



Exclusive Breastfeeding Practice and Associated Factors among Mothers Having Infants (Aged 0-6 Months) in the Pastoral Community of Sawena District, Bale Zone Oromia, Ethiopia, 2023

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Abstract

Background: Breastfeeding is the recommended feeding method for infants due to its ease, health benefits, and cost-effectiveness. However, there is limited understanding of Exclusive Breastfeeding (EBF) in pastoral communities, such as the Sawena district in Ethiopia.

Objective: To assess the prevalence and factors associated with EBF among mothers with infant (aged 0-6 months) in pastoral communities in Southeast Ethiopia.

Method: A community-based cross-sectional study design was employed from March 01st to April 2023 and involving 631 women selected through random sampling. Face-to-face interviews were conducted, and the data were analyzed using statistical software. Variables with a p-value <0.25 in the analysis were included in the logistic regression model.

Results: Out of 631 eligible mothers, 625 participated in the study, resulting in a 53.8% (95% CI; 49.8%-57.4%). prevalence of EBF in the study area. Factors significantly associated with EBF included household food security [AOR=1.6, 95% CI (1.1-2.2)], ANC follow-up during pregnancy, [AOR=5.3, 95% CI (2.4-11.9)], counselling about EBF during ANC visits [AOR=5; 95% CI (2.1-11.7)], number of children [AOR=1.6, 95% CI (1.1-2.3)] and attitudes toward EBF [AOR=1.8; 95% CI (1.4-2.6)]. Many participants cited reasons for not practicing EBF, such as concerns about insufficient breast milk, giving babies water to reduce colic, and fear of food refusal.

Conclusion: The prevalence of EBF in the Sawena district was lower than recommended. Household food security, ANC follow-up, counselling during ANC, number of children, and attitudes toward EBF were found to be influential factors.

Keywords: Exclusive breastfeeding practice; Infants aged 0-6 months; Associated factors; Sawena district

Abbreviations

ANC: Antenatal Care; AOR: Adjusted Odds Ratio; CL: Confidence Level; COR: Crude Odd Ratio; EBF: Exclusive Breastfeeding; EDHS: Ethiopian Demographic Health Survey; HSDP: Health Sector Development Program; UNICEF: United Nation International Children's Emergency Fund; WHO: World Health Organization

Introduction

Exclusive Breastfeeding (EBF) is defined as giving a baby just breast milk for the first six months of its life, without any additional food, drink, or water-aside from prescription drugs or vitamin and mineral supplements [1]. The World Health Organization (WHO) and the United Nation Children's Fund (UNICEF) recommend initiation of breastfeeding within the first hour

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after birth; EBF should be done from the first six months of age and breastfeeding should continue until two years old or beyond, with adequate complementary foods [1].

EBF is an important public health strategy for improving children's and mother's health by reducing child morbidity and mortality and helping to control healthcare costs in society [2]. Moreover, one of the main tactics supporting the most well-known and successful intervention for preventing early childhood deaths is EBF [3]. In addition to its positive impact on the mother-child bond, breastfeeding reduces the risk of a number of childhood diseases, including pneumonia, ear infections, diabetes mellitus, diarrhea, and sudden infant death syndrome [4].

The World Health Assembly (WHA) has set a global target in order to increase the rate of EBF for infants aged 0 to 6 months up to at least 50% in 2012-2025 [5]. Adherence to these guidelines varies globally, only 38% of infants are exclusively breastfed for the first six months of life [6]. High-income countries such as the United States (19%), United Kingdom (1%), and Australia (15%) [7]. Have shorter breastfeeding duration than nations with middle-class and lower-class incomes. Only 37% of newborns under six months old are exclusively breastfed, even in low- and middle-income nations [8]. According to recent papers in the sub-Saharan Africa region, only 53.5% of infants in east African countries were EBF for six months which is way below the WHO target of 90% [3].

In Ethiopia approximately half (52%) of children less than six months old are exclusively breastfed. The practice of EBF at age 0 to 1 month is 70%, 55% at 2 to 3 months and 32% among 4 to 5-month-old infants [9]. Despite all the recognized benefits and efforts to promote EBF, practice is still far from recommended levels. In Ethiopia out of 97% of breastfeeding, only 58% of mothers exclusively breastfeed. This number drops to 36% in infants aged 4 to 5 months [10]. Several associated factors have been identified with exclusive breastfeeding practices. Sociodemographic, environmental, and health facility-related factors are among the frequently cited factors [11].

