Examining Infant and Young children feeding (IYCF) practice and its determinant factors among mothers who gave birth in the last two years, Ethiopia Community-based cross-sectional study design

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Abstract

Background: The first two years of life are critical stages for a child's growth and development. However, globally, 60% of the infant and young child deaths reported due to inappropriate infant feeding practices and infectious disease, where two-thirds of these deaths are attributable to sub-optimal breastfeeding practices.

Methods and materials-community-based cross-sectional study design was employed from February to March 2020 in Jima Rare district, Ethiopia. The stratified sampling and simple random sampling were employed to recruit participants into the study. Data was collected by using semi-structured interviewer-administered questionnaire. And data were analyzed by using SPSS version 20.

Results- The actual feeding practice style among the respondents had been assessed by using eight core indicators of infant and child feeding practice of the WHO. The finding revealed that (initiated breastfeeding within one-hour after birth 78%), (66.7% and 33.4% exclusive breastfeeding at 6 and 4-5months), respectively. About 11.8% of mothers continued breastfeeding at 2 years. About 33.4% and 66.7% of mothers started introducing solid, semi-solid or soft foods at 4 to 5 months at 6 months and above), respectively. The overall, proportion of children age 6- 23 months who met minimum meal frequency and dietary diversity accounts for 51.2%, 49.9% respectively. About half proportion (49.9%) of children age 6- 23 months fit for the minimum acceptable diet. The multivariate analysis finding shows that mothers who gave birth at health institutions, get help from their husband, had received practical support of IYCF practices, counseling during ANC and/or PNC visit and households who have agricultural land and radio were more likely to carryout appropriate IYCF practices than their comparable groups.

Conclusion-the result suggests that the overall appropriate infant and young child feeding practice was low. Hence, initiatives and interventions should focus on advocacy for institutional delivery, counselling and practical support for IYCF practice. Special attention needs to be given for young and illiterate mothers. Moreover, attention need to address to empower women to have autonomy of decision-making and control power over assets to support them for appropriate IYCF practices.

Background

The first two years of life are critical stages for a child's growth and development. Any health problem caused by nutritional deficiencies during this period can lead to impaired cognitive development, compromised educational achievement, and low economic productivity [1]. Poor breast and complementary feeding practices, together with high rates of morbidity, are the prime-proximate causes of malnutrition in the first two years of child life [1, 2]. Globally, 60% of the infant and young child deaths reported due to inappropriate infant feeding practices and infectious disease, where two-thirds of these deaths are attributable to sub-optimal breastfeeding practices [2, 3]. Poor nutrition is not only the result of lack of food, but it can be due to lack of knowledge about optimal feeding practices and provision of poor

quality food [4, 5, 6]. In 2008, WHO identified 15 indicators for assessing infant and young child feeding practices (eight core indicators and seven optional indicators [7].

Early initiation of breastfeeding prevents neonatal and infant deaths by reducing the risk of infectious diseases. Moreover, it improves mother infant interaction; promote strong and healthy relationship between mother and child [3, 8]. Timely initiation of breast feeding is cost effective and successful for life saving intervention for the health of the new born [8]. Poor breast-feeding and complementary feeding practices have been widely documented in the developing countries. Only about 39% of infants in the developing countries (25% in Africa) are exclusively breast-fed for the first six months. Additionally, 6% of the infants in developing countries are never breastfed [7]. The evidences show that, infants and young children of many developing countries infants and young children are most vulnerable to malnutrition due to of lack of knowledge how to feed a children and infectious diseases [10, 11]. Infants who are not breastfed properly have repeated infections, grow less and are more likely to die before the age of one month than infants who receive breast milk during this age [3, 10]. Many observational studies showed that maternal knowledge of optimal child feeding practices like exclusive breastfeeding for six months, continued partially breastfeeding and the timely transition to adequate complementary food is basic to deliver physiological and economic benefits to mothers and to keep health of a child [12, 11].

