Determinants of Early Initiation of Breastfeeding in West Belessa District, Northwest Ethiopia

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ABSTRACT

BACKGROUND: The world is now suffering from malnutrition and remains one of the leading causes of death for under 5 children. Children from developing countries, including Ethiopia also suffer from undernutrition due to suboptimal breastfeeding practice. Therefore, the aim of this study was to assess the EIBF practices and determinants among children aged less than 24 months in West Belessa district, Northwest Ethiopia, 2019.

METHODS: A community-based cross-sectional study was conducted from January 2 to February 28, 2019 in the West Belessa district. A total of 569 mother-children pairs were participated in the study. Study particnanapants were selected by using simple random sampling technique. The data were collected by an interviewer-administered structured questionnaire. Data were entered and analyzed by using Epi-Info version 7 and SPPS version 20, respectively. Bi-variable and Multivariable logistic regression analysis were done. Odds ratio with 95% confidence was done to determine the level of significance value less than .05 considered as significant with the outcome variable.

RESULT: The prevalence of early initiation of breastfeeding (EIBF) was found to be 77.7 % (95%CI, 74.3-81.0). Age of the mother (AOR = 2.76, 95%CI [1.21, 6.27]), antenatal care (ANC) (AOR = 3.79, 95%CI [2.58, 9.94]), and number of antenatal care visit (AOR = 1.85, 95%CI [1.03, 3.85]) were significantly associated with early initiation of breastfeeding.

CONCLUSION AND RECOMMENDATION: In this study, more than three fourth of children were received early initiation of breastfeeding within 1 hour after delivery. Age of the mother, antenatal, and number of antenatal care were associated with EIBF. Therefore, during this contact period, improve antenatal services by increasing accessibility and providing counseling is important to improve EIBF utilization.

KEYWORDS: Early initiation of breastfeeding, children, West Belessa

Background

Optimal breastfeeding is important for maintaining the health and well-being of women and children. It helps to make the world healthier, more educated, and more sustainable.[1,2] The Benefits of Early Breastfeeding (EIBF) for mothers and babies are well documented, including allowing newborns to take colostrums, which helps newborns acquire protective factors such as antibodies.[3] EIBF help bonding between the mother and her baby, reduce diarrhea, decrease the incidence of postpartum hemorrhage, and ensure longer breastfeeding duration.[2,4-6] In addition, EIBF can reduce neonatal mortality and morbidity.[7,8]

Globally, optimal breastfeeding practices prevent 12% to 13% of deaths among under 5 years of children,[9] and 87% of those children are younger than 6 months.[1] In Asia and Africa, the first hour of breastfeeding can prevent 19.1% and 22% of newborn deaths, respectively.[2,10] Increasing breastfeeding practice worldwide can save the lives of more than 820 000 under 5

children.[1] In addition, breastfeeding can prevent approximately 20 000 mothers from dying from breast cancer.[1,11]

Globally; less than 20% of newborns are breastfed within the first hour of life; most are in low-income countries,[1] so more than 20 million newborns still fail to start breastfeeding early.[12] The prevalence of early initiation reports varies from region to region. Approximately 35% of newborns in the Middle East and North Africa and 65% of newborns in Eastern and Southern Africa are breastfed within the first hour of life.[13] According to the report from WHO and UNICEF, 42% of newborns are breastfed within the first hour after delivery, and most of them come from low- and middle-income countries.[14] The reports among 29 sub-Saharan African countries ranged from 37.4% to 69.31%.[15] In Ethiopia, 47.3% to 78.8% of newborns receive EIBF practice.[16,17]

According to different findings, and WHO/UNICEF report, the factors associated with the early initiation of breastfeeding practice differ with socioeconomic, demographic,

behavioral and cultural factors of mothers, postnatal care (PNC), residence, wealth index, place and mode of delivery, age of the infants, gender and birth order of the infant and professional counseling on breastfeeding, and obstetric and health service related factors were associated with early initiation of breastfeeding.[18-23]

Especially, emphasis including implementing the National Nutrition Program (NNP), Community Integrated Management of Childhood Illness (CIMCI), and Infant and Young Child Feeding (IYCF) guidelines have been developed by the government of Ethiopia to considerably decrease neonates, infants and child mortality, morbidity, and undernutrition.[19,24,25] However, according to WHO's standard recommendations (90%),[26] EIBF is still low, which may be due to the lack of a culture-orientated approach.[27] In addition, the study area has not previously studied the factors of early initiation of breastfeeding, and this finding will bridge the gap. Therefore, the study aimed to assess early initiation of breastfeeding and associated factors among children less than 24 months living in Belessa district.

