

# Knowledge, Attitude, Practice and Associated Factors of Women Towards Exclusive Breastfeeding and Mixed Feeding in Northern Ethiopia

Weldu Kidane<sup>1\*</sup>, Haftay Gebremedhin<sup>2</sup> and Mitku Gelaw<sup>3</sup>

<sup>1</sup>Weldu Kidanel, RMNCAYH-N, Amref Health Africa, Ethiopia

<sup>2</sup>Public Health, Adigrat University, Ethiopia

<sup>3</sup>Nutrition, Save the Children, Ethiopia

\*Corresponding author: Weldu Kidane, RMNCAYH-N, Amref Health Africa, Ethiopia

## ARTICLE INFO

**Received:** 📅 April 17, 2023

**Published:** 📅 May 08, 2023

**Citation:** Weldu Kidane, Haftay Gebremedhin and Mitku Gelaw. Knowledge, Attitude, Practice and Associated Factors of Women Towards Exclusive Breastfeeding and Mixed Feeding in Northern Ethiopia. Biomed J Sci & Tech Res 50(2)-2023. BJSTR. MS.ID.007924.

## ABSTRACT

**Background:** Despite recommendations of exclusive breastfeeding for the first six months, the Ethiopian Demographic Health Survey of 2019 found a 59% compliance rate. The Ethiopian Health Sector Transformational Plan I targeted an increase in the proportion of exclusively breastfed infants under age 6 months to 72 percent by 2020. This study assessed knowledge, attitude, and practices of mothers on exclusive breast-feeding and mixed feeding in northern Ethiopia.

**Materials And Methods:** This institutionally based cross-sectional study using a structured questionnaire was supplemented with a qualitative interview approach with mothers regarding exclusive breast-feeding and mixed feeding practices. The institutionally based component included 422 mothers who gave birth in the last 12 months preceding the survey; where as six mothers participated in the semi-structured in-depth interview component. Descriptive, binary and multivariable logistic regression analyses were performed, with a  $P < 0.05$  considered as statistically significant.

**Results:** A total of 398 mothers were included in the study yielding a response rate of 94.3%. The proportion of study participants categorized as having poor knowledge was 139 (34.9%). In terms of feeding practices, exclusive breastfeeding was reported by 311 (78.1%) participants with mixed feeding practices reported by 73 (18.3%). A significant number of mothers 42 (10.6%) gave their child water before six months of age. Formally educated mothers were six times more likely to practice exclusive breast-feeding compared to their non-educated counterparts (AOR=6.4, 95% CI: 3.5-11.6). Housewives were three times more likely to practice exclusive breast-feeding than those mothers engaged in business (AOR=3.110, 95% CI: 1.745-5.554).

**Conclusion:** There is a significant proportion of mixed feeding and poor knowledge on exclusive breast-feeding and mixed feeding before six months of child age. Formal education and being a housewife were the significant factors that predicted the practice of exclusive breastfeeding.

**Keywords:** Breast-Feeding; Mixed Feeding; Six Months of Child; Ethiopia

**Abbreviations:** EBF: Exclusive BreastFeeding; HSDP IV: Health Sector Development Program IV; EDHS: Ethiopian Demographic Household Survey; TPB: Theory of Planned Behavior; OR: Odds Ratios; SD: Standard Deviation; VIF: Variance Inflation Factor

## Introduction

Breast milk is irreplaceable as it contains all necessary nutrients for early child growth. Exclusive breastfeeding (EBF) contributes to reduced childhood morbidity and mortality, enhanced mother-child attachment, and potentially effective family planning method [1]. According to international recommendations, EBF for the first six months and continued breastfeeding with complementary foods up to 2 years or beyond is imperative [1]. In addition, almost all mothers can successfully breastfeed their children except those with defined maternal and child medical conditions [2]. More than 5.4 million under five children died in 2017 year globally, with the majority of these deaths attributed to malnutrition, and 70% occurring in the first year of life [3]. Infant and young child feeding practices have direct impact on nutritional status and, ultimately, affect child survival in under 2 year old children. It has been estimated that 1.3-1.45 million child deaths could be prevented annually with improved breastfeeding practices, such as early initiation of breastfeeding, which in a study in Ghana, showed a 22% reduction in neonatal deaths [1,4].

Exclusive breastfeeding during the first six months after birth is not widely practiced in Ethiopia, [4]. Currently, slightly more than half (52%) of mothers exclusively breastfeed children under six months [4]. The Ethiopian Health Sector Development Program IV(HSDP IV) targeted an increase in the proportion of EBF infants under six months to 70 percent by 2015 [4,5]. However, the nation has failed to achieve the HSDP IV plan. According to Ethiopian Demographic Household Survey (EDHS) 2019 report, EBF in Ethiopia is only 59% [6]. Moreover, studies on EBF in Amhara region, where this study is conducted, is comparatively small at 34.1% in Gonder and 50% Gojjam [7,8]. This showed that the progress is so slow, which is worse in the study area region. Hence, the factors associated with EBF and mixed feeding need to be explored. There are several factors that affect the intent to practice EBF. Poor feeding, inadequate support from husband, and conflicting positions from the significant others were dominant constraints in one study [9]. The nurses expressed concern regarding the impacts on their workload when providing quality support for nursing mothers [9].