The Ethiopian government has taken several steps to improve exclusive breastfeeding practices. The National Strategy on Infant and Young Child Nutrition, National Nutrition Program I and II, has been developed by the Government of Ethiopia to promote and improve the practice of exclusive breastfeeding during the first six months of life in collaboration with various stakeholders [12]. In addition, non-governmental organizations are also addressing the issue of optimal breastfeeding in different parts of the country through advocacy, community mobilization and the press [13].

Pastoralists comprise a significant part of Ethiopia's population, but the promotion of exclusive breastfeeding less than 6 months of age and its importance is poorly understood in pastoral communities [14]. Moreover, there is little information on the practice and factors associated with EBF less than 6 months of age in pastoral communities. In addition, information on the implementation and determinants of EBF in pastoral communities, especially pastoral areas are lacking and needs to be planned and intervened accordingly. To promote the benefits of EBF to the community, as well as to apply EBF properly to reduce the health impact, morbidity of infants and influence on economic growth due to not use of EBF properly. Therefore, the aim of this study was to assess the prevalence of EBF and associated factors among women who have a child aged <6 months in the study area.

Methods

Study design, period, and setting

A community-based cross-sectional study design was employed from March 01st to April 2023. In pastoral communities in the Sawena district, Bale Zone, Oromia Region, Southeast Ethiopia, among mothers of infants aged 0 to 6 months was included. The Sawena district is approximately 675 KMs Southeast of Addis Ababa, with a latitude and longitude of 7°23' N 41°16' E and an elevation of 1161 meters. The estimated population size is 98,751, 46,518 (47%) of which are males and 52,233 (53%) of which are females. Approximately 4% (2089) of the total female women had babies less than 6 months old, and approximately 37% (17211) had babies. This district has 30 kebeles, 5 health centers, 32 health posts, 4 primary clinics, and 2 private drug stores. Different obstetric services, such as FP, ANC, delivery services, PNC, and counselling services, were provided at those health facilities. The majority of the climate conditions are dry (kola), 1/3 of the area is temperate (woynadaga), and Khat, peppers, fruits, Teff, and wheat are important cash crops for this woreda. Regarding occupation, the majority of the people in rural areas are pastoralists, and farmers dominate in rural areas.

Population

All mothers who had infants (aged 0-6 months) in the Sawena district pastoral community were the source of the population. The study population consisted of randomly selected mothers who fulfilled the inclusion criteria. For the qualitative part, health care professionals from maternal and child health care delivery, health extension workers, Traditional Birth Attendants (TBAs), and developmental health armies were purposively selected.

Inclusion and exclusion criteria

Inclusion criteria: All mothers who had infant (aged 0-6 months) and had been residents of the study areas for more than six months during the data collection period.

Exclusion criteria: Children with evidence of chronic health problems and mothers who were unable to communicate or were seriously ill and unable to provide information were excluded from the study.

Sample size determination

The sample size was determined using the single population proportion formula for the Epi Info STAT CALC cohort. version 7.2.4 Based on the assumptions of a 95% Confidence Level (CL), a 52% proportion of EBF practices [15], and 5% marginal error from the study conducted among mothers who had infant (aged 0-6 months) in the Somalia Region, Ethiopia, a 10% nonresponse and a 1.5 design effect, the final sample size was 631 mother-infant pairs.

Sampling procedure

A multistage, simple random sampling technique was used to select the study participants. In the first stage, nine kebeles were selected randomly from 30 kebeles in the districts. In the second stage, from the selected kebeles, a list of all eligible mothers with their Households (HHs) in each selected kebele was obtained from the kebele health post by using family folders collaborating with Health Extension Workers (HEWs). The sample size for each selected kebele was determined proportionally to the number of eligible HHs within each selected kebele. Finally, a simple random sampling technique was used to select the required number of eligible mothers from each kebele by using the HH listed as a sampling frame, which was

obtained from family folders. If eligible mothers were not present at the time of data collection, a return visit was arranged a minimum of three times during the time of the HH survey.

Data collection procedures (tools, techniques and personnel)

A structured, closed-ended questionnaire developed from different kinds of literature [3,14,16] was used. The questionnaires consisted of six parts: Sociodemographic factors, household food security status, infant and maternal health service utilization, knowledge about breastfeeding, attitudes towards EBF, and EBF practices. The data were collected through face-to-face interviews. Seven data collectors and one supervisor participated in the data collection process.

