

## Timely Initiation of Breastfeeding and Associated Factors among Mothers of Infants Attending Pediatric Department at Yekatit12 Hospital Medical College Addis Ababa Ethiopia 2019G.C

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**Received:** February 19, 2020; **Published:** September 29, 2020

### Abstract

**Introduction:** Timely initiation of breastfeeding is defined as putting the newborn to the breast within one hour of birth. Timely initiation of breastfeeding has a major contribution to the survival of newborns. In developing countries, early initiation of breastfeeding could save as many as 1.45 million lives each year. However, there is paucity of data about it. This study aimed at assessing timely initiation of breastfeeding and associated factors among mothers of infants attending the pediatric department at yekatit12 hospital medical college.

**Methods:** An institutional based cross-sectional study was conducted from June to July 2019. A total of 228 mother-infant pairs were included in this study. The data were collected using face to face interview. Both bi-variable and multivariable logistic regression analyses were used to identify factors associated with timely initiation of breastfeeding. The results were presented using descriptive and analytic analyses. P-values < 0.05 were considered statistically significant.

**Results:** prevalence of timely initiation of breastfeeding in Addis Ababa Yekatit 12 Hospital was 69.7%. place of delivery home (AOR = 6.19; 95 CI = 1.43, 9.29), ANC follow up (AOR = 5.73; 95 CI = 3.94, 8.68) and maternal health condition immediately after delivery (AOR = 1.267; 95 CI = 1.062, 3.54) were significantly associated with timely initiation of breastfeeding.

**Conclusion:** In this study timely initiation of breastfeeding was less as planned set by the Ethiopian Ministry of Health's Health Sector Development Program Four (HSDP-IV). Strengthening timely initiation of breastfeeding through provision of antenatal care services, educating mothers and strengthening health professional's knowledge, and skills on breastfeeding counseling were recommended.

**Keywords:** Timely Initiation; Breast Feeding; Yekatit 12 Hospital Medical Collage

### Abbreviations

ANC: Antenatal Care; CI: Confidence Interval; C/S: Cesarean Section; EPI: Expand Program of Immunization; EDHS: Ethiopia Demographic and Health Survey; HSDP IV: Health Sector Development Program IV; MCH: Mother to Child Health; MDG: Millennium Development Goal; PNC: Postnatal Care; SPSS: Statistical Package for Social Science; SRS: Simple Random Sampling; TIBF: Timely Initiation of breastfeeding; WHO: World Health Organization

**Citation:** Mekdes Hailegebreal Habte., *et al.* "Timely Initiation of Breastfeeding and Associated Factors among Mothers of Infants Attending Pediatric Department at Yekatit12 Hospital Medical College Addis Ababa Ethiopia 2019G.C". *EC Nutrition* 15.10 (2020): 13-22.

## **Introduction**

### **Background of the Study**

Timely initiation of breastfeeding is defined as putting the newborn to the breast within 1h of birth [1]. Breast Milk is the best food for the infant for the first 6 months of life and it should be initiated within 1 hour of birth, even before the expulsion of the placenta [2]. The advantages of early initiation of breastfeeding include: increases bonding between mother and infant, reduces the risk of upper respiratory tract infections in the child, enhances dental development, aids in cognitive development, and decreases the risk for obesity in later life [3]. Timely initiation of breastfeeding has a major contribution to the survival of neonates. The study showed that 22% of neonatal mortality could be prevented if breastfeeding is initiated within the first hour [4]. Despite this fact only (45%) of newborns started breastfeeding within the first hour of life globally, the result is even lower in developing countries, for example, West and Central Africa (40%), East Asia and Pacific (44%), South Asia (42%), Latin America and Caribbean (49%), Eastern and southern Africa (59%) of newborns initiated breastfeeding within an hour of delivery [5]. In Ethiopia, breastfeeding practice is universal were more than 90% of mother's breastfeed, but it is sub-optimal [6,7]. In Ethiopia neonatal mortality rate was 37 deaths per 1,000 live births [8]. If all babies started breastfeeding within one hour of live birth, it would reduce to 22% of all neonatal deaths [9] which will contribute to the achievement of the Millennium Development Goal IV that contributes to the two-thirds reduction in child mortality. Timely initiation of breastfeeding is influenced by several factors: illiteracy [10,11], being rural residents, mothers who had not been following antenatal care [12], home delivery [12,13], cesarean section and cultures beliefs [14].