The infant and young child feeding is a complex issue that has implications not only for an infant's nutritional and health status, but also affects infant's psychological development and the development for proper eating habits [12, 13]. Breastfeeding is declining in almost all parts of the world despite its nutritional and immunological benefits. Death rates in third world countries are lower among breastfed babies. Every day, between 3000 and 4000 infants die in the developing world from diarrhea and acute respiratory infections related to inadequate amounts of breast milk. The evidence show that infants who are not breastfed have a six-fold greater risk of dying from infectious diseases [12, 13, 14]. More than 10 million children die each year. Of this 41% of deaths occur in sub-Saharan Africa and 34% in South Asia. In Madagascar, one in ten children dies in the first year of life. A major contributor to their deaths is poor breastfeeding practices [15, 16]. Infants and children in developing countries are disproportionately affected by life threatening diseases, poor health care, and lack of potable water, malnutrition, poverty, and war. Malnutrition was observed in 18.52% of children on complementary feeding, compared to 14.61% in breast-fed infants [17]. In developing country, 26% of children died before reaching their second birthday, and 29% of those breast-fed for less than 9 months died prior to their first birthday. About 42% of less than 6 months died before the age of two years [18]. Other evidences in low-income countries shows that everyday 3 to 4 thousand infants' death reported from diarrhea and acute respiratory infections due to inadequate breastmilk. The major contributing factor is poor breastfeeding practice [19]. In contrary optimal breastfeeding and appropriate complementary feeding could prevent 13% and 6% of under-five mortality, respectively [20].

Breastfeeding is nearly universal in Ethiopia. However, large numbers of mothers, both urban and rural, do not practice appropriate breastfeeding and complementary feeding behavior. In Ethiopia 57% of all under-five deaths is highly associated with abrupt cessation of breastfeeding and infectious diseases, but it is

closely linked to gap of knowledge how to feed appropriately and food insecurity [5, 11, 21]. A recent report showed that 27% of mothers early provide water, butter and various types of food to feed their children, thereby reducing the percentage of exclusively breastfeed and increasing the percentage of receiving complementary food at very young age [21]. Nationally, 50.6% of mothers' start breastfeeding within 1 hour of child birth and about 38% mothers exclusively breastfed their children for 6 months [7, 11].

In Ethiopia, like in other developing countries, diarrhea is a major contributor of morbidity and mortality in young infants and children, due to inappropriate breastfeeding patterns. About 58% of the children deaths are attributable to malnutrition, making the greatest single cause of child mortality. About 70% of infants are sub-optimally breast-fed, which is another major contributor to infant mortality rate. Currently, 24% of infant death is due to poor breast-feeding practices [22]. Knowledge of adequate preparation of replacement foods and benefit of breast feeding was clearly insufficient among peasant society [18]. Study conducted in Ethiopia showed that one third of children age 4-5 months are exclusively breastfed. Also 14% of children at 6-8 months of age continued exclusively breast-feeding, (receive plain water in addition to breast milk 9%), consume water-based liquids 6%), and (consume cow milk 20%) [23]. The study shows that in the Tigraqy region, a high proportion of mothers (80%) initiate feeding of newborns with pre-lacteal feeds including butter or water [17, 24]. The study conducted in Oromia region shows that workload of some results in barriers to feed as frequently as needed. For example, shopping class and harvest times were reported to limit breastfeeding frequently [25].

Therefore, improving IYCF practices particularly for the children younger than 2 years' age is the highest priority of the world. Hence, this study aimed to examine infant and young children feeding practice and its determinant factors among mothers who gave birth in the last two years, in Jima Rare district, Oromia regional state, Ethiopia.

Methods

Study design and period

The study was conducted in Jimma Rare district, Oromia regional state, Ethiopia. A community-based cross-sectional study design was employed from February to March 2020 to examine infant and young children feeding practice and its determinant factors among mothers who gave birth in the last two years. For this study, the source of population was all mothers or caregivers who have the Infant and Young Child (0-24 months) and who lived more than six months were recruited into the study.