According to the theory of planned behavior (TPB), a theoretical framework, perceived behavioral control, together with behavioral intention, can be used directly to predict behavioral change. The TPB is constructed to predict behavior change and has been also used in predicting breastfeeding behavior [10-12]. According to a study by Guo et al., using TPB, knowledge, attitude, subjective norm, and practice were the key determinants of behavior [10]. Numerous studies evaluated the associations between knowledge, attitude, subjective norm and practice and breast-feeding behavior [11-12]. However, the conclusions are conflicting because of the difference in population and there is variation in the significance of the variables among the studies. Generally, the factors associated with EBF and mixed feed-

ing are contextual and vary with in community, regional, and national level [4,6-9,13-18]. Therefore, the aim of this study was to explore mothers' knowledge, attitudes, practices and associated factors with EBF in Gubalafto District, Amhara Region, Northern Ethiopia. Understanding the factors will contribute in designing policies, programs and interventions at regional and national levels so as to increase the rate of uptake of EBF and decrease mixed feeding.

## Material and Methods

A quantitative institutional based cross-sectional study was carried out on Gubalafto District, Amhara region, Northern Ethiopia from January to February 2020. A total 422 Mothers with children of one year or less were eligible to study.

### Study Design

A quantitative institutional based cross-sectional study supplemented with a qualitative interview approach was used.

### Study Location

The study was conducted in Gubalafto District, Amhara Region, Northern Ethiopia from January to February 2020. Gubalafto District has a population of 139,825, of which more than 95% are rural dwellers. There are 11 health centers in this district (another term for district), and one zonal hospital, which serve more than 43,000 people within the district and its surroundings.

### Study Duration

January to February 2020.

### Sample Size

422 Mothers.

### Sample Size Calculation

Sample size was computed using a single population proportion formula with the estimated population parameters of prevalence 52% [4], level of confidence 95%, margin of error 5% and 10% none response rate resulted in a targeted sample size of 422.

### Subjects & Selection Method

All breastfeeding and non-breastfeeding mothers with children less than one year who came to the selected health facilities from January to February 2020 are part of the study population. Two health centers with high client flow were selected by convenience to achieve the estimated sample size in the allotted time. Respondents, who fulfilled the inclusion criteria, were invited to the study and interviewed consecutively.

### Inclusion Criteria

1. Mothers with children of one year or less were eligible to study

2. Six multi para mothers were selected for an in-depth interview to explore factors with EBF until saturation of themes.

### Exclusion Criteria

1. Mothers with medically diagnosed conditions were excluded from the study.

### Procedure Methodology

The outcome variables for the study were knowledge, attitude, and practices towards exclusive breastfeeding (EBF) and mixed feeding. A customized open-ended semi-structured questionnaire with probes was constructed and used for the qualitative part of the study, to explore their experiences, knowledge, factors, or challenges respecting good practices and attitudes on EBF. We conducted the interview in a natural setting. A structured and pre-tested interview questionnaire was used to collect the quantitative data. It was first prepared in English, translated to Amharic, and then translated back to English for consistency. Reviewing different literature and considering the local situation of the study subjects adapted the questionnaires. College diploma research assistants conducted the data collection. Three bachelors prepared individuals provided supervision by checking the overall data collection process of daily activity, consistency, and completeness of values and providing appropriate support during the data collection process. The principal investigators also checked the values for completeness, errors, and ambiguities on daily basis. Participants who refused to participate in the study were considered as non-respondents.

To ensure the quality of the data, training was given to the data collectors and supervisors by the principal investigators for two days on the research methods and project objectives/goals, how to obtain informed consent, how to approach participants, ethical procedures, and general information on knowledge, attitudes, and practices towards EBF and mixed feeding. Five percent of the questionnaire was pre-tested prior to the actual data collection in non-selected health facilities to ensure clarity, wording, and logical sequence of the questions with a socio-demographic sample within the study area. The pre-tested sample was not included in the study, but minor corrections and modifications were made to the instrument based on the pre-test experience. The dependent variables were knowledge level of EBF categorized as good and poor; attitude level towards EBF categorized as positive and negative; and lastly, practice of EBF was categorized as good and poor.

The independent variables included socioeconomic and demographic factors: household income, educational level, marital status, age of the mother, number of antenatal visits, child age and gender, maternal occupation, and parity. Twelve questions pertaining to knowledge, 10 items related to attitude and 13 questions related to

the practice of EBF were prepared, yielding a total of 35 questions. Each questionnaire was coded separately before analysis. A tape recorder and hand notes were used to collect qualitative data for transcription and data encoding.

### Statistical Analysis

The collected quantitative data was coded, entered, cleaned and analyzed using SPSS Version 20. To score the knowledge, attitudes, and practices towards EBF and mixed feeding for categorization of a data during analysis, one point was given for each correct response and zero points for incorrect responses. Descriptive statistics, such as frequencies and percentages, were used to present categorical data, whilst means ( $\pm$ standard deviation [SD]) were used for normally distributed continuous data. Odds ratios (OR) were also used to look for strength and direction of an association for selected variables. Odds ratios, 95% confidence intervals (CIs), and P-value were calculated using a logistic regression model to determine association levels of predictors to the outcome variables. To select the candidate variables, crude ORs and their 95% CI with the  $P < 0.25$  were estimated using bivariate logistic regression analysis to include in multivariable logistic regression model. After adjusted for confounders odds ratio with 95% confidence interval and p-value  $< 0.05$  was considered to declare statistically significant. Before inclusion of predictors to the final logistic regression model, the multicollinearity was checked using variance inflation factor (VIF)  $< 10$ /Tolerance tests  $> 0.1$ . The goodness of fit of the final logistic model was tested using Hosmer and Lemeshow test at a value of  $> 0.05$ . Qualitative data were transcribed and translated from Amharic to English. The investigator analyzed the verbal transcripts for creating themes using thematic content analysis using Open Code™ software.

### Ethical Considerations

Ethical clearance was obtained from the Research Ethics Committee at the School of Public Health, Addis Ababa University, with an official letter of co-operation obtained from Gubalafto district Health Office. Informed written consent was obtained from respondents in their own language after explaining the study's purpose, potential risks and benefits of participating, and the right to withdraw from the study at any time throughout their interview without consequences. Confidentiality of study participants was assured through coding.