In developing countries alone early initiation of breastfeeding could save as many as 1.45 million lives each year by reducing deaths mainly due to diarrheal disorders and lower respiratory tract infections in children [15]. Despite improvements in the prevalence of EIBF from 52% in 2011 to 74.3% in 2016, this percentage still falls well short of the EIBF target of 92% set by the Ethiopian Ministry of Health's Health Sector Development Program Four (HSDP-IV) [16]. This indicates the presence of existing barriers or new barriers that necessitates further investigations. Therefore, the purpose of this study was to assess timely initiation of breastfeeding and associated factors among mothers of infants attending the pediatrics department at yekatit12 hospital medical college Addis Ababa Ethiopia.

### **Significance of the Study**

Early initiation of breastfeeding saves many infants if it is practiced timely and barriers were avoided. Therefore, this study plays a significant role in the following:

- Used by policymakers while designing an intervention that improve timely initiation of breastfeeding strategies by revealing the cause for not starting timely initiation of breastfeeding
- For nursing education department, incorporate into the curriculum.
- For the mothers, to improve quality of life.
- To hospitals, to shift budgets for designing strategies and to decrease hospitalization.

### **Objective of the Study**

#### **General objective**

- Assess timely initiation of breastfeeding and associated factors among mothers of infants attending the pediatric department at Yekatit12 Hospital Medical College.

### **Specific objectives**

- Assess the magnitude of timely initiation of breastfeeding among mothers of infants attending the pediatric department at Yekatit12 Hospital Medical College, Addis Ababa Ethiopia.
- Identify factors affecting the timely initiation of breastfeeding among mothers of infants attending the pediatric department at yekatit12 hospital medical college, Addis Ababa Ethiopia.

### **Material and Methods**

#### **Study area**

The study was conducted in Addis Ababa the capital city of Ethiopia. This study was conducted at Yekatit 12 Hospital Medical College. It is one of the referral hospitals in Addis Ababa among six hospitals where a large number of mothers gave birth. There was a total of 228 study samples of study participants who had children less than six months and visited the pediatric department in the study area.

#### **Study period**

The study periods were from July 1<sup>st</sup> - July 30, 2019.

#### **Study design**

The institutional-based cross-sectional study design was conducted to assess timely initiation of breastfeeding and associated factors among mothers of infants attending the pediatric department at Yekatit12 Hospital Medical College Addis Ababa Ethiopia 2019.

#### **Populations**

##### **Source population**

All mothers of infant less than six months of age visited pediatrics departments at Yekatit12 Hospital Medical College.

##### **Study population**

Samples of mother with infants of age less than six months attending pediatric department at Yekatit12 Hospital Medical College.

##### **Sample size determination**

To determine the number of mothers who were included in the study, the single population proportion formula was used based on the following assumption:

- a) The level of confidence of the study 95%,
- b) Margin of error is 5%,
- c) The proportion (P) is 88.8% which estimates the prevalence of timely initiation of breastfeeding among urban women's conducted at eastern Ethiopia in 2014 [11].

Accordingly, by using the following single population formula of the sample size:

$$N = (1.96)^2 \times 0.9 (1-0.9)/(0.05)^2 = 138$$

Since the study sampling population is less than 10,000 which is 476.

To get sample from the total population, used correction formula. The exact sample size; therefore, is calculated as follows:

$$nf = ni * N / ni + N$$

Where ni = Calculated sample size

nf = Exact sample size

N = Sample population

$$nf = ni * N / ni + N = 138 \times 476 / 138 + 476 = 65688 / 614 = 107$$

Design effect 1.5 since multi stage was used

So,  $138 * 1.5 = 207$ , considering non response rate of 10%

The final sample size is 228.

