Predictors of Optimal Breastfeeding Practices Among Mothers Who Have Less Than 24 Months of Age Children in Misha District, Hadiya Zone, South Ethiopia

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Abstract

Background: Inappropriate infant feeding practices and infectious disease constitute about 60% of the infant and young child death globally. About 2/3 of these deaths are attributable to sub-optimal breastfeeding practices. Even though breast feeding is accepted and praised behaviour, mothers do not always follow the recommendations on breast feeding in Ethiopia. Thus, this study aims to determine the optimal breastfeeding practices and associated factors among mothers of children age less than two years in Misha district, South Ethiopia.

Methods: Community-based cross-sectional study was conducted in Misha district using structured interviewer administered questionnaire. The collected data was analyzed using SPSS version 16.0. Logistic regression analysis was used to identify factors associated with optimal breastfeeding practices.

Results: A high proportion 393 (62.7%) of mothers were breastfed their infants sub-optimally while only 234 (37.3%) mothers were breastfed their infants optimally. Wealth index, age of the child, receiving advice on breast feeding, pregnancy intention, place of residence and level of husband education were predictors of optimal breast feeding practices.

Conclusions: Below half (37.3%) of the mothers were breastfed their infants optimally. The place of residence, age of child, husband's literacy, experience of breastfeeding advice, household wealth index and pregnancy intention were among the factors affecting optimal breastfeeding practices. Breast feeding promotion programs are needed for mothers, and should include health extension workers, local community’s health agents, health-care providers and maternity institutions.

Keywords: Predictors; Optimal breastfeeding practice; Misha district; Hadiya Zone; Ethiopia

Abbreviations

ANC: Ante Natal Care; AOR: Adjusted Odds Ratio; CI: Confidence Interval; EDHS: Ethiopia Demographic and Health Survey; ESHE: Essential Services for Health in Ethiopia; ENA: Essential Nutritional Action; IFHP: Integrated Family Health Program; IYCF: Infant and Young Child Feeding; NGO: Non-Governmental Organization; PNC: Post Natal Care; SNNP: Southern Nations Nationalities and Peoples; SPSS: Statistical Package for Social Sciences

Background

Global recommendations on optimal breastfeeding practices includes mother initiating breastfeeding within one hour of birth, breastfeeds frequently day and night (on demand), giving infant only breast milk for the first 6 months, continuing breastfeeding when either she or the infant is sick, mother should eat more than usual (one additional meal), starting complementary feeding by the age of six months, feeding colostrum and continuing breastfeeding until the child is two years of age or older [1]. Globally, 60% of the infant and young child deaths occur due to inappropriate infant feeding practices and infectious disease from which two-thirds of these deaths are attributable to sub-optimal breastfeeding practices [2]. Inappropriate infant feeding practices could have negative effect on child growth and development, especially in developing countries where accessibility of basic health service is not sufficient [3,4].

More than 10 million children under the age of five die each year; 41% of these deaths occur in sub-Saharan Africa and another 34% in South Asia and the major contributor to their death is poor breastfeeding practices [5]. Globally, increasing optimal breastfeeding practices could save an estimated 1.5 million infant lives annually. Up to 55% of infant lives suffer from diarrheal disease and acute respiratory infections may result from inappropriate feeding practices [6].

In order to achieve the Millennium Development Goal 4 (MDG 4), infant breastfeeding has been identified as one of the major intervention areas both globally and nationally [3]. All in all breastfeeding interventions have the potential to prevent 13% of all under five years of age deaths in developing areas of the world, ranking it as the most important preventative approach for saving the life of millions of children; out of this 23% of deaths are preventable as a result of continued breastfeeding in the 6-24 months age group. While, appropriate complementary feeding practices would result in...
an additional 6% reduction in under-five years of age mortality [7,8].

Even though feeding a baby with mother's milk is a well-accepted and praised behaviour in the Ethiopian culture, they do not always follow the recommendations of the "National Strategy for Infant and Young Child Feeding" the guidelines established by World Health Organization and adopted by the Ethiopian Federal Ministry of Health for optimum breastfeeding [9]. Many new-borns are neither breastfed during their first hours of life with colostrum nor exclusively breastfed during their first six months. Instead, they are given liquids and complementary food at an early age [9].