### Operational Definitions

**Exclusive Breastfeeding Under 6 Months:** An infant (less than 182.5 days) receives all necessary nutrition from breast milk and consumes no other liquids or solids aside from medications or vitamins [19].

**Poor Knowledge:** Those study participants who scored less than the mean score on the knowledge related questions

**Good Knowledge:** Those study participants who scored points equal to and more than the mean score on the knowledge related questions

**Negative Attitude:** Those study participants who had negative outlook towards EBF and mixed feeding, and who scored less than the mean score on the attitude questions.

**Positive Attitude:** Those study participants who had positive outlook towards EBF and mixed feeding and who scored points equal to and more than the mean score out of the attitude questions.

**Poor Practice:** Those study participants who scored points below the mean score on the practice questions are scored as having poor practice on EBF.

**Good Practice:** Those study participants who scored points above or equal to the mean scores are labeled as having good practice

on EBF.

## Result

### Sociodemographic And Economic Characteristics

A total of 398 respondents were included in the study with a response rate of 94.3%. Mean age of the respondents was 28 years (range 16-45 years). The majority of the respondents (i.e., 316 [79.4%]) were in the age group of 15-34 years and married (360 [90.5%]). More than half of mothers (53%) had some level of formal education, while the majority (68.1%) was unemployed/house wife (Table 1). Additionally, six key informants, who were multi-paras, were selected for in-depth interviews. The mean age of respondents were 28 years; ranging from 22 to 35 years. Half of the study participants were not living with their husband. One third never attended any formal education (Table 2).

**Table 1:** Socio-demographic and economic characteristics of participants in Gubalafto districts of Amhara Region, North Ethiopia, 2020 (n=398).

Variables	Category	Frequency	Percent
Maternal age	15-34	316	79.4
	≥35	82	20.6
Marital status	Married or living together	360	90.5
	Single	38	9.5
Religion	Orthodox	196	49.2
	Muslim/others	202	50.8
Maternal education status	No read or write	185	46.5
	Read and write/Formal education	213	53.5
Spouse education status	Unable to read or write	184	46.2
	Read and write/Formal education	316	53.8
Maternal occupation	Employed	127	31.9
	Unemployed or housewife	271	68.1
Parity	Primi-parous	111	27.9
	Multi-parous	287	72.1
Child age	0-6 months	194	48.7
	7 to 12 months	204	51.3
Child sex	Male	221	55.5
	Female	177	44.5
Antenatal visit	No visit	6	1.5
	At least first visit	392	98.5
Household annual income	≤12000 birr	234	58.8
	> 12001 birr	164	41.2

**Table 2:** Characteristics of in-depth interviewees Gubalafto districts of Amhara Region, North Ethiopia, 2020 (n=6).

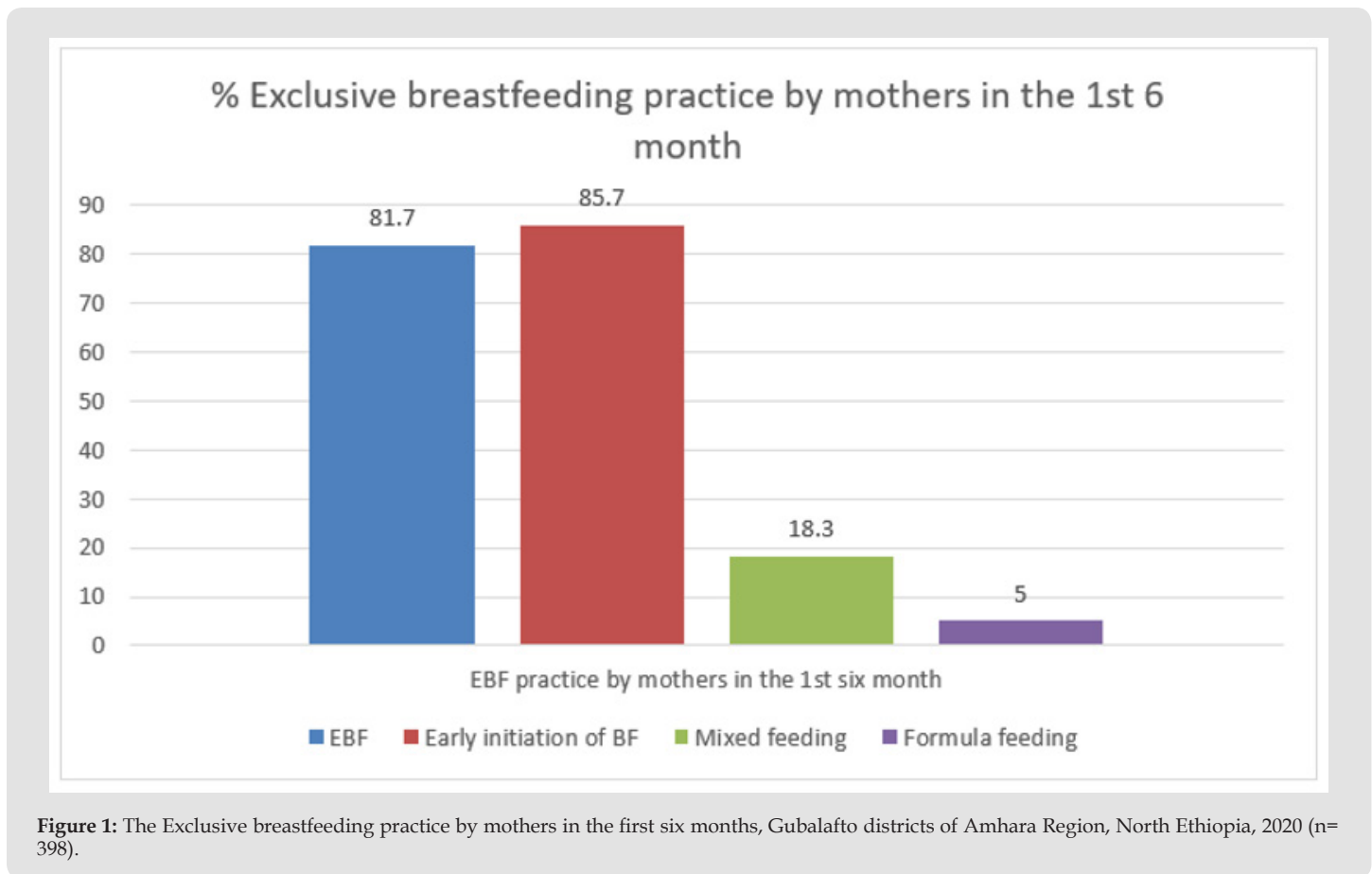
Code	Age	Marital status	Education	Number of children
01	22	Separated	No formal education	2
02	30	Separated	Primary	4
03	30	Married	Primary	2
04	25	Separated	Primary	2
05	35	Married	No formal education	7
06	26	Married	No formal education	2