Study variables

Dependent variable: Exclusive breastfeeding practice

Independent variable: Sociodemographic factors (maternal age, marital status, maternal education level, Mom's occupation, and maternal knowledge of breastfeeding).

Factors related to obstetrics and health services (parity, prenatal care, breastfeeding advice during pregnancy, place of birth, and how to give birth).

Infant-related factors (infant age, infant sex, birth spacing)

Economic factor: Wealth index.

Household Food Security Status

Attitudes toward EBF

Operational definition

Exclusive breastfeeding: Means feeding your baby only breast milk, not any other foods or liquids (including infant formula or water), except for medications or vitamin and mineral supplements [11].

Wealth index: The wealth index was computed for owner ships of different assets, house characteristics and types of animals. The resulting wealth indices were categorized into three categories: Lowest, middle, and highest [4].

Practice of EBF: If a mother gives her only breast milk for her infant for the full 6 months, no other liquids or solids except vitamins, mineral supplements, or medicines until she is born for 6 months [9].

Data quality assurance

The questionnaire was pretested on 5% of the sample at Micha Kebele. The questionnaire was modified to enhance the consistency of understanding by the respondents as well as by the data collector. The data collectors were trained by the principal investigator about the general purpose of the study and the data collection procedures. The structured questionnaire was prepared first in English and then translated to the local language (Afan Oromo) by language experts. Finally, the data were checked for completeness before being entered into computer software for analysis.

For the qualitative part, in-depth interviews and key informant interviews were facilitated by the moderator, and adequate field notes were taken by experienced note-takers. The interviews were tape-recorded and transcribed daily word by word. Furthermore, before deployment in the field, the completeness, accuracy, and clarity of the collected data were checked carefully. Any ambiguity

or incompleteness encountered was addressed on the following day before starting the next day activities.

Data processing and analysis

The data were entered, cleaned and edited using EPI-data 4.6 and subsequently transferred to SPSS version 26 for further analysis. Descriptive statistics such as frequency, percentage, mean and standard deviation were calculated. Binary logistic regression was performed to assess the crude relationship between the independent variables and the dependent variable. All variables with a P-value <0.25 were candidates for multivariate logistic regression to control for possible confounding effects.

The multicollinearity was checked with Variance Inflation Factors (VIFs) and tolerance tests, which had VIFs less than 5 and tolerance tests less than 1; these values were used as cut-off points for diagnosing multicollinearity. Model fitness was checked using the Hosmer and Lemeshow goodness-of-fit model, and the results were fitted (p-value =0.5). The final results of the associations are presented as AORs with 95% CIs, and a p-value <0.05 was considered to indicate statistical significance.

Qualitative field notes were taken during the data collection session in addition to the tape recorder, after which the notes from all in-depth interviews were compiled and labelled according to participant type. The qualitative data were analyzed using thematic analysis. The analysis started by transcribing into Afan Oromo from records and then translating the results to the English language. The transcribed data were read carefully, categorized, and summarized manually.

Ethical considerations

The study protocol was approved, and an ethical approval was provided by the Ethical Review Board of the Salale University (reference number IRB/688/15). The study was performed in accordance with the World Medical Association Declaration of Helsinki on medical research. Written informed consent was obtained from every study subject before the data collection. All the information collected from the study participants was handled confidentially by omitting their identification.

Results

Sociodemographic characteristics of hypertensive patients

Out of the 631 eligible mothers, 625 participated in this study, for a response rate of 99.0%. The age of the mothers included in this study ranged between 17 and 40 years, with a mean age of 26.7 (SD = ± 4.2) years. Concerning ethnicity, 542 (86.7%) study participants were Oromo, while the majorities (576; 92.2%) were religious Muslims. Regarding the educational status of mothers, the majority (64.2%) of them could not read or write. Almost all of the mothers, 615 (98.4%), were legally married. The majority of the respondents (225; 36.0%) were in the second wealth quintile group (Table 1).

Household food security status

Based on the calculated household food security, a total of 341 (54.6%) of the sample households were food secure, and a total of 284 (45.4%) of the sample households were food insecure in the study area (Table 2).