### **Sampling procedure**

The sampling procedure for the research was a systematic random sampling method. Every K<sup>th</sup> value (two) was included in study. Yekatit12 hospital medical college attending pediatric department mothers selected by lottery method. The total proportional of mothers who have children less than six months of age of selected Yekatit12 Hospital Medical Colleges were 6192.

Based on number of mothers who have less than six month's old Infants, the total samples size was distributed for each pediatrics department by using the probability proportion to size (PPS) sampling technique. For each pediatrics department to proportionate of the number of sample, participants have determined by using,  $n = nf / N * ni$

Where ni = Number of mothers who have Infants under six months old in each selected pediatrics department.

nf = Total sample size

N = Total number of mothers who have Infants under less than six months of age in selected pediatrics department.

n = Number of respondents to be selected from each pediatrics department.

### **Inclusive criteria**

- Mothers who have less than six months of age Infants and visited pediatrics department were included in study.

### **Exclusive criteria**

- Mothers who were unable to respond to the interview because of hearing impairment and communication problem,
- Mothers of infant with critically ill,

- Mothers who were not willing.

### Study variables

#### Dependent variables

- Timely initiation of breastfeeding.

#### Independent variables

- **Socio-demographic factors:** Age, educational status of the mother.
- **Obstetric factor:** Place of delivery, birth attendant, mode of delivery and parity, full term and preterm baby.
- **Health service related factors:** Attendance of antenatal care services, number of antenatal visits, advice on TIBF by healthcare staff during ANC and mothers counseled on TIBF at PNC.
- **Traditional belief:** Removing of colostrum and pre lacteal feeding.

#### Data collection tool and quality assurance

Data were collected using a pre-tested interviewer-administered structured questionnaire. The questionnaire was adopted from related literature [13-15] and translated into the local language. It contains socio-demographic information, obstetric factors, health service related factors, and traditional belief related factors. The instrument validity was assured by applying validity criteria and reliability assured by the stability of responses of participants under similar situations.

#### Data processing and analysis

The data was cleaned and entered into Epi Info 7.1.4.0 software. Then it was exported into SPSS version 20 for analysis. Descriptive analysis was computed to determine frequency of the variables. Binary and multivariable logistic regressions were used to identify factors that affect early (Timely) initiation of breast feeding; the degree of association between independent and dependent variables was assessed using odds ratio with 95% confidence interval. Finally, variables with  $p < 0.05$  on the multivariable logistic regression analysis model were statistically significant with the outcome variable.

#### Data quality control

A training that focused on understanding the research question, sampling technique, data handling, ethical conduct, and quality of data collection was given for two days for the four data collectors and two supervisors. Each data collector checked the questionnaires for completeness before winding up their visit to each study participant and each questionnaire was reviewed daily by the supervisors and the principal investigator to check for its completeness and early corrections and cleaned of the data were made.

#### Ethical consideration

Ethical clearance was obtained from and in order to obtain permission letter received at Yekatit12 hospital medical college. We were contact. Then the participants was informed about the purpose of the study, the importance of the study, full confidentiality, withdraw at any time and written consent was obtain prior to data collection. Privacy and confidentiality of information given by each respondent was

keep properly and number code was used otherwise names was not record.

Ethical approval was obtained from Ethical review committee of Saint Paul Hospital Millennium Medical College. A formal letter was obtained from medical service administrative office of the hospital. The participants were informed about the purpose, procedures, and benefits of the study. Written informed consent was obtained from the participants. The information obtained was kept anonymous, thereby ensuring confidentiality. The study participants were ensured that refusal or withdrawal from the study would not put at risk their access to care.