Method

Study design and period

A community-based cross-sectional study was conducted from January 2 to February 28, 2019 to assess the prevalence and associated factors of early initiation of breastfeeding among children less than 2 years in West Belessa District, Northwest, and Ethiopia. West Belessa District is found in North Gondar Zone, Amhara Regional State, and North West Ethiopia and is located 84 km from central Gondar Zone town- Gondar and 748 km from the capital city of Ethiopia, Addis Ababa. The district has 30 Kebeles (27 rural and 3 urban) with 8 health centers, 27 rural health posts, and 3 urban health posts. According to the 2011 E.C Ethiopian population projection the district has the total population 198 967. Among these 99 881 were male and 99 086 were females. Of this, 26 940 are under-5 children.

Source population and study population

All children aged less than 24 months old with mothers/caregivers who lived in West Belessa district were used as the source population. All mother with children aged less than 24 months living in the selected Kebeles from the West Belessa district with mothers/caregivers were the study population.

Inclusion criteria

All mothers who have children age less than 24 months living in the district was included in the study.

Sampling techniques and procedures

All children aged less than 24 months old residing in West Belessa District was entitled to this study. The sample size was determined to apply a single proportion formula by considering the following assumption; the prevalence of an early

initiation of Breastfeeding 66% for EDHS 2016 in the Amhara region,[27] 95% confidence level and 5% of a margin of error. Finally, by considering 10% of non-response rate and 1.5 of design effect 569 final sample size was obtained. Initially, Kebeles were stratified into urban and rural. Of the total 30 kebeles, 8 (1 urban and 7 rural) were selected by simple random sampling using the lottery method. Lists and the total number of infants and young children in all Kebeles of the district were obtained from health extension workers. Then, the total numbers of children less than 24 months included in the study were proportionally allocated. Finally, the simple random sampling technique was used to select participants.

Data collection tool and procedures

Data was collected through face to face interview based structured questionnaire. The tool was taken from Ethiopian Demographic and Health Survey (EDHS) 2016,[17] and the previous similar published literature[28-30] with some modifications. The questionnaire was prepared originally for English and translated into Amharic back to English to keep reliability. The questionnaire included socio demography characteristic of the caregiver and the child, and health seeking behavior of the study participants were included. A total of 8 data collectors were involved; 6 for data collection and 2 for supervision. Two days of training were provided for data collectors and supervisors on how to extract information by using interviewer structured questionnaires. About 5% of pre-tested was done out of the study site. Close supervision was done by the supervisors and the investigator during data collection. Daily data correction was made before the next data collection took place.

Data processing and analysis

All returned questionnaires were checked for completeness and consistency of responses manually. The cleaned data were entered and analyzed by using EPI info version 7 and Statistical Package for Social Sciences (SPSS) version 20, respectively. Descriptive such as figures, tables, and frequencies were used to summarize variables. Logistic regression analysis was used to check variables associated with each dependent variable. Hosmer-Lemeshow goodness of fit test used to test the adequacy of the model. Variables with P-value less than .2 in the bivariable analysis were screened for transferring into the multivariable logistic regression analysis. Both Crude Odds Ratio (COR) and Adjusted Odds Ratio (AOR) with the corresponding 95% Confidence interval (CI) were calculated to show the strength of association. Finally, in the multivariable analysis, variables with a P-value less than .05 were considered as statistically significant.

Variable measurnemts

Early initiation of breastfeeding: the ration of neonates born in the past 24 months who have been put on the breast within 1 hour of birth.[31]

The household wealth index was determined by using the Principal Component Analysis (PCA) considering the household properties, for instance the amount of cereal products, house, livestock, and agricultural land ownership. Initial, variables were dichotomized as 0 and 1. Then after, the coded variables entered and analyzed using PCA, and those variables having a communality value of greater than 0.5 were used to produce factor scores. Finally, the factor scores were summed and ranked into poor, medium, and rich.

Results

Socio demographic and economic characteristics of the participants

A total of 569 participants have participated in this study. Nearly, two-thirds (60.8%) of the caregivers were in the age range of 20 to 34 years old. Almost all (91%) of the participants were Orthodox by religion and employed. The majority (84.7%) of the mothers were married and unable to read and write. More than three-fourth (78.9%) of the participants were living in a rural residence. Nearly one-third (32.2%) of the caregivers had to live in the poor house tertiles (Table 1).

More than half (53%) of the children were male. Nearly, two-thirds (65.73%) of the children are in the age range of 12 to 24 months. Nearly two-thirds (64.5%) of children have a birth weight between 2.5 and 4.0 kg. Three-quarters (77.2%) of mothers had received all types of ANC during their last pregnancy, and more than half (57.5%) of mothers gave birth in health institutions (Table 2).

Prevalence of early initiation of Breastfeeding

According to this study, it was found that the prevalence of early initiation of breastfeeding in West Belessa district was 77.7% (95% CI, 74.3-81.0).

