Three-fourth of children is received early initiation of Breastfeeding in West Belessa District

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Research

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Abstract

Background: The world is now suffering from malnutrition and remains one of the major causes of under-five mortality. Children from developing countries, including Ethiopia also suffer from undernutrition due to suboptimal breastfeeding practice. Hence, the study aims were to assess early initiation of breastfeeding among children aged less than two years, months in West Belessa district, North West Ethiopia, 2019.

Methods: A community-based cross-sectional study was conducted from January to February 2019 in the West Belessa district. A total of 569 Children was selected by a 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 logistic regression analysis was used to check predictor variables associated with the dependent variable. Variables having a p-value of less than 0.20 in the bi-variable analysis were fitted into the multivariable model. Multivariable binary logistic regression with a 95% confidence interval and Odds Ratio (OR) were computed. Variables having p-value < 0.05 were taken as significantly associated with the dependent variables.

Result: The prevalence of EIBF was 77.7 % (95%CI, 74.3-81.0). Age of the mother (AOR= 2.76, 95%CI (1.21, 6.27)), postnatal Visit (AOR= 1.85, 95%CI (1.03, 3.85)), and Antenatal care (AOR= 2.58, 95%CI (1.18, 9.94)) was significantly associated with EIBF.

Conclusion and Recommendation: We observed, the prevalence of early initiation of Breastfeeding was low in West Belessa District. Age of the mother, Antenatal and postnatal care were associated with EIBF. Hence, improving antenatal and postnatal care services through increase accessibility and providing counseling during this contact time. Keywords: early initiation of breastfeeding, Children, West Belessa

Background

Optimal breastfeeding is significant to the-sustain healthiness and well-being of women and children. It contributes to a world that is made healthier, better educated, and more environmentally sustainable(1, 2). Has long and short effects like help with birth spacing, reduces the risk of breast and ovarian cancers, and lowers the danger of hypertension for mother and combats infectious diseases, reduces frequency and harshness of diarrhea, lowers respiratory infections and acute otitis media, prevents dental caries and malocclusion, and increases intelligence(3–6).

Globally, Optimal breastfeeding practice prevents 12–13% of all under-5 deaths (7), off this 87% were under the age of months(6). Practicing of early initiation of breastfeeding first hour can avert 19.1% and 22% of all neonatal deaths in Asia and Africa, respectively(2, 8). Improving breastfeeding rates around the world could save the lives of over 820,000 children under-age five every year(6). Improving breastfeeding practice could prevent about 20,000 maternal deaths from breast cancer(3, 6).
Most of the world neonates will wait too long to start on breastfeeding. Globally; not over 20% of neonates are received timely initiation of breastfeeding in the first hour of life after birth; they find off these majorities in low-income countries (6), as the result more than 20 million neonates are not still received early initiation of breastfeeding (9). The prevalence of early initiation reports differs across regions. About, 35% and 65% are found in North Africa Eastern, and Southern Africa, respectively (10). Besides, according to the World Breastfeeding Trends Initiative among 84 counties showed to only 42% of women being put on their neonates within an hour of birth, and 41% where practice exclusive breastfeeding (11). Whereas, reports done among 29 sub-Saharan African counties are from 37.4 to 69.31% (12). In Ethiopia, 47.3–78.8% of neonates are received Early Initiation of Breastfeeding (EIBF) practice (13, 14).

Reports showed that residence (15, 16), place of delivery (15), Postnatal care (17), maternal educational status (16–19), maternal age (17), wealth index (18, 20), age of the infants (18), gender and birth order of the infant (18, 20), delivery mode (16, 19) were significantly associated with early initiation of breastfeeding.

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 (21–23). But, EIBF is still low as per the standard recommendation in Ethiopia, maybe due to the lack of a culturally oriented approach (14). Also, factors of early initiation Breastfeeding are not previously studied in the district, and this finding will address this gap. Hence, the study aims were to assess the factors affecting EIBF among under two children living in Belessa District.