Sample and sampling technique

Simple population proportion sampling was used (p=0.277), CI-95%, margin of error (d=5%) and 10% of non-response rate was added. By using this sampling procedure, a total of 339 study participants to have taken part in the study. The stratified sampling technique was recruited to select rural and semi-urban kebeles in the district. Then two semi-urban and 12 rural kebeles were selected by simple random

sampling (lottery method) among a total of 20 kebeles. The census was conducted to register all eligible women in the selected semi-urban and rural areas. Later on, the sample was allocated proportionally to recruit eligible participants from selected semi-urban and rural areas. Finally, lottery method sampling technique was used to recruit participants into the study.

Data collection procedure

A questionnaire was adopted from different literatures and composed of eight core indictors of WHO for IYCF practices. Furthermore, the WHO recommendation was taken into consideration in developing research tools and protocols. A semi-structured interviewer-administered questionnaire was used to examine the IYCF practice and its determinants among mothers with children aged between 0-24 months. The information collected included socio-economic characteristics, Water, sanitation and hygiene (WASH) and Infant and young child feeding practices. The questionnaire was adopted in English, and translated into local language (Afan-Oromo) by experts and translated back into English by the professionals who speak both languages to check for its consistency. The study questionnaire's addressed the outcome variable (Infants and young children feeding practices) and independent variables like socio-demographic, occupation, place of delivery, support from health facility and Mothers' work load. Before, actual data collection the questionnaire was pre-tested on 10% of the sample size. Based on the pre-test results, some amendments of the questionnaire were conducted. Data was collected by seven B.Sc. public health, nurses and supervised by two experienced supervisors. All of the data collectors and supervisors have taken the two-days training about the study objectives, procedures, ethical and the content of the study. The data quality was maintaining through checking for completeness, accuracy, clarity, and consistency by the supervisors and the principal investigator by daily basis.

Data processing and analysis

First, data were interred into Epi Info 5.3.4 and exported to SPSS 20.0 Statistical package to clean and analyze the data. First, we explored the frequency distribution of socio demographical, IYCF practices and WASH activities of the study subjects and descriptive statics was used to summarize and present the frequencies, percentages and tables with 95% CI before the prevalence estimate. The binary logistic regression model was used to identify the determinant factors associated with young child feeding practices. Then variables which showed associations with outcome variable in the bivariate analysis were entered into multivariate logistic regression model. Multiple logistic regression analysis was used to examine the association between outcome variable and independent variables to avoid other potential confounders. A p-value of less than or equal to 0.05 was used to state the statistical significance.

Ethical clearance was received from Wollega University review board. Further permissions were obtained from the woreda administrative and written consent were taken from study subjects. Participation in the study was voluntary and information collected from the study subjects was handled confidentiality.

Results

A total of 339 study participants have taken part in the study. Of the total study participants, about (41.6% males) and (58.4%) were females. Regarding to the study participants educational background, (uneducated 33.0%), (can read and write 33.6%), (completed primary school 25.1%) and about 8.3% were secondary school and above). The majority (58.1%) were Protestant and (41.9%) were Orthodox followers. The majority 66.7% of study mothers were housewife, (farmer 16.8%), government employee 8.3% and daily laborer 8.3%. about 58.5% of the study fathers were farmers while 17% of were merchants. Of the study participants about 58.7%, 33% and 8.3% had 6-10, 1-5 and 11-15 family size, respectively. About half 50% of the study mothers hadn't autonomous decision-making and power to control their assets. The majority (41.6%) of the study participants' child age (in moths) was 12-24 while 6-12 months 33.3% and 1-6 was 25% (table 1)

Table: 1. Socio-demographic characteristics of the study participants in Jima Rare district of Ethiopia, 2020

The status of maternal healthcare service delivery and child Anthropometric measurements. The majority (91.7%) of the study mothers' child were immunized and following the rest of vaccine that delivered in their age rages. About (74.6%) children were had no illness diarrhea, cough, and fever in the past six months while (33%) had these symptoms at least once in the last six months. Most (57.6%) of the respondents seek advice about IYCF practice from HEW or other Health professionals in the last past three months, but 42.2% did not. The majority (68.7%) of child's MUAC measures was >12, while 0.6% and 5.6% of MUAC measurement were <11 and between 11-12 centimeters, respectively. About 58.7% of study respondents were visited by HEW/other health professionals at their home, but their counterparts (41.3% did not) in the last 3 months of this study.