In Ethiopia, like in other developing countries, diarrhoeal is a major contributor of morbidity and mortality in young infants and children, especially in urban areas, due to inappropriate breastfeeding patterns [10]. About 58.0% of the child deaths are attributable to malnutrition, making this, the greatest single cause of child mortality. About 70.0% of infants are sub-optimally breastfed, which is another major contributor to infant mortality rate. Currently 24.0% of infant death is due to poor breastfeeding practices [1].

There are several reasons for poor breastfeeding practices in Ethiopia, including traditional and cultural beliefs, low education levels, heavy workload of mothers, poor sanitary conditions, type of assistance at delivery, duration of stay at home, ethnicity, poor maternal knowledge, age, parity, antenatal care service utilization and place of delivery [11,12]. Alive and Thrive initiative had tried to improve breast feeding practice in Ethiopia; likewise, USAID-funded LINKAGES Project (1996–2006) implemented its programme in Ethiopia and breastfeeding was promoted as part of other essential nutrition actions and child survival interventions in Ethiopian context. The Ministry of Health of Ethiopia has also tried to enhance the practice of optimal breastfeeding practice by developing training manuals and implementation guidelines on breastfeeding; and incorporated it to the primary health care in line with the health extension program but still the practice is far from the global recommendations [13]

There is no study that evaluated the optimal breastfeeding practices after the implementation of the national infant and young child feeding guidelines through the health care system since 2004. Therefore, the objective of this study was to find out breastfeeding mothers adherence to global recommendations on optimal breastfeeding practices and to assess the predictors of optimal breastfeeding practice of mothers who have less than 24 months of age children in Misha district, Hadiya zone, Southern Ethiopia.

Methods

Study Setting

The study was conducted from February 12 to March 6, 2013 in Misha district, Hadiya Zone, Southern Ethiopia. Misha District is found in Hadiya administrative zone of Southern Nations, Nationalities, and Peoples Regional state of Ethiopia. The District has 33 rural and 2 urban kebeles with a total population of 151,121 as projected from the 2007 Ethiopian census (76,361 females and 74,850 males). It has purely about 52% as the national prevalence of exclusive breastfeeding) [14].

The correction formula $n_r = \frac{n_o}{1 + (\frac{n_o}{N})}$, where $n_o$ is the initial sample size, $n_r$ is the final sample size and $N$ is the total number of all estimated mothers who have less than 24 months of age children (1568), was used as the total number of mothers who have less than 24 months of age children in the study area was less than 10,000. Consequently, the corrected sample size became 309. Due to multistage nature of the study, a design effect of 2 was considered and adjustment for a 10% rate of non-responses yielded a final sample size of 679.

Stratified multistage sampling technique was employed for the study. A total of 35 kebeles found in the selected district were stratified in to urban and rural kebele settings using naturally existing strata. One urban and six rural kebeles were randomly selected by using lottery method. The total population size of the seven sampled kebeles was 30,253, out of which 1568 were estimated to be children less than two years of age, from which the required sample size was drawn proportional to the number of population in each kebele.

At each study center, 7 kebeles' family folders (obtained with the help of HEWs) were used to identify households with eligible mother-child pairs. Households from each kebele were then selected by systematic random sampling technique using sampling frame prepared from the family folders. If the houses were closed or the mothers did not present at the time of data collection, frequent visits were made until we could communicate them throughout the data collection. For the household (mothers) which has more than one less than 2 years child, the index child was included in the sample.

Data collection

A pre-tested structured interviewer administered questionnaire was adapted from previous study [15] and reviewing relevant literature to the problem under study to include all the possible variables that address the objective of the study. The questionnaire was translated into 'Hadiyisa' (local language of the study area) and then back translated to English. Translation and back-translation was done to ensure semantic equivalence. The questionnaire contained a combination of open ended and closed ended questions. The questionnaire was designed to obtain information on the maternal socioeconomic and demographic characteristics, maternity experiences and basic information about breast feeding practices.
Interviews with mothers of less than 2 years old children were administered by 7 trained data collectors who were native speaker of ‘Hadiyisa’ language and diploma graduate nurses. The supervision of the survey during data collection was also conducted by 3 trained BSc nurses. Global recommendations of breastfeeding practices were scored out of 8 and ranked in to three (tertiles), When the breastfeeding mothers score the highest tertile of global recommendations of breastfeeding practices categorized as Optimal breastfeeding practice and when the study subjects have scored the lowest two tertiles of global recommendations of breastfeeding practices considered as Sub-Optimal breastfeeding practice.