**Knowledge Of Mothers Towards Ebf in the First Six Months**

Concerning knowledge of mothers on EBF in the first six months, 139 (34.9%) of the respondents were categorized as having poor knowledge. Among the study participants, 361 (90.7%) knew the importance of feeding first milk (colostrum), 363 (91.3%) knew the importance of early initiation of breastfeeding within an hour of birth, and 295 (74%) knew the appropriate time to start complementary feeding after six months of age.

**Exclusive Breastfeeding Practices by Mothers in the First Six Months**

Concerning practice of EBF, three hundred eleven (78.1%) of the mothers demonstrated good practices of EBF during the first six months. The mothers reported that, early breastfeeding initiation practices 341 (85.7%), EBF practiced up to six months 325 (81.7%), mixed feeding practices 73(18.3%), formula feeding (5%), cow’s milk feeding (4.3%) and offering water before six months of age (10.6%) were the alternative practices during the first six months of life. The detail in below in the (Figure 1).



**Figure 1:** The Exclusive breastfeeding practice by mothers in the first six months, Gubalafto districts of Amhara Region, North Ethiopia, 2020 (n=398).



The majority of key informants participating in in-depth interviews mentioned initiating breast milk immediately following birth and that they did not adhere to traditions such as discarding colostrum or offering fresh butter immediately after birth. A 22-years-old mother stated On my behalf I immediately wash my breast and offer it to my newborn then start sucking. My breast bursts immediately and starts milk flow and then my children used to suck it until they are 9 months old.

Most respondents also reported that they breastfed their children exclusively for up to six months. A 30-year-old mother said,

Yes, up to six months we feed our breast milk only then after six months we start additional foods. I prepare flour by mixing different cereals to my baby. By cooking thin gruel from this cereal I feed my baby. ...I did not used to feed them this until they get six months old because their stomach is not able to digest it. I give them this cereal gruel after six months.

Among sub-optimal practices identified from in-depth exploration regarding breastfeeding practice were offering water to young children before six months and beliefs respecting the sufficiency of breast milk. Almost half of the time a practice of offering 'Abish', a local product prepared by mixing Feugreek powder in water and salt, immediately after a child is born was mentioned. One of the respondents said that giving 'Abish' is good for children, and it is a lesson she learned during a visit to Saudi Arabia. A 30-year-old mother, who is separated from her husband, said:

Yes, they used to tell us not to give even water, but we give water in addition because the food we are eating has salt and our infants may get thirsty. Ya, they drink water; they have their own cup; they drink with that.

This mother also said

Yes immediately, kids are born sucking their finger. I used to give my breast immediately they are born but the breast has no milk flow immediately after birth. I used to give them, my kids, Abish until my breast gets full milk flow.

The second most common poor practice raised during in-depth exploration was mixed feeding of other foods like mashed potatoes and vegetables before children reach six months. A 22-year-old respondent said,

...yes we give them water, mashed potato, and vegetables but no other foods.

### Socio-Demographic and Economic Correlates Of Knowledge In Ebf

Single mothers were more likely to have greater knowledge deficits in EBF than married mothers [16(84.2%); 112(31%);  $P<0.05$ ]. Mothers and their spouses who are not formally educated were more likely to have poor knowledge than those who are formally educated (108(58.4%) versus 31(14.6%);  $P<0.05$ ) and (104(56.5%) versus 35(16.4%);  $P=0.05$ ) respectively. Mothers with low self-reported annual income ( $\leq 12,000$  birr) were more likely to have poor knowledge than those who had higher annual income ( $>12,001$  birr) (99(42.3%) versus 71(26.2%);  $P<0.05$ ). Mothers, who are engaged in formal or informal businesses outside their homes, were significantly more likely to have poor knowledge than those who were unemployed or housewives (53.5% versus 26.2%;  $P<0.05$ ) (Table 3).

**Table 3:** Factors associated with knowledge on exclusive breastfeeding, Gubalافت district of Amhara Region, Ethiopia, 2020 (n=398).