Infant and maternal health service utilization characteristics

The majorities (579; 92.6%) of the mothers had ANC visits during

Table 1: Sociodemographic characteristics of mothers with infants (aged 0-6 months) in the pastoral community of the Sawena district east bale zone Oromia southeastern Ethiopia, 2023.

Variables	Categories	Frequency (n)	Percent (%)
Age of mother (years)	15-19	26	4.2
	20-24	172	27.5
	25-29	275	44
	30-34	132	21.1
	≥ 35	20	3.2
Marital status	Married	615	98.4
	Separated	10	1.6
Ethnicity of mother	Oromo	542	86.7
	Somali	80	12.8
Religion of mother	Amara	3	0.5
	Muslim	476	92.2
	Orthodox	38	6.1
Educational status mother	Protestant	11	1.8
	Unable to read and write	401	64.2
	Primary education	161	25.8
	Secondary education	31	5
	College and above	32	5.1
Education of husband (n=615)	Unable to read and write	221	35.9
	Primary education	270	4.9
	Secondary education	59	9.6
	College and above	65	10.6
Wealth Index	Highest	212	33.9
	Middle	225	36
	Lowest	188	30.1

their recent pregnancy and were counselled about breastfeeding. The majority (524, 83.8%) of the mothers gave birth to their last child in health facilities (Table 3). The qualitative findings proved that the majority of the interviewees mentioned the ideal desire for exclusive breastfeeding, and most of the women interviewers mentioned, "Breastfeeding is our culture". However, they perceived mixed feeding rather than exclusive breastfeeding. A 34-year-old breastfeeding mother said, "We have been informed by health professionals that giving cow's milk and other foods, even water, to infants less than six months old are unnecessary". "Even though most mothers receive breastfeeding counselling and antenatal care, they did not apply exclusive breastfeeding practices properly," the women interviewees confirmed. The MCH focal person described exclusively breastfed babies as having higher intelligence, being physically stronger, and being protected from illness. Babies who were exclusively breastfed were said to be much healthier than those who began consuming extra meals or liquids before the age of six months.

Attitudes toward exclusive breastfeeding practice

Of the 625 respondents, 609 (97.4%) agreed that EBF is necessary for their baby. In addition, 20 (3.2%) of the respondents considered breastfeeding to have cosmetically affected mothers' shape. The majority of them (22) (35.8%) considered household economic capacity to determine mothers' breastfeeding practices. The overall attitudes of the study participants showed that 319 (51.0%) of the

Table 2: Household food security status in the pastoral community of the Sawena district East Bale Zone Oromia, southeastern Ethiopia, 2023.

Variables	Categories	Frequency (n)	Percent (%)
Worried about household would not have enough food (the past month)	No	84	13.4
	Often	5	0.8
	Rarely	376	60.2
	Sometime	160	25.6
Household member not able to eat the kinds of foods you preferred (the past month)	No	89	14.2
	Rarely	376	60.2
	Sometime	160	25.6
Household members have to eat a limited variety of foods due to a lack of resources (the past)	No	121	19.4
	Often	6	1
	Rarely	313	50.1
	Sometime	185	29.6
Household members have to eat some foods that they did not want to eat (the past month)	No	131	21
	Rarely	314	50.2
	Sometime	180	28.8
Household members have to eat a smaller meal than they felt you needed (the past month)	No	124	19.8
	Often	3	0.5
	Rarely	346	55.4
	Sometime	152	24.3
Household members have to eat fewer meals in a day (the past month)	No	196	31.4
	Often	11	1.8
	Rarely	285	45.6
	Sometime	133	21.3
No food to eat of any kind in your household (the past month)	No	526	84.2
	Often	9	1.4
	Rarely	5	0.8
	Sometime	85	13.6
Household members go to sleep at night hungry (the past month)	No	554	88.6
	Often	7	1.1
	Rarely	6	1
	Sometime	58	9.3
Household members go a whole day and night without eating anything (the past month)	No	550	88
	Rarely	3	0.5
	Sometime	72	11.5
Overall household food security status	Food secure	317	50.7
	Food in secured	308	49.3

respondents had positive attitudes toward EBF practices (Table 4).

Exclusive breastfeeding practice

The prevalence of exclusive breastfeeding practice was 53.8%, within the 95% CI (49.8%-57.4%). Among mothers who did not exclusively breastfeed their infant, the main reasons mentioned were that the perception of breast milk alone was not sufficient for 323 infants (51.2%) (Table 5).