Method

Study Design and Period

A community-based cross-sectional study was conducted from January to February 2019 to assess early initiation of breastfeeding among under two years children in West Belessa District, North West, 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 2011E.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-five children (24).

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

**Sampling techniques and procedures**

All children aged 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 early initiation of Breastfeeding 66% for EDHS 2016 in the Amhara region (14), 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. Primarily, District Kebeles were stratified in urban and rural. Among the total of 30 kebeles, eight (one in urban and 7 in rural) were selected by using the lottery method. Afterward, children living in each Kebeles were drawn from the list of registration in the health posts in the Kebeles. Finally, 569 children were selected using a simple random sampling technique.

**Data Collection tool and Procedures**

Data was collected through face to face interview based structured questionnaire. The tool was taken from EDHS (2016), and the previous similar published literature with some modifications. The questionnaire was prepared originally for English and translated into Amharic back to English to keep reliability. A total of six and two data collectors were participated in the data collection process and supervisors, respectively. Two days of training were provided for data collectors and supervisors on how to extract information by using interviewer structured questionnaires. Five percent 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 SPSS version 20, respectively. Early initiation of breastfeeding is dichotomous variables which can be calcified as 1 and 0 as early initiations of Breastfeeding and none- early initiation of breastfeeding, respectively. Descriptive and summary statistics were carried out. Logistic regression analysis was used to check variables associated with each dependant variable. Hosmer-Lemeshow goodness of fit test used to test the adequacy of the model. A P-value ≤ 0.20 was considered statistically significant in the bivariate and a P-value in the multivariate regression less than 0.05 was taken as statistically significant with EIBF.

**Variable Measurnements**

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 (25).
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.

Regarding Dietary Diversity (DDS) was calculated according to world food organization 2008 seven food groups possible to take in the preceding 24 hours recall period. After collecting the food group, the number of different food groups consume by the children within 24 hours. Then, it was classified as adequate if $\geq$ four food groups were consumed, and inadequate if $<$ four food groups were consumed during the specified period(25).

Result

Socio demographic 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 20–34 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. More than one-third (32.2%) of the caregivers had to live in poor house quintiles and received adequate dietary diversity, respectively (Table 1).
Table 1
Socio demographic 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           |
| Others                    | 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**           |              |                |
| Numbers of under five children | 1-4 | 286 | 50.3 |
|-------------------------------|-----|-----|------|
| 5-7                           | 211 | 37.1|
| >=8                           | 72  | 12.7|

| Wealth index                  | Poor | 183 | 32.2 |
|-------------------------------|------|-----|------|
| Middle                        | 203  | 35.7|
| Rich                          | 183  | 32.2|

| Dietary Diversity             | In adequate | 377 | 66.3 |
|-------------------------------|--------------|-----|------|
| Adequate                      | 192          | 33.7|

More than half (53%) of the children were male. Nearly, two-thirds (65.73%) of the children are in the age range of 12–24 months. Three-fourth, (73.1%) of the children was received exclusive breastfeeding. Nearly two–thirds (64.1%) and (64.5%) of children have started their complementary feeding in the recommended time and birth weight in the age range of 2.5 -4.0 kg. Three-fourth (77.2%) of the mother has had all types of ANC visits during their last pregnancy and more than half (57.5%) of the mother was give birth at health institution (Table 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           |
| 2.5-4.0kg                       | 367          | 64.5           |
| >4.0kg                          | 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**                  |              |                |
Prevalence of early initiation of Breastfeeding

According to this study, the prevalence of early initiation of Breastfeeding in the West Belessa district was 77.7% (95%CI, 74.3–81.0).

Factors affecting early initiation of Breastfeeding

As showed in Table 3, after adjusting the confounder variables in the multivariate age of the mother, ANC visits and numbers of ANC visits were had significantly associated with the outcome variable.

Mothers having age thrifty-five and above was 2.76 times more initiate breastfeeding within one hour [AOR: 2.76; 95% CI (1.21, 6.27)] as compared with mothers having less than twenty years old.