Variables	Category	Knowledge on EBF		COR	P-Value
		Poor	Good		
		n (%)	n (%)		
Maternal age	15-34	119 (37.7)	197(62.3)	1	0.026*
	$\geq 35$	20(24.4)	62(75.6)	1.873(1.077-3.255)	
Ethnic	Amhara	137(14.8)	255(85.2)	1	0.934
	Tigre	2(54.5)	4(45.5)	1.075(0.194-5.941)	
Marital status	Single	27(71.1)	11(28.9)	1	0.000*
	Married/ living together	112(31.1)	248(68.9)	5.435(2.604-11.343)	
Mother's education	No read or write	108(58.4)	77(41.6)	1	0.000*
	Read and write/ Formal education	31(14.6)	182(85.4)	7.995(4.919-12.995)	
Spouse's education	No read and write	104(56.5)	80(43.5)	1	0.000*
	Read and write/ Formal education	35(16.4)	179(83.6)	6.649(4.176-10.584)	

Child's age (in months)	0-6	73(37.6)	121(62.4)	1	
	7-12	66(32.4)	138(67.6)	1.261(0.835-1.906)	0.27
Parity	Primi-para	31(27.9)	80(72.1)	1	
	Multi-para	103(38.3)	166(61.7)	1.557(0.965-2.513)	
Child's sex	Male	77(34.8)	144(65.2)	1.008(0.666-1.526)	0.07
	Female	62(35.0)	115(65.0)	1	0.969
Annual household income	≤ 12000 birr	99(42.3)	135(57.7)	1	
	> 12001 birr	40 (24.4)	124 (75.6)	2.273(1.463-3.533)	0.000*
Maternal occupation	Employed	68(53.5)	59(46.5)	2,151(1.352-3.424)	0.001*
	Housewife/ Unemployed	71(26.2)	200(73.8)	1	
Antenatal visit	No visit at all	5(83.3)	1(16.7)	1	
	At least one ANC visit	6(75.0)	2(25.0)	9.627(1.113-83.239)	0.040*

Note: \*Variables, which are statistically significant at 5% level of significance.

### Independent Predictors of Good Knowledge of Ebf

Among respondent mothers, odds of good knowledge of EBF among those having formal education were two times more likely than those with no formal education (AOR= 2.3, 95% CI: 1.1-4.8). Older mothers (≥35years) were two times more likely to have good knowl-

edge than their younger counterparts (<35years) (AOR=2.1, 95% CI: 1.1-4.1). Mothers who were married or living with their spouses were found 4 times more likely to have good knowledge on EBF than single mothers (AOR=3.9, 95% CI: 1.7-8.8). Furthermore, good knowledge increased among employed mothers two times more than the unemployed/housewives (AOR=2.5, 95% CI: 1.4-4.5) (Table 4).

**Table 4:** Factors associated with good knowledge on exclusive breastfeeding in Gubalafto districts, Amhara Region, North Ethiopia, 2020.

Variable	COR (95% CI)	AOR (95%CI)
Spouse's education		
No read or write	1	1
Read and write (Formal education)	6.649(4.176-10.584)	2.284(1.070-4.875)*
Maternal age		
15-34	1	1
≥35	1.873(1.077-3.255)	2.147(1.115-4.135)*
Marital status		
Single	1	1
Married or living together	5.435(2.604-11.343)	3.919(1.729-8.885)*
Maternal occupation		
Employed	2,151(1.352-3.424)	2.575(1.448-4.581)*
Housewife/Unemployed	1	1

Note: \*Variables, which were statistically significant at 5% level of significance.

### Socio-Demographic and Economic Correlates of Attitude Towards Exclusive Breastfeeding

Several socio-demographic factors were significantly associated with negative attitudes towards the recommended EBF practice. Mothers and their spouses who were not formally educated were significantly more likely to have negative attitudes than those who were

formally educated (14.6% to 1.4%; P<0.05) and (14.7%) to 1.4%; P<0.05) respectively. Those who had no antenatal visits were significantly more likely to have negative attitudes than those who had at least one visit (33.3% to 1.9%; P=0.05). Those individuals classified as low-income earners (≤120,000Birr) were more likely to have negative attitudes than those with better incomes (10.3% to 3.7%; P<0.05) (Table 5).

**Table 5:** Association of socio-demographic and economic factors with attitude towards exclusive breastfeeding Gubalafto district of Amhara Region, North Ethiopia, 2020 (n=398).

Variable	Category	Mothers' attitude towards EBF		COR	P-Value
		Negative	Positive		
Mother's education	No read or write	27(14.6)	58(85.4)	1	0.000*
	Read and write/ Formal education	3(1.4)	210(98.6)	11.278(3.60-37.859)	
Spouse's education	No read or write	27(14.7)	157(85.3)	1	0.000*
	Read and write/ Formal education	3(1.4)	211(98.6)	12.096(3.605-40.585)	
Child's sex	Male	20(9.0)	201(91.0)	1	0.206
	Female	10(5.6)	167(94.4)	1.662(0.757-3.648)	
Mother's age	15-34	25(7.9)	291(92.1)	1	0.58
	≥35	5(6.1)	77(93.9)	1.323(0.490-3.569)	
Parity	Primi-para	7(6.3)	104(93.7)	1.294(0.539-3.108)	0.564
	Multi-para	23(8)	264(92)	1	
Child's age (months)	0-6	17(8.8)	177(91.2)	1	0.368
	7 to 12	13(6.4)	191(93.6)	1.411(0.666-2.989)	
Maternal occupation	Employed	10(10.1)	89(89.9)	1	0.268
	Unemployed/ Housewife	20(6.7)	279(93.3)	1.567(0.707-3.473)	
Antenatal visit	No visit	2(33.3)	4(66.7)	1	0.036*
	Have at least one visit	28(7.1)	364(92.9)	6.5(1.140-37.046)	
Household annual income	≤12000 (Low)	24(10.3)	210(89.7)	0.332(0.133-0.832)	0.019*
	>12001(Better)	6(3.7)	158(96.3)	3.010(1.202-7.537)	

Note: \*Variables, which are statistically significant at 5% level of significance.