The study mothers maternal ANC healthcare utilization practice (table 3) shows that the majority (38.3%) of mothers visited health institutions 2-3 times for ANC, while others (none 26%), at least once (32%) and more than four times 3.5%). About 30.7% of mothers gave their last childbirth at health center, while (health post 27.4), (home 25%0, (hospital 16.8%) their last child place of delivery. The majority (76.7) of study participants didn't received IYCF Counseling from healthcare professionals during ANC and/or PNC visit of health institutions. Of the study participants about 56.9% received the postnatal care service visit for 1-2 times, whereas 11.8% received ≥ 3 times and 31.3 didn't for postnatal care service visit. The majority (31.6%) of study participants hadn't received IYCF practical support from anyone. However, others received the IYCF practical support from (Family members 12.4%), (WDA 18.6%), HEWs 30% and (other healthcare professionals 7.4%). About 38% of study mothers hadn't got the opportunity to discuss IYCF practices. However, about 12.7%, 16.8% and 25% had got the opportunity to discuss about it from family members, WDA, and HEWs, respectively (table 2).

Table 2: The status of maternal healthcare service delivery and child Anthropometric measurements of the study participants in Jima Rare district of Ethiopia, 2020

Women's empowerment, household food security and agriculture practices

Out of the total study respondents the autonomy to make a decision on their monthly or yearly earned money the majority (58.4%) was by their husbands, while 16.5% of them had an autonomy to decide on their monthly/yearly income jointly. The majority (58.1%) of mother participants hadn't control and power in decision-making, but (41.9%) had some power in decision-making and control over assets**.** About (58.7%) study participants reported any of their household members hadn't eat a smaller meal than they felt they need in the last four weeks of the study, but their counterpart (41.3%) they did they felt they had smaller meal than the usual. Furthermore, the majority (51%) of the respondent didn't eat a limited variety of foods in the last four weeks, but about half (49%) had limited variety of foods due to a lack of resources.

The majority (83.5%) of the study participants reported they have their own agricultural land, of this the majority (75.2%) have 1-3 hectares,8.3% have 4-6 hectares, however (16.5%) households hadn't the agricultural land. More than half (75.2%) of households had their own any livestock, herds, other farm animals and 84(24.8%) hadn't any of these livestock or other farm animals (table 3).

Table 3: The Women's empowerment, household Food security and agriculture practices

of the study participants in Jima Rare district of Ethiopia, 2020

Water, Sanitation and Hygiene (WASH) practice of the study participants

The majority (65.5%) of their households' main source of drinking water was protected spring, while (unprotected springs 24.5%), (public stand pipes 8.6%) and 1.5% of them of participants' households use a pipe connected into their home. Of the total respondents (had latrine without slab 66.7%), no latrine 24.8% and (latrine with slab 8.6%) for defecation. The majority 75% of households primarily buried their households waste, while their counterparts (25%) dumped in street/open space. About (66.7%) of respondents practice hand washing with a soap after and before preparing food, but 33.3% did not practice handwashing before and after food preparation. Out of the total children who had diarrhea, cough, and fever in the last 3 months (n= 112), about 70.5% and 19.6 % their households were using unprotected springs and protected source of drinking water, respectively. Of the total children who had diarrhea, cough, and fever in the last 3 months (n= 112), majority 64.3% and 22.3 % of children's family haven't toilet facility and used shared toilet shared with other households (table 4).