Data analysis

Data entry was performed using the software Epidata version 3.1. Data was cleaned for inconsistencies, missing value and outliers by checking again and again through data exploration and by cross-checking with the hard-copy questionnaire. The data were then exported to SPSS version 16 for further analysis. Frequency distributions and cross-tabulations were used to describe the variables of the study. The relationship between selected independent variables and dependent variables were explored using bivariate and multivariate logistic regression analysis. The presence and magnitude of association was checked using the odds ratio (OR) with 95% CI. Observed differences between samples were considered statistically significant where the confidence limits did not embrace unity or p < 0.05.

Wealth index analysis was done in order to measure the wealth of the households and Cronbach’s alpha was calculated to be 0.726. The variables which were used to compute the alpha value were entered in to the principal component analysis. Wealth index was constructed using principal components analysis to determine the weights for the index based on information collected about several household assets and facilities. This index was then divided into three categories (tertiles), and each household was assigned to one of these categories of household wealth index (poor, middle and rich).

Ethical considerations

Ethical clearance was obtained from the Institutional ethical Review Board of College of Public Health and Medical Sciences, Jimma University. Permission was obtained from the Misha district health office and support letter was written to each respective kebeles. Additionally, written consents were obtained from all study subjects who participated in the study. Protection of the rights of the study participants was insured by giving them due freedom to participate in the study or not to participate. Privacy and confidentiality were maintained during interview. The subjects were also told any information they provided would be kept confidential.

Results

Socio-demographic characteristics of the study participants

Out of the 679 interviewer administered questionnaires that were run, 671 questionnaires were completed making a response rate of 98.8%. The socio-demographic characteristic of the clients is described in Table 1. More than one third (37.4%) were in the age group 25-29 years and the mean age was 27.9 years (SD ± 5.02 years). More than ninety five percent (95.2%) of the respondents were married. Regarding educational status of the respondents, 463 (69.0%) of the respondents had attended formal school. Of the total mothers interviewed, the majority 555 (82.7%) of them were Protestant by religion and the majority of respondents 645 (96.1%) were unemployed. The mean age

| Variables                        | n  | %   |
|----------------------------------|----|-----|
| Age of mothers (years)           |    |     |
| 15 -19                           | 14 | 2.1 |
| 20 - 24                          | 152| 22.7|
| 25 - 29                          | 251| 37.4|
| 30 - 34                          | 154| 23.0|
| >35                              | 100| 14.9|
| Sex of child                     |    |     |
| Male                             | 338| 50.4|
| Female                           | 333| 49.6|
| Marital Status                   |    |     |
| Single                           | 14 | 2.1 |
| Married                          | 639| 95.2|
| Divorced                         | 12 | 1.8 |
| Widowed                          | 6  | 0.9 |
| Attended formal school           |    |     |
| Yes                              | 463| 69.0|
| No                               | 208| 31.0|
| Religion                         |    |     |
| Protestant                       | 555| 82.7|
| Orthodox                         | 102| 15.2|
| Muslims                          | 4  | 0.6 |
| Catholic                         | 10 | 1.5 |
| Ethnicity                        |    |     |
| Hadiya                           | 626| 93.3|
| Amhara                           | 21 | 3.1 |
| Gurage                           | 20 | 3.0 |
| Others**                         | 4  | 0.6 |
| Maternal employment              |    |     |
| Employed                         | 26 | 3.9 |
| Non employed                     | 645| 96.1|
| Husband’s employment             |    |     |
| Yes                              | 100| 14.9|
| No                               | 571| 85.1|
| Husband’s literacy               |    |     |
| Illiterate                       | 127| 18.9|
| Read and write                   | 102| 15.2|
| Primary level (1-8)              | 232| 34.6|
| Secondary level (9-12)           | 126| 18.8|
| College level and above          | 84 | 12.5|
| Reading magazine, news and book  |    |     |
| Yes                              | 250| 37.3|
| No                               | 421| 62.7|
| Residence                        |    |     |
| Rural                            | 568| 84.6|
| Urban                            | 103| 15.4|
| Household wealth index           |    |     |
| Poor                             | 222| 33.1|
| Middle                           | 225| 33.5|
| Rich                             | 224| 33.4|

Table 1: Socio-demographic characteristics of respondents, Misha district, Hadiya Zone, Southern Ethiopia, 2013.

of the children was 11.08 months (SD ± 7.15). Male children were 338 (50.4%) whereas female children were 333 (49.6) and male to female ratio was 1.02: 1.