### Socio-Demographic and Economic Correlates of Exclusive Breastfeeding Behavior of Mothers

Single mothers were significantly less likely to exclusively breastfeed compared to their married counterparts (36.8% versus 20%;  $P < 0.05$ ). Similarly, lower education level of mothers and spouses was significantly associated with poorer EBF practices when compared with a more educated cohorts (maternal 36.8% to 8.9%;  $P < 0.05$ ) and (spousal 33.2% to 12.1%;  $P < 0.05$ ) respectively. Other predictors of poor EBF practices were having older children, lower income, and being employed outside of the home (Table 6).

### Independent Predictors of Mothers' Ebf Practice

In multivariate logistic regression analysis; only formal education, being housewife and older age ( $\geq 35$ ) were found to be significant predictors of good EBF practice. Formally educated mothers were 6 times more likely practicing EBF than non-educated (AOR=6.3, 95% CI: 3.5-11.6). Housewives were three times more likely to practice EBF than those mothers engaged in formal or informal business

(AOR=3.1, 95% CI: 1.7-5.5). Older age also contributed to better breastfeeding practice, generally, and EBF, in particular. Older mothers ( $\geq 35$  years old) are 1.5 times more likely to have good EBF practice than younger ones ( $< 35$  years) (Table 7). The first and most common rationale offered by the key informants believed 'mothers with better income do not want breastfeeding' opinion. The reasons for not practicing EBF by the mothers were having insufficient milk, lack of awareness, fear of disease transmission to the infant, and assuming EBF recommendations applied only to women with the 'disease' (HIV) were frequently cited by the interviewees.

For instance, a 30-year-old married mother said

Ya, there are poor women that are not breastfeeding their kids as recommended; there are also rich ones also that does not want to feed their breast and they start feeding bottle after feeding their breast for only 1 months and 10 days. Those riches think that they can afford formula milk and they immediately start feeding formula milk by bottle.



**Table 6:** Association of socio-demographic and economic factors with mothers' EBF practice of the first six months in Gubalafto district, Amhara Region, North Ethiopia, 2020 (n=398).

Mothers' practices on EBF					
Variables	Category	Poor	Good	COR	P-value
		n (%)	n (%)		
Mothers' age	15-34	74(23.4)	242(76.6)	1	
	≥35	13(15.9)	69(84.1)	1.623(0.850-3.100)	0.143
Marital status	Married	73(20.3)	287(79.7)	2.293(1.130-4.653)	0.021*
	Single	14(36.8)	24(63.2)	1	
Mother's education	No read or write	68(36.8)	117(63.2)	1	
	Read and write/ Formal education	19(8.9)	194(91.1)	6.291(3.523-11.233)	0.000*
Spouse's education	No read or write	61(33.2)	123(66.8)	1	
	Read and write/				
Formal education	26(12.1)	188(87.9)	3.586(2.149-5.985)	0.000*	
Child sex	Male	52(23.5)	169(76.5)	1	
	Female	35(19.8)	142(80.2)	1.248(0.77-2.024)	0.368
Parity	Primi parous	22(19.8)	89(80.2)	1.184(0.689-2.037)	0.541
	Multiparous	65(22.6)	222(77.4)	1	
Child age	0-6	54(27.8)	140(72.2)	1	
	7-12	33(16.2)	171(83.8)	1.999(1.228-3.254)	0.005*
Household annual income level	≤12000 birr	61(26.1)	173(73.9)	1	
	>12001birr	26(15.9)	138(84.1)	1.871(1.123-3.119)	0.016*
Maternal occupation	Unemployed/ Housewife	51(17.1)	248(82.9)	2.779(1.671-4.620)	0.000*
	Employed	36(36.4)	63(63.3)	1	
Antenatal visit	No visit	3(50.0)	3(50.0)	1	
	At least one visit	84(21.4)	308(78.6)	3.667(0.727-18.498)	0.116

Note: \*Variables, which are statistically significant at 5% level of significance.

**Table 7:** Factors associated with good practices of exclusive breastfeeding in Gubalafto district, Amhara region, North Ethiopia, 2020.

Variable	COR (95% CI)	AOR (95%CI)
Maternal educational level		
No read or write	1	1
Read and write/		
Formal education	6.291(3.523-11.233)	6.375(3.495-11.627)*
Maternal age		
15-34	1	1
≥35	1.623(0.850-3.100)	1.918(0.924-3.981)
Maternal occupation		
Employed	1	1
Housewife/Unemployed	2.779(1.671-4.620)	3.110(1.745-5.544) *

Note: \*Variables, which are statistically significant at 5% level of significance.

## Discussion

The World Health Organization recommends EBF in the first six months weighing in its clear benefits in reducing childhood morbidity and mortality, enhancing the mother-child attachment, and serving as an effective family planning method [1]. Mothers' knowledge and attitudes towards breastfeeding is important for effective infant feeding practices to bring the desired outcome. This study showed proportion of mothers who have no satisfactory knowledge on EBF was 34.9%. This is higher than findings from a similar study in Nigeria [20]. In this study, the proportion of mothers with poor knowledge was lower than other studies in Nigeria [20] and in Ethiopia [21]. The reason could be because of the study setting as the our study's majority of the participants resides in the rural area and are less educated in comparison to the study done in Nigeria and Ethiopia [20,21]. Therefore, considering the Sociodemographic characteristics is crucial in designing and targeting educational programs aiming at increasing knowledge related to EBF.