Table4: Water, sanitation and hygiene (WASH) practice of the study participants in Jima Rare district of Ethiopia, 2020

The IYCF breastfeeding and complementary feeding practices by using the eight core indicators of WHO) of study participants

The actual feeding practice style among the respondents had been assessed by using eight core indicators of infant and child feeding practice of the WHO. About (78%) of mothers initiated breastfeeding within one-hour after birth, but (25%) of mothers did it after birth within twenty-four hours. More than (half 66.7%) and 33.4% of the respondents practiced exclusive breastfeeding at 4-5 months and for the first six months without giving any additional food except for necessary medications, respectively. Less than half (33.3%) of mothers continued breastfeeding at 1 year of child age. But about 16.7% and 11.8% of mothers continued breastfeeding at 18 months and at 2 years of the child age. Moreover, about 21.6% of participants reported they were practicing bottle feeding.

Regarding to complementary feeding practices (fig 1), about 33.4% and 66.7% of mothers started introducing solid, semi-solid or soft foods at (for all children at 4 to 5 months) and (all children at 6 months and above), respectively. Overall, of the total participants' proportion of children age 6- 23 months who met minimum meal frequency, composite of minimum dietary diversity and, consumption of iron-rich or iron-fortified foods accounts for 51.2%, 49.9% and 25.4%, respectively. About half proportion (49.9%) of children age 6- 23 months fit for the minimum acceptable diet (fig 1).

Predictors of IYCF practice of the study participants in Jima Rare district of Ethiopia, 2020

The multivariate analysis revealed that being illiterate (AOR = 0.231; 95% CI (0.625-0.942)), less power to decide on the earned money ((AOR = 0.231; 95% CI (0.625-0.942)), hadn't get the opportunity to discuss IYCF practices ((AOR = 0.231; 95% CI (0.625-0.942)), and less autonomy of decision-making and control power over assets ((AOR = 0.231; 95% CI (0.625-0.942)) were identified as factors that contribute in less likely IYCF appropriate practices than their counterparts. Moreover, the households who have 11-15 total family size were less likely practice IYCF than those household who have less family size AOR=0.431; 95% CI (0.715-0.802)). However, mothers who gave birth at health institutions, get help from their husband, had received practical support of IYCF practices, counseling during ANC and/or PNC visit and the households who have agricultural land and radio were more likely to carryout appropriate IYCF practices than their comparable groups.

Mothers who gave birth at health institutions were 1.734 times more likely to have appropriate IYCF practice than mothers who gave birth at home (AOR =1.734; 95% CI: (1.130, 2.661)). Mothers who have been counseled during ANC and/or PNC visit and having practical support on IYCF practices were 3.41 and 2.15 times more likely to practice IYCF appropriately than their comparable group (AOR=3.41; 95% CI: (2.641-4.012), (AOR=2.15; 95% CI: (3.312-5.013), respectively. Furthermore, mothers who got their husband help to feed child and those who have agricultural land were about two-times more likely to

practice IYCF appropriately than their comparable group (AOR=1.982 and 1.473 (AOR=1.893 3.41; 95% CI: (2.641-4.012), (AOR=2.15; 95% CI: (3.312-5.013), respectively. Mothers who gave birth at health institutions were 1.734 times more likely to have appropriate IYCF practice than mothers who gave birth at home (AOR =1.734; 95% CI: (1.130, 2.661)). This also extends to households those who have radio were 1.2 times more likely to have appropriate IYCF practice than their comparable group (table 5).

Table 5. Predictors of IYCF practice of the study participants in Jima Rare district of Ethiopia, 2020

Discussion

This study aimed to examine infant and young child feeding practice and its determinants in Jima Rare Woreda, Oromia Region state, Ethiopia. The actual feeding practice style among the respondents had been assessed by using eight core indicators of infant and child feeding practice of the WHO. The finding result suggests that the overall appropriate infant and young child feeding practice was low. The finding revealed that (initiated breastfeeding within one-hour after birth 78%), (66.7% and 33.4% exclusive breastfeeding at 6 and 4-5months), respectively. Similarly, the researches that conducted in other part of Ethiopia and Nigeria shows that about 62.6% and 14.5% of mothers reported that they initiated breastfeeding within one-hour of infant birth, respectively [26].