Obstetrics and health service related variables

From total of interviewed women, 472 (70.3%) of them received ANC service at least once while only 104 (15.5%) reported visiting health institution for Postnatal care (PNC) for the index child. The majority of 538 (80.2%) of mothers gave birth to their current child in home assisted by traditional birth attendants. More than half (348 (51.9%)) of the respondents were received advice about breastfeeding practice during ANC visit, PNC and elsewhere.

Mothers were also asked about the intention of pregnancy with the index child (Table 2). Four hundred and seventy three (70.5%)
pregnancy of index child were wanted. Twenty nine (4.3%) of the respondents also reported that they were pregnant currently.

Prevalence or pattern of breastfeeding practices

A high proportion 393 (62.7%) of mothers that were interviewed breastfed their infants sub-optimally while only 234 (37.3%) mothers were breastfed their infants optimally. Six hundred sixty nine (99.7%) of the interviewed mothers also reported that they had ever breastfed their children. Among mothers who were breast fed, 491 (73.4%) of mothers initiated breastfeeding within one hour. Moreover, 503 (75.2%) gave colostrum to their child after delivery.

Three hundred seventy one (55.3%) of the respondents reported as they breastfed more than 10 times per day while 258 (38.5%) and 42 (6.3%) of the respondents reported as they breastfed less than 10 times and did not know frequency of breastfeeding respectively. Moreover, 649 (96.7%) mothers were breastfeed for up to 2 years and above while only 22 (3.3%) mothers were breastfed for less than 2 years.

| Variable                           | Number | Percentage (%) |
|------------------------------------|--------|----------------|
| Parity                             |        |                |
| 1                                  | 103    | 15.4          |
| 2-4                                | 322    | 48.0          |
| 5 and above                        | 246    | 36.7          |
| Birth interval of the baby (n=568) |        |                |
| 1                                 | 25     | 4.4           |
| 2-3                               | 451    | 79.4          |
| 4 and above                        | 92     | 16.2          |
| Birth order of the baby            |        |                |
| 1st                                | 103    | 15.4          |
| 2nd                                | 100    | 14.9          |
| 3rd                                | 101    | 15.1          |
| 4th                                | 120    | 17.9          |
| >5th                               | 247    | 36.8          |
| History of ANC                     |        |                |
| Yes                                | 472    | 70.3          |
| No                                 | 199    | 29.7          |
| Experience of BF advice            |        |                |
| Yes                                | 348    | 51.9          |
| No                                 | 315    | 46.9          |
| Don't remember                     | 8      | 1.2           |
| Place of delivery                  |        |                |
| Home                               | 538    | 80.2          |
| Hospital                           | 43     | 6.4           |
| Health centre                      | 79     | 11.8          |
| Others                             | 11     | 1.6           |
| Mode of delivery                   |        |                |
| Vaginal                            | 649    | 96.7          |
| Caesarean section                  | 22     | 3.3           |
| Birth attendant                    |        |                |
| Health professionals               | 148    | 22.1          |
| TBA                                | 471    | 70.2          |
| HEW                                | 4      | 0.6           |
| Relatives                          | 48     | 7.2           |
| Postnatal follow up                |        |                |
| Yes                                | 104    | 15.5          |
| No                                 | 567    | 84.5          |
| Pregnancy intention with the index child |        |                |
| Wanted                             | 473    | 70.5          |
| Unwanted                           | 194    | 28.9          |
| Mistimed                           | 4      | 0.6           |
| Current pregnancy status           |        |                |
| Pregnant                           | 29     | 4.3           |
| Not pregnant                       | 637    | 94.9          |
| Not sure                           | 5      | 0.7           |

* = health post

Table 2: Distribution of respondents by obstetrics and health service related variables in Misha district, Hadiya Zone, Southern Ethiopia, 2013.