The qualitative findings proved that the majority of the interviewees mentioned that breastfeeding is important for the infant, but breastfeeding alone may not be sufficient for the infant until 6 months. Therefore, the mother should give additional food to her

Table 3: Infant and maternal health service utilization characteristics of study participants in the pastoral community of the Sawena district in the eastern Bale zone in southeastern Ethiopia, Oromia, 2023.

Variables	Categories	Frequency (n)	Percent (%)
Any breastfeeding problems	Yes	265	42.4
	No	360	57.6
What was the problem (n=265)	Abscess	60	22.6
	Mastitis	116	43.8
	Sore/cracked nipples	89	33.6
Number of children	1-2	227	36.3
	3-5	360	57.6
	6-8	38	6.1
Birth order of infant	First	52	8.3
	Second	167	26.7
	Third	178	28.5
	Fourth and above	228	36.5
Birth interval (years) (n=573)	1-2	549	95.8
	3-4	24	4.2
ANC services	Yes	579	92.6
	No	46	7.4
Counselled about breastfeeding during ANC	Yes	579	92.6
	No	46	7.4
Place of birth	Health facility	524	83.8
	Home	101	16.2
Mode of delivery	C/S	17	2.7
	Vaginal	608	97.3
Postnatal care	Yes	364	58.2
	No	261	41.8
Age of infant (months)	1-2	259	41.4
	3-4	288	46.1
	5-6	78	12.5
Sex of infant	Males	402	64.3
	Females	223	35.7

baby; otherwise, the baby should be starved, and the baby may refuse to consume food if he/she does not start early.

An old woman from the health developmental army states that “mothers must care for their children by giving breast milk and other additional food after 4 months unless the baby may refuse food after 6 months if she/he didn’t start food early for her baby”.

A 28-year-old from the health developmental army said that “only breast milk may not be sufficient for the baby until 6 months, so giving additional food and water after 4 months is important for the baby”. Some of the interviewees mentioned that early initiation and exclusive breast feeding are important for the baby and the mother, so the baby must consume only breast milk until 6 months, but after 6 months, the baby should consume additional food because after 6 months, only breast milk may not be sufficient”. An old TBA said that “As soon as the child is delivered, breast milk giving is necessary. The infant should only consume breast milk from birth to six months of age”. A 28-year-old multiparous woman interviewer states that “I had

Table 4: Attitudes toward exclusive breastfeeding among mothers with infants aged less than six months in the pastoral community of the Sawena district in the eastern Bale zone in southeastern Ethiopia, Oromia, 2023.

Variables	Categories	Frequency (n)	Percent (%)
Breastfeeding is good for my baby	Disagree	11	1.8
	Neutral	5	0.8
	Agree	609	97.4
Breastfeeding is not good because cosmetically affects the mother's shape.	Disagree	551	88.2
	Neutral	54	8.6
	Agree	20	3.2
Maternity leave of three months is enough to successful breastfeeding.	Disagree	520	83.2
	Neutral	65	10.4
	Agree	40	6.4
The household economic capacity determines the mother Breastfeeding practice.	Disagree	214	34.2
	Neutral	187	29.9
	Agree	224	35.8
Breast-feeding has an advantage to the mother because it prevents pregnancy	Disagree	88	14.1
	Neutral	69	11.0
	Agree	468	74.9
Breast-feeding the baby helps the child to grow well.	Disagree	88	14.1
	Neutral	23	3.7
	Agree	514	82.2
Your husband support is needed for you to breastfeed your child	Disagree	319	51.0
	Neutral	25	4.0
	Agree	281	45.0
Your family members support is needed for you to breastfeed your child?	Disagree	315	50.4
	Neutral	151	24.2
	Agree	159	25.4
Overall attitudes score	Positive attitude	319	51.0
	Negative attitude	306	49.0

Table 5: Breastfeeding practices of mothers with infants aged less than six months in the pastoral community of the Sawena district in the eastern Bale zone in southeastern Ethiopia, Oromia, 2023.

Variables	Categories	Frequency (n)	Percent (%)
Infant feeding practice one day before the survey	Exclusively breastfeeding	336	53.8
	Mixed breastfeeding	289	46.2
Extra liquid/solid food given for their child in the previous 24 h	Yes	32	5.1
	No	599	94.9
Mentioned what they gave (n=32)	Butter	26	81.3
	Sugar with water	6	18.7
The reason of giving additional food to infant	Breast milk only not sufficient	26	81.3
	Breast produce less milk	6	18.7

never practiced EBF in two of my babies because I believe the breast milk is not sufficient but for the third baby, I gave only breast milk for 6 months because the doctor told me to give only breast milk for 6 months”.