The study revealed that about 33.3%, 11.8% and 16.7% of mothers continued breastfeeding at 1, 2 years and at 18 months. This proportion is far less than the recommended proportion of mothers to be continued breastfeeding to one-year age by the WHO [27]. Also the national EDHS (2011) and the study conducted in Addis Ababa, Ethiopia shows that about 35% and 94.8% of mothers continued breastfeeding to at age of one-year, respectively [EDHS 2011 and 28]. The difference may be due to the study participants' residence area in which in this study most of participants were from rural area. This finding shows that more than (half 66.7%) and 33.4% of the respondents practiced exclusive breastfeeding at 4-5 months and for the first six months without giving any additional food except for necessary medications, respectively. Concurrently, the study conducted in Nigeria, Ethiopia shows that about 24.3% and 55.6% [29] mothers practiced exclusive breastfeeding at one-year age, respectively [29, 30]. The national EDHS (2011) reported that 53% of mothers practiced exclusive breastfeeding at one-year age, which is higher that this study finding. The discrepancy may be due to the study area and the sampling size since the EDHS was conducted at a nationwide by using large sample [31]. Regarding to complementary feeding practices, this finding revealed that about 33.4% and 66.7% of mothers started introducing solid, semi-solid or soft foods at (for all children at 4 to 5 months) and (all children at 6 months and above), respectively. Similarly, the study conducted in Nigeria and national EDHS shows that 45.8% and 46% of mothers started complementary feeding practices at 6 months' age, respectively [30, 31, 33].

In this study of the total participants' proportion of children age 6- 23 months who met minimum meal frequency, composite of minimum dietary diversity and, consumption of iron-rich or iron-fortified foods accounts for 51.2%, 49.9% and 25.4%, respectively. About half proportion (49.9%) of children age 6- 23

months fit for the minimum acceptable diet. Concurrently, the study conducted in Zambia, and Uganda shows that the proportion 54.1% and56.3% of children age 6- 23 months meet for a minimum meal frequency, respectively [17, 32]. Similarly, the study conducted in Tanzania shows that the proportion 38% of children age 6- 23 months meet for a minimum meal frequency [33]. Concurrently, the study conducted in Tanzania shows that the proportion 38% of children age 6- 23 months meet for a minimum dietary diversity within 24 hours' recall [31, 33].

This study multivariate analysis finding shows that mothers who gave birth at health institutions, get help from their husband, had received practical support of IYCF practices, counseling during ANC and/or PNC visit and households who have agricultural land and radio were more likely to carryout appropriate IYCF practices than their comparable groups. However, being illiterate, less power to decide on the earned money, hadn't get the opportunity to discuss IYCF practices, and less autonomy of decision-making, households who have 11-15 total family size and control power over assets were identified as factors that contribute in less likely IYCF appropriate practices than their counterparts. Concurrently, the study conducted in Ethiopia, Zambia shows that mothers who haven't formal education identified as factors that contribute in less likely IYCF appropriate practices than their counterparts [32, 34]. Similarly, the mothers who get feeding help from their husbands (more likely) and who can't to decide on earned money less likely practice appropriately IYCF than their counterparts [33, 35].

Conclusion

The finding revealed that (initiated breastfeeding within one-hour after birth 78%), (66.7% and 33.4% exclusive breastfeeding at 6 and 4-5months), respectively. About 33.3%, 11.8% and 16.7% of mothers continued breastfeeding at 1, 2 years and at 18 months. About 33.4% and 66.7% of mothers started introducing solid, semi-solid or soft foods at 4 to 5 months at 6 months and above), respectively. The overall, proportion of children age 6- 23 months who met minimum meal frequency, composite of minimum dietary diversity and, consumption of iron-rich or iron-fortified foods accounts for 51.2%, 49.9% and 25.4%, respectively. About half proportion (49.9%) of children age 6- 23 months fit for the minimum acceptable diet. Out of the total children who had diarrhea, cough, and fever in the last 3 months (n= 112), about 70.5% and 19.6 % their households were using unprotected springs and protected source of drinking water, respectively. Of the total children who had diarrhea, cough, and fever in the last 3 months (n= 112), majority 64.3% and 22.3 % of children's family haven't toilet facility and used shared toilet shared with other households.