Table 3: Patterns of breastfeeding experiences in Misha district, Hadiya Zone, Southern Ethiopia, 2013.

About half 329 (49.0%) of the respondents reported that frequency of breastfeeding during child illness was the same as usual. Mothers were also asked about way of breastfeeding during mother’s sickness, majority 559 (83.3%) of mothers will continue breastfeeding, 76 (11.3%) of mothers reported to decrease breastfeeding and 32(4.8%) mothers were reported that they stop breastfeeding during mother’s sickness. Majority of 566 (84.4%) mothers interviewed also agreed that breastfeeding mother should eat more than the usual (Table 3).

Factors Affecting Optimal Breastfeeding Practice

Socio-demographic characteristics

On crude logistic regression analysis model, husband’s employment, maternal educational level, occupational status, age of child in months, husband’s literacy, residence and household wealth index were found to be significantly associated with optimal breastfeeding practices. However, gender of the infants, age of the mother and marital status of
the mother were not significantly associated with optimal breastfeeding practice on binary logistic regression analysis (Table 4).

After adjustment for possible confounding variables for socio-demographic variables, multivariate logistic regression analysis showed children 0-5 months of age (AOR = 2.24 [95% CI = 1.299, 3.859] and children 6-11 months of age (AOR = 1.97 [95% CI = 1.028, 3.790]) were practice optimal breastfeeding more likely than children 18-24 months of age. Likewise husband's literacy was significantly associated with optimal breastfeeding. Mothers with husband's literacy of being able to read and write (AOR = 0.391 [95% CI = 0.173, 0.884]) were less likely optimally breastfed than husband's literacy of college level and above. Residence of mothers was also significantly associated with optimal breastfeeding practices in which rural residents were less likely to optimally breastfed as compared to urban (AOR = 0.536 [95% CI = 0.294, 0.979]). However, optimal breastfeeding practices was significantly higher among mothers who were poor [AOR: 2.59 (95% CI = 0.294, 0.979)] and those having middle income compared to those who were rich [AOR: 1.8 (95% CI = 1.057, 3.100)].

Other variables such as maternal and paternal employment status, maternal educational level and occupational status of mothers didn't show any statistically significant association with optimal breastfeeding practice (Table 4).

Obstetrics and health service related characteristics

Optimal breastfeeding practices were assessed for its association with obstetrics and health service related variables. Bivariate analysis in the binary logistic regression model showed that birth attendant, history of ANC, place of delivery, postnatal follow up, advice on breastfeeding during ANC or PNC and pregnancy intention were statistically associated with optimal breastfeeding practice. In the multivariate analysis, more of those mothers who received advice on breastfeeding during ANC or PNC etc. were 1.8 times more likely optimally breastfed compared to those who did not (AOR = 1.8 [95% CI = 1.754, 3.428]). likewise, mothers with wanted pregnancy intention were 1.89 times more optimal than mothers with unwanted pregnancy intention (AOR = 1.89 [95% CI = 1.177, 3.045]) (Table 5).

Discussion

This study assessed the prevalence of optimal breastfeeding practices and factors associated with optimal breastfeeding practices of breastfeeding mothers who have less than two years children in the community of Misha district, Southern Ethiopia. In this study, the majority (99.7%) of mothers practiced ever breastfeeding. This result may imply that breastfeeding is a norm in the rural society of Misha District. This finding is consistence with the study in Nairobi Kenya which was 99% [15]. This might justify that the ever breast feeding practice in developing country is similar.

In this study colostrum provision by the mothers were 75.2%. This implies that most of the mothers in this study area provide colostrum for their child. This finding was consistent with the finding in Jimma