Another 34-year-old interviewer said, “I understand that the child should be breastfed for 6 months without mixing, but the problem is that he may refuse to take other food after 6 months”.

Table 6: Bivariate and multivariate logistic regression analyses showing factors associated with EBF practices among mothers of infants aged (0-6 months) in the pastoral community of the Sawena district in the eastern Bale zone in southeastern Ethiopia, Oromia, 2023.

Variables	EBF Practice		COR (95% CI)	AOR (95% CI)	P Value
	Yes (%)	No (%)			
Mother's Educational level					
Unable to read and write	138 (41.1)	263 (91.0)	1	1	1
Primary	154 (45.8)	8 (2.8)	37.0 [0.01-0.06]	0.02 [0.01-1.5]	0.1
Secondary	19 (5.7)	11 (3.8)	3.3 [0.1-0.6]	0.2 [0.07-1.4]	0.11
College and above	25 (7.4)	7 (2.4)	6.9 [0.1-0.3]	1.1 [0.06-2.3]	0.21
household food security status					
Food secured	184 (54.8)	133 (46.0)	1.4 [1.1-1.9] *	1.6 [1.1-2.2]	0.008**
Food in secured	152 (45.2)	156 (19.4)	1	1	1
Knowledge					
Knowledgeable	99 (29.5)	99 (34.3)	0.8 [0.6-1.1]	1.2 [0.8-1.7]	0.3
Not knowledgeable	237 (70.5)	190 (65.7)	1	1	1
Number of children					
1	133 (39.6)	94 (32.5)	1.03 [1.0-1.9] *	1.6 [1.1-2.3]	0.006**
02-04	181 (53.9)	179 (69.9)	0.73 [0.5-2.1]	1.1 [0.5-2.4]	0.637
≥ 5	22 (6.5)	16 (5.5)	1	1	1
Birth order of infant					
First	30 (10.4)	30 (10.4)	0.5 [0.4-1.5]	1.3 [0.6-2.6]	0.54
Second	120 (41.5)	120 (41.5)	0.6 [0.3-0.9]	1.2 [0.8-2.1]	0.37
Third	65 (22.5)	65 (22.5)	1.1 [0.3-1.0]	0.7 [0.4-1.2]	0.16
Fourth and above	74 (25.6)	74 (25.6)	1	1	1
Birth interval					
1-2	305 (97.1)	244 (94.2)	2.1 [1.1-4.9]	1.7 [0.1-12.8]	0.42
3-4	9 (2.9)	15 (5.8)	1	1	1
ANC service					
Yes	321 (95.5)	258 (89.3)	2.6 [1.4-4.9] *	5.3 [2.4-11.9]	0.001**
No	15 (4.5)	31 (10.7)	1	1	1
Counselled about breastfeeding during ANC					
No	33 (9.8)	13 (4.5)	1	1	1
Yes	303 (90.2)	276 (95.5)	2.3 [1.2-4.9] *	5.0 [2.1-11.7]	0.001**
Place of birth					
Health facility	286 (85.1)	238 (82.4)	1.2 [0.8-1.9]	1.1 [0.5-2.4]	0.29
Home	50 (14.9)	51 (17.6)	1	1	1
Attitudes towards EBF					
Positive attitude	186 (55.4)	120 (41.5)	1.8 [1.3-2.4]*	1.8 [1.4-2.6]	0.001**
Negative attitude	150 (44.6)	169 (58.5)	1	1	1
Wealth index					
Highest	119 (35.4)	93 (32.2)	1.3 [0.7-1.5]	1.9 [1.1-3.2]	0.9
Middle	123 (36.6)	102 (35.3)	1.2 [0.9-1.9]	0.9 [0.5-1.6]	0.87
Lowest	94 (28.0)	94 (32.5)	1	1	1

Factors associated with exclusive breast feeding

Variables associated with a significance level of $p < 0.25$ in the bivariate analysis were considered candidates for the final multivariate analysis to determine their significant association with the practice of EBF. The independent predictors of EBF status included maternal educational status, household food security status, knowledge about

EBF, number of children, birth order, birth interval, ANC follow-up, counselling about EBF during ANC service, place of birth, counselling about EBF during PNC service, attitudes toward EBF, and wealth index status.