This study multivariate analysis finding shows that mothers who gave birth at health institutions, get help from their husband, had received practical support of IYCF practices, counseling during ANC and/or PNC visit and households who have agricultural land and radio were more likely to carryout appropriate IYCF practices than their comparable groups. However, being illiterate, less power to decide on the earned money, hadn't get the opportunity to discuss IYCF practices, and less autonomy of decision-making, households who have 11-15 total family size and control power over assets were identified as factors that contribute in less likely IYCF appropriate practices than their counterparts.

Recommendations

Therefore, we recommend the initiatives and interventions should focus on advocacy for institutional delivery, counselling and practical support for IYCF practice. Special attention needs to be given for young and illiterate mothers. Moreover, attention need to address to empower women to have autonomy of decision-making and control power over assets to support them for appropriate IYCF practices. Furthermore, we recommend to work on source of drinking water and toilet facilities for the communities.

Limitation of the Study: This study employed only quantitative study design and qualitative approach was not considered.

Abbreviations

ANC, Antenatal Care, EDHS, Ethiopian Demographic Health Survey, HEW, Health Extension Workers, HH Household, IYCF Infant and Young Child Feeding, MUAC Mid-Upper Arm Circumference, PNC Postnatal Care, WASH, Water, Sanitation and Hygiene, WDA, Women Development Army

Declarations

Ethics Approval and Consent to Participate: Ethical clearance was received from Wollega University review board. Further permissions were obtained from the woreda administrative and written consent were taken from study subjects.

Consent for Publication: Not applicable

Availability of Data and Material: Up on the request, data and material will be available

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Tables

Table 1

riables		Frequency	%
other/care giver age	20-24	56	16.5
	25-29	84	24.8
	30-34	143	42.2
	35-39	56	16.5
eligion	Orthodox	142	41.9
	Protestant	167	49.3
	Muslim	30	8.8
arital status	Married	282	83.2
	Divorced	29	8.6
	Widowed	28	8.3
others educational background	Illiterate	112	33.0
	Can read and write	114	33.6
	Primary school	85	25.1
	Secondary and above	28	8.3
others occupation	housewife only	226	66.7
	Farmer	57	16.8
	Government employee	28	8.3
	Daily laborer	28	8.3
thers educational background	No husband in home	57	16.8
	Illiterate	56	16.5
	Can read and write	56	16.5
	Primary school	114	33.6
	Secondary and above	56	16.5
	Farmer	198	58.4
	Government employee	28	8.3
	Merchant/Trade	56	16.5
tal family size	1-5	112	33.0
	6-10	199	58.7
	11-15	28	8.3
tonomy of decision-making and control power over assets	Yes	170	50.1
	No	169	49.9
lected child age in month	1-6	85	25.1
	6-12	113	33.3
	12-24	141	41.6
Child sex	Male	141	41.6
	Female	198	58.4

Table 2

Variables	Category	Frequency	%
Child ever been immunized	Yes	311	91.7
	No	28	8.3
ANC visit	None	89	26
	At least once	109	32
	2-3	130	38.3
	≥4 times	12	3.5
Last child place of deliver	Home	85	25
	Health post	93	27.4
	Health center	104	30.7
	Hospital	57	16.8
Current breastfeeding	Yes	226	66.7
	No	113	33.3
Postnatal care service visit	None	106	31.3
	1-2 times	193	56.9
	≥ 3 times	40	11.8
IYCF Counseling during ANC and/or PNC visit	Yes	79	23.3
	No	260	76.7
Mothers who had received practical support on IYCF practices	No one	107	31.6
	Family members	42	12.4
	WDA	63	18.6
	HEWs	102	30
	Other health professionals	25	7.4
Mothers who had ever gotten the opportunity to discuss IYCF practices	No one	129	38
	Family members	43	12.7
	WDA	57	16.8
	HEWs	85	25
	Other health professionals	25	7.4
Has child had illness diarrhea, cough, and fever in the last 2 weeks?	Yes	112	33.0
	No	227	67.0
Did you seek advice about IYCF practice from HEW or other Health professionals center in the last three months	Yes	196	57.8
	No	143	42.2
Child (age greater than 6 months) MUAC measures (in centimeter).	<11	2	0.6
	11-12	19	5.6
	>12	233	68.7
In the last 3 months, have you been visited at your household by an HEW/other health professionals	Yes	199	58.7
	No	140	41.3