Determinants of knowledge in this study were being married, having spouses with formal education, employed mothers, and higher maternal age. Paternal formal education was similarly a determinant factor for mothers' knowledge on EBF in a study done in Arba Minch, Ethiopia [22]. Good socio-economic status is associated with good knowledge of EBF, which seems logical. The socio-economic status increases the likelihood of absorbing information on EBF from different sources easily. This finding should be interpreted cautiously because knowledge of EBF do not necessarily lead to high actual EBF practice. Therefore, the association between knowledge about EBF and EBF practice need to be conducted, considering socioeconomic factors and other confounders. Negative attitude regarding EBF recommendations in this study were minimal at 5.5%, which is lower than a study done in Nigeria also showed higher attitudinal status (46%) of mothers regarding EBF recommendations [20,23]. This could be because negative attitude is connected to cultural practices, belief systems and socioeconomic status. In Ethiopia, although it is not well published, the qualitative study indicates that EBF is a culturally acceptable practice, sign of love and care for your child. Hence, in the rural areas where cultural practices are more closely adhered to, the attitude towards EBF is higher which emphasizes that knowledge about EBF is not the only determining factors for EBF practice.

Exclusive breastfeeding practice was reported by 81.7% of women, which is much higher than a similar hospital based study done in Pakistan reporting 64.8% of the respondents found practicing EBF [24]. This is also higher than a hospital based study done in Kenya sub-district (33%) [25]. This figure is higher than other community-based studies done in Ethiopia when comparing to studies like EDHS (2011) [5], EBF determinants in Ethiopia [26], Jima Arjo Woreda [21], Bahirdar [27,28], Harar [29], and Goba Districts in Ethiopia [30]. This could be due to the study period and sociodemographic characteristics of the population. Early initiation of breastfeeding

within an hour post-delivery is a general recommendation of infant feeding protocols. Early breastfeeding in this study was very common at 85.7% which is higher than a prior study in Jima Arjo Woreda, Ethiopia where this practice was seen in 62.6% of the study participants [29]. Young maternal age, being single, illiteracy of mothers and their spouses, minimal or lack of ANC visits, low annual income, and mothers being employed were found to be significantly associated with maternal poor knowledge status. Similarly, paternal education and antenatal visit were found to be significantly associated with knowledge status of mothers in an EBF study conducted in Arba Minch, Ethiopia [22]. Hence, advancing socioeconomic studies and balancing work with child EBF time will be vital to increase knowledge about EBF.

Several factors in this study predict practice of mothers in EBF. Mothers who are married or living with their partners are 2.5 times more likely to practice EBF than single mothers. Mothers with better annual incomes ( $\geq 12,000$  birr) are more likely to practice EBF. These findings are similar to those from a study done in Bahirdar [26]. Other factors like illiteracy of mothers and their spouses, employed mothers, and lack of ANC visits were associated with non-EBF practices in this study. Similar findings were found in a number of previous Ethiopian based studies [26,29,31]. Since this is institutionally based study using convenience sampling, there were limitations in determining whether the findings were representative of the communities of this Woreda or beyond. Further, the study was cross-sectional which minimizes the opportunity to generalize findings.

## Conclusion

The level of knowledge, attitude and practice of mothers towards EBF in the first six months of life is low. Educational status, age of mothers, marital status of mothers, occupational status of mothers, ANC visits, and income of mothers were the factors significantly associated towards knowledge, Attitude and practice of mothers on EBF. Therefore, district health office and Amhara regional health bureau should work via health extension workers, and other health professionals in collaboration with the community for providing appropriate information in practicing of EBF in the first six months of life.

## Data Availability Statement

The data presented in this study are available on request from a corresponding author. The data are not publicly available due to privacy reasons.

## Competing Interests

We declare that we do not have any conflict of interest.

## Funding

We have not received any funding for conducting and publication of this manuscript.

## Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

## Authors' Contributions

W.K, H.G and M.G were involved in conceptualization, methodology, analysis, visualization, writing review, and editing; W.K, and H.G were involved in validation, comments, and editing of the manuscript; All authors have read and agreed to the published version of the manuscript.

## Acknowledgement

We thank to all mothers who participated in this study for their cooperation.