Mothers having ANC visits during pregnancy period was 5 times more initiate breastfeeding within one hour [AOR: 2.58; 95%CI (1.18, 9.94)] as the contrast with mother without ANC visit and ANC visits having one up to three were 1.85 times more initiate breastfeed within one hour [AOR: 1.85; 95%CI (1.03, 3.35) as compared with mothers haven’t any ANC contact (Table 3).
Table 3
Bivariate and multivariable logistic regression output showing that factors associated with initiation of Breast feeding among under two children, West Belessa District, northwest Ethiopia, 2019.

| Variables                  | EIBF | Crude Odds Ratio with 95% CI | Adjusted Odds Ratio with 95% CI |
|----------------------------|------|-----------------------------|--------------------------------|
|                            | Within 1 hr (early) | After 1 hr                  |                                 |
| **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) | 5.06(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) |

**Discussion**

Putting newborns to the breast within 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 early initiation of breastfeeding, because of poorly integrated action including government, private, community, and households. Hence, the aim of this study was to assess the prevalence and factors affecting the early initiation of breastfeeding practice among children aged 24 months old in the West Belessa District.

The current study finding revealed that early initiation of breastfeeding in West Belessa district was 77.7% (95%CI, 74.3–81.0). This finding is similar to the study Debre Tabor which is 76.8%(26), Motta 78.8%(27), Dembecha District 73.1%(28), and EDHS 2016 74.3%(18). The possible correspondence might be most of the previous and current studies might similar study settings and target populations. However, the current finding is lower than Ghana (46%) and Gambia (48%) but higher than in Pakistan (29%), India (24.5%) and China (23.2%)(29), Gurage zone, 47.3%(13), Bangladesh 66.7%(30) the study done in Bangladesh observation and partially trial, Ghana, India, and Tanzania, 57.2%(31). The difference might be attributed to cultural differences, beliefs and myths on colostrums, and EIBF among these countries.

Mothers having age thrifty-five and above was 2.76 times more initiate breastfeeding within one hour as compared with mothers having less than twenty years old. This report is consistent that of Nigeria. The possible explanation might be when age increase there is the chance of women having more than one child is reported to begin breastfeeding earlier than women having a first child(32). In addition, at an early age, there may be unwanted pregnancy which hinders early initiation of breastfeeding(33, 34). Furthermore, the mother with age may increase have the chance to gain experience of starting the early initiation of breastfeeding.

ANC and PNC follow up had more likely to early initiation of breastfeeding their infants than their counterparts. This finding is similar to the report of India(35), Nigeria(36), Uganda(37), pocket area study of Ethiopia(13, 38, 39). The possible explanation might be due to a mother having attended in critical time might be obtained counseling and support service 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 and PNC are also recommended improving mothers’ awareness and benefits of early initiation of breastfeeding and improve behavioral change to conquered cultural barriers infant and child feeding practices. However, the study has some limitation for instance; recall bias was one the limitation of this since we were included mothers having children less 24 months. In addition, social desirability was another to count dietary diversity score among children.

Conclusion
the prevalence of early initiation of Breastfeeding was low in West Belessa District. Age of the mother, Antenatal and postnatal care were associated with EIBF. Hence, improving antenatal and postnatal care services through increase accessibility and providing counseling during this contact time.

Abbreviations
ANC
Antenatal care, AOR = Adjusted Odds Ratio, CI = Confidence Interval, CIMCI = Community Integrated Management of Childhood Illness, COR = Crud Odds Ratio, DDS = Dietary Diversity Score, EDHS = Ethiopian Demographic and Health Survey, EIBF = Early Initiation of Breastfeeding, IYCF = Infant and young Child Feeding, PCA = Principal Component Analysis, PNC = Postnatal Care, NNP = National Nutrition Program, SPSS = Statistical Package for Social Sciences, SRS = Systematic Random Sampling.

Declarations
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.

Consent for publication
Not applicable.

Availability of data and materials'
Data will be available upon request from the corresponding authors.

Competing interests
The Authors declare that they have no conflict of interest.
No fund was obtained for this study

Authors’ contribution
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.

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