The final predictors of EBF practices were household food security status, ANC follow-up during pregnancy, counselling about EBF

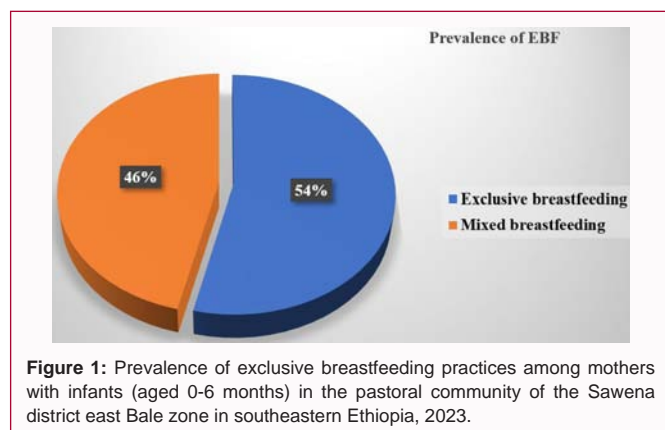


Figure 1: Prevalence of exclusive breastfeeding practices among mothers with infants (aged 0-6 months) in the pastoral community of the Sawena district east Bale zone in southeastern Ethiopia, 2023.

during ANC services, number of children, and attitudes toward EBF. Mothers with a household food security status were 1.6 times more likely to practice good EBF than were those who were food insecure [AOR=1.6, 95% CI (1.1-2.2)]. Mothers who had ANC follow-up data were 5.3 times more likely to practice EBF than women who had no ANC follow-up data [AOR=5.3, 95% CI (2.4-11.9)]. Additionally, mothers who received counselling about EBF during ANC follow-up were 5 times more likely to practice EBF than mothers who did not receive such counselling (AOR=5; 95% CI (2.1-11.7)) (Table 6).

Discussion

The purpose of this study was to assess EBF practices and associated factors among exclusive breastfeeding mothers during the first six months of life. This study revealed that the prevalence of EBF in the pastoral community of Sawena District was 53.8%, within a 95% CI (49.8%-57.4%). These findings are similar to those of studies conducted in North West Ethiopia Mecha district (47.1%); Somalia region (52.0%); and other countries, such as Tanzania which had a prevalence of 55.0%, and Indonesia (51.2%) [5,15,17,18] respectively.

This percentage was lower than that reported in Debrebirhan (68.8%), Ambo (82.2%), Halaba (70.5%), Hawassa (60.9%) and Dubti afar (81.1%) respectively [14,19-22]. It was also lower than that reported in the 2019 mini-EDHS results, which was 59% [23], and that reported in other countries, such as West Mamprusi District in Northern Ghana (84.3%) [4]. Conversely, this number was greater than that reported in studies performed in Addis Ababa (29.3%) [16], Bangladesh (35.9%) [24] and Saudi Arabia (31.1%) [25]. Variations in healthcare coverage and health service accessibility may be the cause of this disparity. Another explanation can be the differences in the researchers' study time and design. Disparities in health care service utilization, sociocultural backgrounds, and economic status may have contributed to these variations both nationally and internationally.

Among the variables identified in the multivariate analysis, household food security status, ANC follow-up during pregnancy, counselling about EBF during ANC, number of children and attitudes towards EBF were significantly associated with EBF. The present study revealed that mothers with a household food security status were 1.6 times more likely to practice good EBF than mothers who were food insecure. This study is supported by other studies conducted in Ethiopia [3] and Bangladesh [26].

A possible explanation may be that when a household is food secure, meaning that it has consistent access to an adequate quantity and quality of food, it can positively impact a mother's ability to

exclusively breastfeed her child. Food security ensures that the mother has the necessary nutrition to sustain her own health and produce breast milk of sufficient quality and quantity to meet her infant's needs. In contrast, households experiencing food insecurity may face challenges in providing adequate nutrition for both the mother and the infant, which can potentially impact the practice of exclusive breastfeeding.

