Ref		
Economic Status					
Upper class	33(16)	50(24.3)	1.848	1.009-3.382	0.047*
Lower middle class	68(33)	55(26.7)	Ref		
Parity					
Primi	41(19.9)	59(28.6)	1.965	1.099-3.514	0.023*
Multi	60(29.6)	46(22.3)	Ref		
Type of Delivery					
Normal	70(34)	54(26.2)	0.461	0.250-0.851	0.013*
cesarean	31(15)	51(24.8)	Ref		

*P value significant <0.05, ***Other=brahmin, dalit and muslim,OR=odds Ratio, CI= Confidence interval

Timely initiation of breastfeeding is 2.394 times higher in respondents belong to madhesi ethnicity (CI=1.219-4.700, p=0.011), likewise, 1.848 times lower in upper class(CI= 1.009-3.382, p= 0.047), similarly, 1.965 times lower in primi para (CI= 1.099-3.514,p= 0.023) and 0.461 times higher in normal delivery(CI=0.250-0.851, p= 0.013).

DISCUSSION

The respondents of timely initiation of breast feeding in this study was 49%. It was similar to study conducted in Ethiopia showed that 48.7% of respondents having timely initiation of breast feeding. Regarding pre lacteal feeding, only 18.9% of respondents using pre- lacteal feeding to their children which is similar to the study conducted in Ethiopia revealed that 24.2% mothers give prelacteal feed.¹⁹

Findings of the present study revealed that socio-economic status of the respondents was significantly

associated with timely initiation of breast feeding ($p=0.029$). The finding of the study was supported by study done in North-Central Nigeria the relationships between the timely initiation of breastfeeding and economic status was statistically significant.²⁰

This study reveals that type of delivery is significantly associated with timely initiation of breastfeeding ($p=0.009$). The finding is similar to study conducted in Ethiopia which showed that vaginal delivery is significantly associated with timely initiation of breastfeeding ($p=0.0001$).¹³

Findings of the present study shows that association between ANC visit, no. of ANC visit and information received about breastfeeding were not found statistically significant with timely initiation of breastfeeding. Regarding the association between type of delivery and parity, those who had normal deliver 70(34%) and those who were multiparous 60(29.6%), were significantly associated with timely initiation of breastfeeding as p value (0.009, 0.025). The finding is contradictory to study conducted in Ethiopia in 2022, revealed that only half of the respondents (51.5%) started breastfeeding in time in vaginal delivery. Similarly, multi parity and mode of delivery were significantly associated with timely initiation of breastfeeding. Likewise, finding is similar to study performed in Ethiopia showed that vaginal delivery and timely initiation of breastfeeding is significantly associated.^{22,35}

Findings of the present study show that association between timely initiation of breastfeeding and exclusive breastfeeding. It concluded that mothers who were timely initiation of breastfeeding they exclusively breastfeed their child which was significantly associated ($p=0.007$). The finding of the study similar to the study conducted in Indonesia showed that there was significant association between timely initiation of breastfeeding and exclusive breastfeeding ($p= 0.0001$).²¹

Present study shows that type of delivery is significantly associated with timely initiation of breast feeding which is supported by WHO global survey, mother who delivered vaginally was more likely to initiate breastfeeding within one hour than those delivered through cesarean section.²²

In multivariate analysis, ethnicity, economic status, parity and type of delivery was associated with breast feeding initiation on time. In this study mothers belong to madhesi ethnicity had 2.394 more likely to timely initiation of breastfeeding than others. Similarly, mothers from upper class were 1.848 times less likely to initiate breastfeeding than lower middle class. Primi mothers are 1.96 times less likely to timely initiation of breastfeeding than multi parity. Likewise, regarding type of delivery, mothers who delivered vaginally were 0.461 times more likely to initiate breastfeeding than mothers who delivered by caesarean section. The findings is supported by a comparative cross-sectional study conducted in a hospital of Ethiopia, Timely breastfeeding initiation was 79 (51.2%) and 123 (80%) for cesarean and vaginal deliveries, with a vaginal delivery (AOR= 5.50, 95% CI: 1.83-16.57) and multiparity (AOR= 2.14, 95% CI: 1.02-4.50), was significantly associated with timely initiation of breastfeeding.¹⁹

CONCLUSION

The study concludes that nearly half of mother had timely initiation of breast feeding and more than half had done exclusively breast feeding. Furthermore, the study also concludes that there is statistically significant association between the timely initiation of breast feeding and factors such as socio-economic status, type of delivery and parity of the mothers. It is also concluded that timely initiation of breast feeding is significantly linked with practice of exclusive breast feeding.

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