## Results

A total of 228 mothers with response rate of 100% were included in the study. Most of the respondents were between the age 25 - 29 which accounts 35.5% and majority of mothers (52.6%) were housewives. Among the respondent's most of the mothers were educated (91.7%). From all respondents' (69.7%) feed their infant timely (within one hour) while the rest (30.3%) started to feed after one hours of delivery.

Most of the respondents (98.7%) attended ANC at least 3 visit and 1.3% did not attend ANC during their pregnancy.

Most of the respondents (93.4%) didn't squeeze and throw colostrum while 6.6% of them squeeze and throw breast milk than feeding their newborn.

Characteristics	Frequency	Percent (%)
<b>Age</b>		
18 - 24	89	39
25 - 29	81	35.5
30 - 34	41	17.9
35	17	7.45
<b>Type of work</b>		
Housewife	120	52.6
Employed	84	36.8
Businesswomen	18	7.9
Daily labor	4	1.8
Student	2	0.9
<b>Level of Education</b>		
Educated	209	91.7
Illiterate	19	8.3
<b>Marital status</b>		
Married	114	50.00
Single	109	48.00
Separated	5	2.00

**Table 1:** Socio demographic characteristics of respondents, Ethiopia, 2019 G.C.

In the bivariate logistic regression analysis (See table 2), found existence of strong relationship between timely initiation of breastfeeding and mothers place of delivery, ANC follow up, mothers who have admitted to hospital after delivery, those who squeeze and throw colostrum. Those who gave birth at the health institution are 3.35 more likely to start timely initiation of breast feeding than those who gave birth at home (COR = 3.35; 95% CI = 2.32, 4.89). The participants who have admitted to hospital after delivery due to illness are 1.54 times less likely to initiate timely breastfeeding than those who did not (COR = 1.54; 95% CI = 1.37, 3.50). No statistically significant relationship was detected between respondent's level of education, those who give anything to eat/drink, mothers who sleep with their baby while admitted and timely initiation of breastfeeding of mothers.

Variables that were found to be statistically significant in the bivariate analysis at p-value < 0.05 were included in the multivariate logistic regression to identify factors that best predict timely initiation of breast feeding among breastfeeding mothers. As shown in table 2, only place of delivery, ANC follow up and mothers who were admitted after delivery due to illness was significantly associated with timely initiation of breastfeeding among breastfeeding mothers. In this regard, respondents who gave birth at the health institution were 6.19 more likely to initiate timely breastfeeding than those who gave birth at home (AOR = 6.19; 95 CI = 1.43, 9.29), ANC follow up (AOR = 5.73; 95CI = 3.94, 8.68) and respondents 'who admitted after delivery due to illness were 1.26 less likely to initiate timely breastfeeding (AOR = 1.26; 95 CI = 1.22, 3.54).

Variables	Timely initiation of breast feeding		Crude Odds Ratio (COR)			Adjusted Odds Ratio (AOR)		
	Yes (%)	No (%)	p-value	COR	95% CI	p-value	AOR	95% CI
<b>Have you ever breast-fed your Infants?</b>	125 (54.8%)	37 (16.2%)	0.01	0.063	1.018, 0.223	0.101	1.29	0.87, 1.38
Yes	38 (16.7%)	28 (12.3%)						
No								
<b>ANC follow up</b>			0.03	2.56	1.345, 4.34	0.002	5.73	3.94, 8.68
Yes	201 (96.6%)	2 (0.87%)						
No	24 (10.5%)	1 (0.43%)						
<b>How long after birth did you first put your Infants to the breast?</b>	136 (59.7%)	12 (5.3%)	0.004	0.171	1.051, 2.574	0.136	4.80	0.11, 2.83
With in one hr	23 (10%)	57 (25%)						
After one hr								
<b>Did you squeeze out and throw Away the first milk (colostrum)?</b>	143 (62.9%)	8 (3.6%)	0.03	4.47	0.191, 6.79	0.90	1.1	0.251, 4.78
Yes	70 (30.5%)	7 (3%)						
No								