| Variables | Optimal | Sub-optimal | COR (95%CI) | AOR (95%CI) |
|-----------|---------|-------------|-------------|-------------|
| Age of child in months | | | | |
| 0-5 | 95 (46.6%) | 109 (53.4%) | 2.421 [1.513-3.873]*** | 2.569 [1.372-4.811]** |
| 6-11 | 57 (37.5%) | 95 (62.5%) | 1.667 [1.008-2.756]* | 1.974 [1.028-3.790]* |
| 12-17 | 46 (34.1%) | 89 (65.9%) | 1.436 [0.852-2.418] | 1.612 [0.823-3.157] |
| 18-24 | 36 (26.5%) | 100 (73.5%) | 1 | 1 |
| Husband’s literacy | | | | |
| Illiterate | 29 (24.6%) | 89 (75.4%) | 0.261 [0.142-0.478]*** | 0.653 [0.248-1.721] |
| Read and write | 22 (23.4%) | 72 (76.6%) | 0.244 [0.128-0.487]*** | 0.391 [0.173-0.884]* |
| Primary level (1-6) | 75 (35.0%) | 139 (65.0%) | 0.432 [0.256-0.726]** | 0.869 [0.455-1.662] |
| Secondary level (9-12) Collage level and above | 63 (52.5%) | 57 (47.5%) | 0.884 [0.502-1.557] | 1.198 [0.622-2.308] |
| Residence | | | | |
| Rural | 186 (34.6%) | 351 (65.4%) | 0.464 [0.295-0.728]** | 0.536 [0.294-0.979]* |
| Urban | 48 (53.3%) | 42 (46.7%) | 1 |
| Household wealth index | | | | |
| Poor | 91 (42.9%) | 121 (57.1%) | 1.735 [1.159-2.597]** | 2.587 [1.462-4.575]** |
| Middle | 81 (36.8%) | 129 (61.4%) | 1.448 [0.964-2.177] | 1.811 [1.057-3.100]* |
| Rich | 62 (30.2%) | 143 (69.8%) | 1 |
| Attended formal school | | | | |
| Yes | 187 (43.5%) | 243 (56.5%) | 2.456 [1.681-3.588]*** 1.0 | 1.436 [0.867-2.355] |
| No | 47 (23.9%) | 150 (76.1%) | 1 |
| Maternal employment | | | | |
| Employed | 17 (70.8%) | 7 (29.2%) | 4.320 [1.764-10.560]** | 0.712 [0.224-2.63] |
| Non employed | 217 (36.0%) | 386 (64.0%) | 1 |
| Husband’s employment | | | | |
| Yes | 49 (51.6%) | 46 (48.4%) | 1.998 [1.287-3.103]** | 0.364 [0.103-1.283] |
| No | 185 (34.8%) | 347 (65.2%) | 1 |
| Occupational status | | | | |
| Government employee | 16 (69.6%) | 7 (30.4%) | 1.524 [0.432-5.375] | 0.354 [0.075-1.676] |
| House wife | 206 (33.5%) | 378 (66.7%) | 0.363 [0.146-0.903] | 0.301 [0.095-0.954] |
| Others # | 12 (60.0%) | 8 (40.0%) | 1 |
| Reading books & magazine | | | | |
| Yes | 107 (46.1%) | 125 (53.9%) | 1.806 [1.294-2.521]** | 0.845 [0.535-1.335] |
| No | 127 (32.2%) | 268 (67.8%) | 1 |

*p = p<0.05, **p = p<0.01, ***p = p<0.001

Table 4: Binary and multivariable logistic regression model predicting the association of socio-demographic and economic variables among mothers of index less than two years old children, in Misha district, Hadiya Zone, Southern Ethiopia, 2013.
Arjo District Southwest, Ethiopia where 72.5% of mothers gave colostrum to their infants [16]. But by far higher than the study done in Goba District, Southeast Ethiopia [17] where 52.4% of mothers provided colostrums for their babies. This is may indicate that mother’s awareness of the importance of colostrum is growing fast in Ethiopian community.

This study showed that the prevalence of exclusive breastfeeding in this study was 87.4% which may indicate improved exclusive breastfeeding practice in study area. This result is considerably better when compared with the findings in Sudan (64.5%) in the year 2007 [18]. This might justify the fact that all rural HEWs in the district were trained with the help of IFHP (NGO) on optimal breastfeeding practices to educate the communities pregnant and lactating mothers.

In this study on demand breastfeeding rate was found to be 61.4%. This result implies on demand breastfeeding practice is low in this community. This finding is lower than the finding in Nigeria where breastfeeding the baby on demand was 92.5% [19]. This might justify the fact that most rural community of Ethiopia may not know frequency of breastfeeding like that of Nigeria.