Another factor that was shown to have a significant association with EBF is the number of children. Mothers who had only one child were 1.6 times more likely to EBF their infants than were those who had five or more children. This finding is similar to those of studies conducted in Debre Markos, Northwest Ethiopia [11], the Mecha district, Northwest Ethiopia [18] and other regions, such as Tanzania [5] and Nepal [27]. This may be due to time and attention, which means that mothers with only one child may have more time and attention available to focus on breastfeeding and caring for their infant. With fewer children to whom to attend, they may have fewer competing demands and more flexibility to dedicate them to EBF.

This study also revealed that mothers who had ANC follow-up practices EBF better than mothers who did not. This finding is similar to those of studies performed in Northwest Ethiopia [9], Ambo [22] Halaba [20] and Dubti afar [14]. Moreover, in other countries, such as Tamandu, India [28], and Indonesia [17], this could be because mothers who attended ANC visits may receive different nutritional and other health-related education from health professionals during their follow-up appointments, which could have a significant impact on EBF. This effect might be attributed to the counselling provided to mothers regarding the importance of breastfeeding in health facilities during service delivery.

Mothers who received counselling about breastfeeding during ANC were 5 times more likely to exclusively breastfeed their infants than were those who did not receive counselling. Similar findings were observed in Dubti town, afar regional state, northeast Ethiopia, Somali region of Ethiopia, Mecha District, North West Ethiopia [14,15,18,20] and in other counties, such as Tanzania, Bangladesh, Nigeria and India [5,24,28,29]. A possible explanation may be that since ANC follow-up is a continuing process, mothers could receive much information, and this information may increase the knowledge and attitudinal changes regarding neonatal feeding practices, as well as the nutritional benefits of breast milk for the health of mothers and newborns.

Mothers who had positive attitudes toward EBF were more likely to practice EBF than were those who had negative attitudes. This study is supported by other studies conducted in Ghana, a systematic review conducted in East Africa and Nigeria [6,29,30]. Possible reasons for this association may be that beliefs and perceptions of EBF-related attitudes reflect beliefs about the benefits and importance of breastfeeding for the health and well-being of both mothers and infants. Mothers who hold positive attitudes may have stronger beliefs about the nutritional value, bonding benefits, and immune-boosting properties of breast milk. These beliefs can motivate them to prioritize and commit to practicing EBF.

Strengths and Limitations of the Study

Strength of the study

The data were collected through both quantitative and qualitative research approaches, which add value to strengthen the study design. The study was conducted in a general population that may be

representative of other rural communities or pastoral communities in Ethiopia.

Limitations of the study

As a cross-sectional study, a cause-and-effect relationship cannot be established to identify an actual predictor. Since the data were self-reported, there may be social desirability bias and recall bias.

Conclusion

The prevalence of EBF found in this study was lower than the WHO recommended level. This figure (Figure 1) is also lower than the national figure reported by the 2019 mini-EDHS. Household food security status, ANC follow-up during pregnancy, counselling about breastfeeding during ANC, number of children and attitude toward EBF practice were significantly associated with EBF. Most of the interviewees believed that breastfeeding is important for the baby, but they thought it was not sufficient for the baby until 6 months. The most common reason for not practicing EBF is due to differences in perception of the community; for example, if only the breast is not sufficient, babies might be thirsty unless they drink water, give water decreases or cause infantile colic, give only breast milk to the baby to affect the mother, and waste the baby; otherwise, the baby may refuse food if she does not start early.

Recommendations

Based on the findings of this study, the following points are recommended:

To Oromia regional health bureau and NGOs

Train health workers to ensure that they have accurate and up-to-date information on infant feeding in general and breast feeding/EBF in particular, which can help them to have the specific knowledge and skills required to educate and counsel mothers to improve EBF practices.

Suitable IEC materials for BFs should be developed to teach mothers at the home and facility levels. Availing family planning at all health facilities for spacing pregnancies can positively impact breastfeeding outcomes, as it allows for optimal maternal health and milk production, increasing the likelihood of successful EBF.

To the East Bale Zonal health department and district health office

There is a need to expand and strengthen maternal health services, specifically antenatal and postnatal care services, in line with the expansion of existing health services.

To health care providers

Maternal health services, specifically ANC and PNC services should be strengthened and promoted to address all eligible individuals.

EBF counselling is an important part of all maternal and child health services, such as ANC, PNC, FP, vaccination and the IMNCI, for providing health education and counselling to mothers to improve their BF knowledge and subsequently improve their EBF practices.

To researchers

Further analytical studies, especially follow-up studies, are suggested to explore the actual levels of EBF and to further examine variables associated with this practice.

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