<b>Had your baby given anything to drink/eat before breast milk give?</b>								
Yes	18 (8.1%)	175 (76.6%)	0.063	0.224	0.069, 0.72	0.061	4.77	0.93, 24.42
No	14 (6.1%)	21 (9.2%)						
<b>Have you been admitted hospital immediately after delivery from any illness?</b>								
Yes	58 (25.4%)	94 (41.2%)	0.016	1.54	1.37, 3.50	0.03	1.267	1.22, 3.54
No	12 (5.3%)	64 (28.1%)						
<b>Had your Infants been sleeping with you while you were admitted?</b>								
Yes	41 (18.1%)	101 (44.4%)	0.674	1.789	0.423, 1.34	0.25	0.231	0.053, 3.45
No	29 (12.6%)	57 (24.9%)						
<b>Place of delivery</b>								
Home	7 (3.2%)	16 (6.9%)						
Institution	155 (67.8%)	50 (22.1%)	0.002	3.35	2.322, 4.89	0.007	6.19	1.43, 9.29
<b>Level of Education</b>								
Educated	166 (72.8 %)	8 (3.5%)						
Not educated	43 (18.9%)	11 (4.8%)	0.818	1.144	0.363, 3.60	0.10	0.237	0.042, 4.34

**Table 2:** Results of bivariate and multivariate logistic regression analysis, Ethiopia, 2019G.C.

## Discussion

This study assessed timely initiation of breast feeding and associated factors among mothers of infants at Yekatit 12 Referral Hospital and majority of mothers (69.7%) fed their infant timely (within one hour) of delivery while the rest (30.3%) starts to fed after one hours of delivery. The finding of this study was almost comparable with the study conducted in Dembecha district where 73.1% of mothers initiated breastfeeding timely [18].

Furthermore, this finding was higher than the findings of studies in South Gondar and Debrebirehan town where only 48.1% and 62.6% of mothers, respectively, were initiated breast feeding timely [19,20]. In addition, this finding was higher compared against study or a systematic review and meta-analysis made on sixteen studies all over Ethiopia (61.4%) [21]. The variation of the findings might be presence of cross cultural habit of the respondents and difference in design.



The prevalence of timely initiation of breastfeeding in this study was higher than that reported in Pakistan (29%), India (41%), Bangladesh (47%) and Nepal (45%) [22]. Similarly, the finding of this study was also higher than other sub-Saharan countries Demographic and Health survey (DHS based studies: Nigeria (47%) and Tanzania (52%) [23]. The possible explanation for higher rate of early initiation of breastfeeding in this study could be due to the fact that methodological difference, variation in infant and maternal socio-demographic characteristics, economical and health service utilization.

On the other hand, the prevalence of timely initiation in this study was lower than the findings of studies done in Bahir Dar, Motta and Wolayita town in which timely initiation of breastfeeding was 75.4%, 78.8% and 81.1% respectively [24-26].

In this study mothers who gave birth at health institution were almost 6.19 times more likely to initiate breastfeeding within 1 hr. as compared to women who gave birth other than health institution. This is consistent with studies which have been conducted in South Gondar, Motta town and Bahir Dar [AOR 3.1; 95% CI 2.2, 4.6], [AOR = 3.486 (1.253, 9.700)] and [AOR 3.36; 95% CI 1.47, 7.670] respectively [19,24,25].

Antenatal counseling about breast feeding given for the mothers was one of the statistically significant variables which was found to be associated with Timely initiation of breast feeding [AOR = 5.73; CI 95% CI = 3.94, 8.68]. This finding was in line with the study conducted in Dembecha and Bahir Dar [AOR 3.1; 95% CI = 1.2, 8.0] and AOR 5.64; 95% CI 2.7, 11.79] respectively [18,24].

## **Conclusion and Recommendations**

Prevalence of timely initiation of breast feeding in the study area was low compared to EDHS 2016 plan. Therefore, Antenatal care, institutional delivery should be strengthened.

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**Volume 15 Issue 10 October 2020**

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