Factors affecting early initiation of Breastfeeding

The output of the multivariate logistic regression showed that the mother's age, the number of ANC visits and ANC visits were significantly related to the outcome variables. But, sex and age of the child, birth weight, gestation at birth, types of birth, head of the Household, residence, wealth index, marital status, place of delivery, family size, occupation, and educational status of the mother were not associated with EIBF.

Mothers who age 35 and above were 2.76 times more practicing early initiation of breastfeeding within 1 hour (AOR: 2.76; 95% CI [1.21, 6.27]) as compared to age less than 20 years' old mothers.

Mothers having ANC visits during pregnancy period was 3.79 times more initiate breastfeeding within 1 hour (AOR: 3.79; 95%CI [2.58, 9.94]) as compared with the mother without ANC visit and ANC visits having 1 up to 3 were 1.85 times more initiate breastfeed within 1 hour (AOR: 1.85; 95%CI [1.03, 3.35]) as compared with mothers haven't any ANC contact (Table 3).

Table 1. Socio demographic and economic characteristics of respondents, West Belessa District, Northwest Ethiopia, 2019 (n=569).

VARIABLE	FREQUENCY (N)	PERCENTAGE
Age of the mother		
<20	113	19.9
20-34	346	60.8
≥35	110	19.3
Religion of the mother		
Orthodox	518	91
Muslim	51	9
Marital status		
Married	482	84.7
unmarried	87	15.3
Educational level of the mother		
Unable to read and write	454	84.7
Able to read and write (informal education)	48	8.4
Primary education	44	7.0
Secondary education and above	23	4.0
Head of the household		
Mother	195	34.3
Father	374	65.7
Occupation of the mother		
Un employed	51	9.0
Employee	518	91
Residence		
Rural	449	78.9
Urban	120	21.1
Family Size		
1-4	286	50.3
5-7	211	37.1
≥8	72	12.7
Numbers of under five children		
1	438	77
≥2	131	23
Wealth index		
Poor	183	32.2
Middle	203	35.7
Rich	183	32.2

Table 2. Infant, children socio demographic characteristics and health seeking behavior of the caregivers, West Belessa, Northwest Ethiopia, 2019 (n = 569).

VARIABLE	FREQUENCY (N)	PERCENTAGE
Child characteristics		
Sex of the child		
Male	334	53.0
Female	296	47.0
Age of the child		
6-11 months	195	34.27
12-24 months	374	65.73
Type of birth		
Single	554	97.4
Twin	15	2.6
Birth weight of the child		
<2.5 kg	84	14.8
2.5-4.0 kg	367	64.5
>4.0 kg	118	20.7
ANC visit		
No	130	22.8
Yes	439	77.2
No. of ANC visit during last pregnancy		
None	130	22.8
1-3 times	207	36.4
4 and above	232	40.8
Place of delivery		
Home	242	42.5
Health institution	327	57.5
PNC visits		
No	244	42.9
Yes	325	457.1
Gestational age		
<36 weeks	26	4.6
37-41 weeks	509	89.5
≥41 weeks	34	6.0

Discussion

Putting newborns to the breast in the first hour after birth gives them the best chance to survive, grow and develop to their full potential, but efforts to improve breastfeeding practice has not made significantly, especially the practice of early initiation of breastfeeding is not an easy feat, because of poorly integrated action including government, private, community, and households. Therefore, the aim of this study was to assess the prevalence and factors affecting the early initiation of breastfeeding practice among children aged less than 24 months old in the West Belessa District.

Current research results show that the early breastfeeding prevalence in West Belessa is 77.7% (95%CI, 74.3-81.0). This finding is similar to the results of Debre Tabor 76.8%,[29] Motta 78.8 %,[32] Dembecha 73.1%,[30] and EDHS 2016 74.3%.[20] The possible report may be that most previous and current studies may have similar research settings and target populations. However, the current survey results are higher than Ghana (46%), Gambia (48%), Pakistan (29%), India (24.5%), and China (23.2%),[33] Gurage zone, 47.3%,[16] Bangladesh 66.7%[34] and observational and partial experimental studies conducted in Bangladesh, India, Ghana and Tanzania, 57.2%.[35] This difference may be due to cultural differences between these countries, beliefs and myths about colostrums, and EIBF.

Mothers who age 35 and above years were 2.76 times more practicing early initiation of breastfeeding in 1 hour as compared to age less than twenty years' old mothers. This report is consistent with Nigeria's report.[36] A possible explanation may be that, as they age, it is reported that women who have more than 1 child may start breastfeeding earlier than women who have the first child.[37] In addition, at a very young age, unintended pregnancy may occur, which can hinder the early initiation of breastfeeding.[38,39] There is a significant delay in the time when primiparous mothers start EIBF attention after delivery.[40,41]

Furthermore, the mother with age may increase have the chance to gain experience of starting the early initiation of breastfeeding.