In this study 37.3% of mothers were breastfeeding optimally while 62.7% of mothers were breastfeed sub-optimally and this result implies that the breastfeeding practice was far from optimal. This finding of optimal breastfeeding practice is however higher than the result from Jimma Arjo District South west Ethiopia, 2012 where optimal breastfeeding practice was 24.6% [16]. This might be due to currently in Ethiopia both urban and rural HEWs were trained by the help of IFHP (NGO) on ENA particularly optimal breastfeeding practices and easily doable practices were included in this study as breastfeeding criteria like breastfeeding during maternal and child sickness and frequency of eating food during lactation.

Residence of mothers was significantly associated with optimal breastfeeding practices in which rural residents were 46% less likely to optimally breastfeed compared to urban. This finding was in contrast to a finding from Al Hassa, Saudi Arabia in 2010 where rural mothers were more likely to exclusively breastfed than urban mothers [20]. This might be due to living in urban residence may have better access to information and also might be due to implementation of urban health extension program in Ethiopia.

In this study age of child in months was significantly associated with optimal breastfeeding. Mothers with the age range 0-5 month child were 2.6 times and with the age range 6-11 month child was 2 times more likely optimally breastfed compared to age range of 18-24 months of age. This result indicates that when a child age increased optimal breastfeeding practice decreases. This result is consistent with the finding from Nigeria Demographic and Health Survey 2003, increasing infant age was associated with significantly less exclusive breastfeeding [21]. The analysis of Ethiopian Demographic and Health Survey 2005, child age 0-1and 2-3 month were retained as the predictors of EBF [22].

Husband’s literacy was found to be significantly associated with optimal breastfeeding practice. Mothers with husband literacy of read and write were 60.9% less likely optimally breastfeed than from mothers with husband literacy of Collage level and above. This result shows that when husband’s education increases, mothers breastfeed their child optimally. This finding is consistent with study in Gujarat, India from July, 2008 to September, 2008 which showed paternal education has significant association with new-born’s exclusive breastfeeding [23]. The reason for this could be, if educational status of husband increases, the inter-spousal communication about breastfeeding increases and husband encouraged breastfeeding practices.

Mothers who received counselling on breastfeeding during ANC and post-natal visit were 1.8 times more likely to breastfeed optimally compared to mothers who did not receive counselling on breastfeeding during ANC and post-natal visit. This finding is consistent with studies done in south Gujarat region of India [23] and Anambra state
of Nigeria [19] where experience of breastfeeding advice during ANC and PNC visit were significant predictor associated with higher chance for breastfeeding practices. This might be related to the fact that ANC and PNC visits are most important contact points and most appropriate time to deliver key infant and young child feeding messages.

In this study mothers with poor household wealth index were 2.6 times more likely optimally breastfeed and mothers with middle household wealth index were 1.8 times more likely optimally breastfeed than rich household wealth index. This finding is consistence with study done in South Africa where mothers with less income practiced breastfeeding more likely than with higher income [24]. This might be due to the fact that those with poor wealth index may not afford to feed their children other than breast milk and might spend more time with their children at home due to lack of job opportunities. In present study mothers with wanted pregnancy intention with the index child were 2 times more likely to optimally breastfeed than unwanted pregnancy intention. This is consistence with studies done in Nairobi Kenya [15] and Philippines [25] where mothers with wanted pregnancy desirability were optimally breastfed than unwanted pregnancy desirability. This might be related to the fact mothers give birth from unwanted pregnancy may not care to breastfeed optimally.

The limitations of this study could recall bias; since birth for exclusive breastfeeding, about time of initiation, duration and patterns of breastfeeding are the potential recall bias.

Conclusions

The findings showed that only 234 (37.3%) mothers were breastfed their infants optimally while a high proportion 393 (62.7%) of mothers were breastfed their infants sub-optimally. Optimal breastfeeding practice was affected by factors like place of residence, age of child in months, husband’s educational status, breastfeeding advice experience during ANC or PNC visit, household wealth index and pregnancy intention.

Breastfeeding promotion programs like family support, education, and Behavior Change Communication on infant feeding at the community level by HEW, health professionals and community health agents are recommended to help mothers improve practice of optimal breastfeeding.

Competing Interests

The authors declare that they have no competing interests.

Authors’ Contributions

All authors (MA, TB, AM and BH) contributed to the design of the study and the interpretation of data. MA performed the data analysis. MA and BH prepared the manuscript. MA, TB, AM and BH critically revised and approved the final manuscript.

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