## References

- (2008) World Health Organization. Learning from large-scale community-based programmes to improve breastfeeding practices. Geneva: World Health Organization.
- (2010) Care USA. Infant and young child feeding practices. Collecting and using data: A step-by-step guide.
- (2018) United Inter-agency Group for Child Mortality Estimation (UN IGME).
- Addis Ababa (2012) Central Statistical Agency [Ethiopia] and ICF International Ethiopia Demographic and Health Survey 2011. Ethiopia and Calverton, Maryland, USA: Central Statistical Agency and ICF International.
- (2010) Federal Democratic Republic of Ethiopia Ministry of Health. Health Sector Development Programme IV 2010/11 – 2014/15.
- (2019) Ethiopian Public Health Institute (EPHI) [Ethiopia] and ICF Ethiopia Mini Demographic and Health Survey 2019: Key Indicators. Rockville, Maryland, USA: EPHI and ICF.
- Tewabe T, Mandesh A, Gualu T, Alem G, Mekuria G, et al. (2015) Exclusive breastfeeding practice and associated factors among mothers in Motta town. East Gojjam zone, Amhara Regional State, Ethiopia: A cross-sectional study. *International Breastfeeding Journal* 12.
- Dachew B A, Biftu B B (2014) Breastfeeding practice and associated factors among female nurses and midwives at North Gondar Zone, Northwest Ethiopia: A cross-sectional institution based study. *International Breastfeeding Journal* 9(11).
- Agunbiade O M, Ogunleye O V (2012) Constraints to exclusive breastfeeding practice among breastfeeding mothers in Southwest Nigeria. implications for scaling up. *International Breastfeeding Journal* 7(1): 5.
- Guo J, T F Wang, J Y Liao, C M Huang (2016) Efficacy of the theory of planned behavior in predicting breast-feeding: meta-analysis and structural equation modeling. *Applied Nursing Research* 29(6): 37-42.
- Tengku Ismail T A, Wan Muda W A, Bakar M I (2016) The extended Theory of Planned Behavior in explaining exclusive breastfeeding intention and behavior among women in Kelantan Malaysia. *Nutrition Research and Practice* 10 (1): 49-55.
- Bai Y, Susan E Middlestat, C Y Joanne Peng, Alyce D Fly (2010) Predictors of continuation of exclusive breastfeeding for the first six months of life. *Journal of Human Lactation*. 26 (1): 26-34.
- Mohammed E S, Ghazawy E R, Hassan E E (2014) Knowledge attitude and practices of breastfeeding and weaning among mothers of children up to 2 years old in a rural area in El-Minia Governorate Egypt. *J Fam Med Prim Care* 3(2): 136-140.
- Onah S L, Osuorah D I, Ebenebe J, Ezechukwu C, Ekwochi U, et al. (2014) Infant feeding practices and maternal socio-demographic factors that influence practice of exclusive breastfeeding among mothers in Nnewi South-East Nigeria: A cross-sectional and analytical study. *Int Breastfeed J* 20(9): 6.
- Ramoo S, Trinh T A, Hirst J E, Jeffery H E (2014) Breastfeeding practices in a hospital-based study of Vietnamese women. *Breastfeed Med* 9(9): 479-485.
- Pandey D, Sardana P, Saxena A, Dogra L, Coondoo A, et al. (2015) Awareness and attitude towards breastfeeding among two generations of Indian women: A comparative study. *PLoS ONE* 10(5): e0126575.
- Teka B, Assefa H, Hailelassie K (2015) Prevalence and determinant factors of exclusive breastfeeding practices among mothers in Enderta woreda Tigray North Ethiopia A cross-sectional study. *Int Breastfeed J* 10(1): 2.
- Tadele N, Habta F, Akmel D, Deges E (2016) Knowledge attitude and practice towards exclusive breastfeeding among lactating mothers in Mizan Aman town, Southwestern Ethiopia: Descriptive cross-sectional study. *Int Breastfeed J* 11: 3.
- (2008) Indicators for assessing infant and young child feeding practices definitions: conclusions of a consensus meeting held 6-8 November 2007 in Washington DC USA. World Health Organisation.
- Mbada C E, Olowookere A E, Faronbi J O, Oyinlola Aromolaran F C, Faremi F A, et al. (2013) Knowledge attitude and techniques of breastfeeding among Nigerian mothers from a semi-urban community. *BMC Research Notes* 6(1): 552.
- Tamiru D, Belachew T, Loha E, Mohammed S (2012) Sub-optimal breastfeeding of infants during the first six months and associated factors in rural communities of Jimma Arjo Woreda, Southwest Ethiopia. *BMC Public Health* 12(1): 363.
- Tamiru D, Mohammed S (2013) Maternal knowledge of optimal breastfeeding practices and associated factors in rural communities of Arba Minch Zuria. *International Journal of Nutrition and Food Sciences* 2(3): 122-129.
- Oche M O, Umar A S, Ahmed H (2011) Knowledge and practice of exclusive breastfeeding in Kware, Nigeria. *African Health Sciences* 11(3): 518-523.
- Aslam S, Sultan M, Akram F (2010) Exclusive breast feeding: Duration at Northern Areas of Pakistan a hospital-based study. *Professional Medical Journal* 17(2): 286-290.
- Nyanga N M, Musita C, Otieno A, Kaseje D (2012) Factors influencing knowledge and practice of exclusive breastfeeding in Nyando district Kenya. *African Journal of Food, Agriculture, Nutrition and Development* 12(6): 6632-6645.
- Alemayehu T, Haidar J, Habte D (2009) Determinants of exclusive breastfeeding practices in Ethiopia. *Ethiopian Journal of Health Development* 23(1): 12-18.
- Sefene A, Birhanu D, Awoke W, Taye T (2013) Determinants of exclusive breastfeeding practice among mothers of children age less than 6 month in Bahir Dar city administration, Northwest Ethiopia; A community based cross-sectional survey. *Scientific Journal of Clinical Medicine* 2(6): 153-159.

28. Seid A M, Yesuf M E, Koye D N (2013) Prevalence of Exclusive Breastfeeding Practices and associated factors among mothers in Bahir Dar city, Northwest Ethiopia: a community based cross-sectional study. International Breastfeeding Journal 8(1): 14.
29. Abera K (2012) Infant and young child feeding practices among mothers living in Harar, Ethiopia. Harar bulletin of Health Sciences 4: 66-78.
30. Setegn T, Belachew T, Gerbaba M, Deribe K, Deribew A, et al. (2012) Factors associated with exclusive breastfeeding practices among mothers in Goba district, south east Ethiopia: a cross-sectional study. International Breastfeeding Journal 7(1): 17.
31. Egata G, Berhane Y, Worku A (2013) Predictors of non-exclusive breastfeeding at 6 months among rural mothers in east Ethiopia: a community-based analytical cross-sectional study. International Breastfeeding Journal 8(1): 8.

ISSN: 2574-1241

DOI: 10.26717/BJSTR.2023.50.007924

Weldu Kidane. Biomed J Sci & Tech Res



This work is licensed under Creative Commons Attribution 4.0 License

Submission Link: <https://biomedres.us/submit-manuscript.php>



#### Assets of Publishing with us

- Global archiving of articles
- Immediate, unrestricted online access
- Rigorous Peer Review Process
- Authors Retain Copyrights
- Unique DOI for all articles

<https://biomedres.us/>