In contrast, we found that young mothers are more likely to start breastfeeding as early as 1 hour after delivery.[42-44] This may be because young mothers may have the opportunity to obtain a good education for their children's upbringing status and the importance of EIBF practice for mothers and children. In addition, the benefits of EIBF for family planning and social support.[37]

ANC and Number of ANC visits had more likely to early initiation of breastfeeding their infants than their counterparts. This finding is similar to the report of India,[45] Nigeria,[46] Uganda,[47] pocket area study of Ethiopia.[16,48,49] The possible explanation might be due to a mother having attended in critical time might be obtained counseling and support services about recommended feeding practices for neonatal and Infants by the health development army, health extension workers, health professionals from health posts, maternal and child health clinic might be the possible explanation for this. In addition, ANC are also recommended improving mothers' awareness and benefits of early initiation of breastfeeding and

Table 3. Bivariate and multivariable logistic regression output showing that factors associated with initiation of breast feeding among children age less than 2 years, West Belessa District, Northwest Ethiopia, 2019.

VARIABLES	EIBF		CRUDE ODDS RATIO WITH 95% CI	ADJUSTED ODDS RATIO WITH 95% CI
	WITHIN 1 H (EARLY, %)	AFTER 1 H (%)		
Marital status				
Married	367 (76.1)	75 (23.9)	1.96 (1.03,3.73)	1.31 (0.51,3.39)
Not married	115 (86.2)	12 (13.8)	1	1
Place of delivery				
Home	172 (71.1)	70 (28.9)	1	1
Health facility	270 (82.6)	57 (17.4)	1.93 (1.29, 2.87)	1.28 (0.73, 2.26)
Numbers of ANC visits				
None	73 (56.2)	57 (43.8)	1	1
1-3 times	165 (79.7)	42 (20.3)	0.34 (0.20, 0.57)	1.85 (1.03, 3.35)*
≥4 times	204 (87.9)	28 (12.1)	0.18 (0.10, 0.33)	1.34 (0.77, 2.37)
Age of the mother				
<20 years	98 (86.7)	15 (13.3)	1	1
20-34 years	273 (78.9)	73 (21.1)	1.75 (0.96, 3.19)	1.78 (0.91, 3.50)
≥35 years	71 (64.5)	39 (35.5)	3.59 (1.84, 7.01)	2.76 (1.21,6.27)*
Household wealth status				
Poor	146 (79.8)	37 (20.2)	1	1
Middle	151 (74.4)	52 (25.6)	1.63 (0.84,2.19)	0.99 (0.55, 1.78)
Rich	145 (79.2)	38 (20.8)	1.03 (0.62, 1.72)	1.25 (0.67, 2.33)
Head of the household				
Mother	177 (90.8)	18 (9.2)	0.25 (0.15, 0.42)	0.45 (0.22,0.90)
Father	265 (70.9)	109 (29.1)	1	1
Residence				
Urban	113 (94.2)	7 (5.8)	0.04 (0.01, 0.18)	0.25 (0.45,1.28)
Rural	234 (72.2)	125 (27.8)	1	1
ANC visits				
No	73 (56.2)	57 (43.8)	1	1
Yes	369 (84.1)	70 (15.9)	4.12 (2.68, 6.33)	3.79 (2.58,9.94)*
PNC visits				
No	176 (72.1)	68 (27.9)	1	1
Yes	266 (81.8)	59 (18.2)	0.57 (0.39, 0.85)	0.65 (0.40, 1.07)

improve behavioral change to conquered cultural barriers of infant and child feeding practices.[50] However, this study has some limitations. For example, recall bias is one of the limitations because we included mothers with children less than 24 months old, which may lead to overestimation or underestimation of EIBF practice. As well, we authors were not done triangulated with qualitative data to explore mothers' perception on EIBF.

Conclusion

In this study, more than three fourth of the children received early breastfeeding within 1 hour after delivery. Age of the mother, antenatal and number of antenatal care visits were associated with EIBF. Therefore, during this contact period, improve antenatal services by increasing accessibility and providing counseling is important to improve EIBF utilization.

Acknowledgements

Author Contributions

DD conceived the study, developed the tool, coordinated the data collection activity, and carried out the statistical analysis. AK, BA and MT participated in the design of the study, tool development, and drafting of the manuscript. KA, and AK participated in the design of the study and tool development, performed the statistical, and drafted the manuscript.

Availability of Data and Materials

Data will be available upon request from the corresponding authors.

Ethical Consideration

Before the beginning of the study, ethical clearance was obtained from the Institutional Ethical Review Board University of Gondar. Permission letter was asked and given from the Central Gondar zone health department and West Belessa District health office. Informed consent was obtained from each mother/caregivers who are targets after informing them all the purpose, benefits, risk, the confidentiality of the information and the voluntary nature of participants in the study. The respondents were notified that they had the right to refuse or stop at any point of the interview.

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