Table 3

ables		Frequency	%
decides the money you earn will be used	Husband	198	58.4
	Mother	56	16.5
	Jointly	85	25.1
ou have some control and power in decision-making	Yes	142	41.9
	No	197	58.1
ıe past four weeks, any household member have to eat a smaller l than you felt you needed because not enough food.	Yes	141	41.6
	No	198	58.4
ıe past four weeks, did you or any household nber have to eat a limited variety of foods to a lack of resources.	Yes	146	43.1
	No	193	56.9
s any member of the household own any agricultural land?	Yes	283	83.5
	No	56	16.5
ıber of hectares of agricultural land	1-3	255	75.2
	4-6	28	8.3
	No agricultural land	56	16.5
s this household own any livestock, herds, other farm animals	Yes	255	75.2
	No	84	24.8
sehold owned radio	Yes	114	33.6
	No	225	66.4

Table 4

Variables		Frequency	%
What is the main source of drinking water for the household	Unprotected springs	84	24.8
	Protected springs	233	68.7
	Public stand pipes	12	3.5
	Piped connection into house	10	2.9
What is the usual place of defecation for family members	No facility	79	23.3
	Pit toilet/latrine used by this household only	242	71.4
	Toilet/latrine shared with other households	18	5.3
How does your HH primarily dispose of HH waste	Dumped in street/open space	85	25.1
	Buried	254	74.9
should wash your hands with soap after and before preparing food	Yes	226	66.7
	No	113	33.3
The child who had diarrhea, cough, and fever in the last 3 months (n= 112) versus main source of drinking water for the household	Unprotected springs	79	70.5
	Protected springs	22	19.6
	Public stand pipes	6	5.4
	Piped connection into house	5	4.5
The child who had diarrhea, cough, and fever in the last 3 months (n= 112) versus usual place of defecation for family members	No facility	72	64.3
	Pit toilet/latrine used by this household only	15	13.4
	Toilet/latrine shared with other households	25	22.3

Table 5

s	Category	p-value	COR (95% CI)	p-value	AOR, (95% CI)
nal background (illiterate)	Illiterate		0.361 (0.415-0.703)	0.002	0.231;(0.625-0.942)
nily size	1-5	Ref. .			
	6-10	0.002	0.333 (0.190-0.586)		
	11-15	0.001	0.902(0.399-0.582)	0.001	0.431; (0.715-0.802)
d place of delivery	Health institution	0.001	2.601 (2.021-3.450)	0.001	1.734; (1.130, 2.661)
	Home	Ref.			
n over the earned money to use	Husband	0.003	0.783(0.364-0.679)	0.002	0.231; (0.625-0.942)
	Wife	Ref.			
y of decision-making and control ver assets	Yes	Ref.			
	No	0.001	0.321 (0.313-0.485)	0.001	0.231; (0.625-0.942)
ır husband help(yes)	Yes	0.001	2.671 (3.592-6.126|)	0.002	1.982 (2.641-4.012),
	No	Ref.			
ld member has agricultural land	Yes	0.002	3.132(2.621-6.012)	0.003	2.15; (3.312-5.013),
	No	Ref.			
ld owned radio	Yes	0.002	2.41; (2.641-4.012)	0.001	1.201(5.023-7.461)
	No	Ref.			
unseling during ANC and/or PNC	Yes		4.821(5.006-9.531)	0.002	3.41; (2.641-4.012)
	No	Ref.			
who had received practical on IYCF practices	Yes	0.001	3.821(6.106-8.511)	0.003	2.15; (3.312-5.013)
	No	Ref.			
got the opportunity to discuss ctices	Yes	Ref.			
	No		0.621(0.006-0.521)	0.004	0.231; (0.625-0.942)

Figures

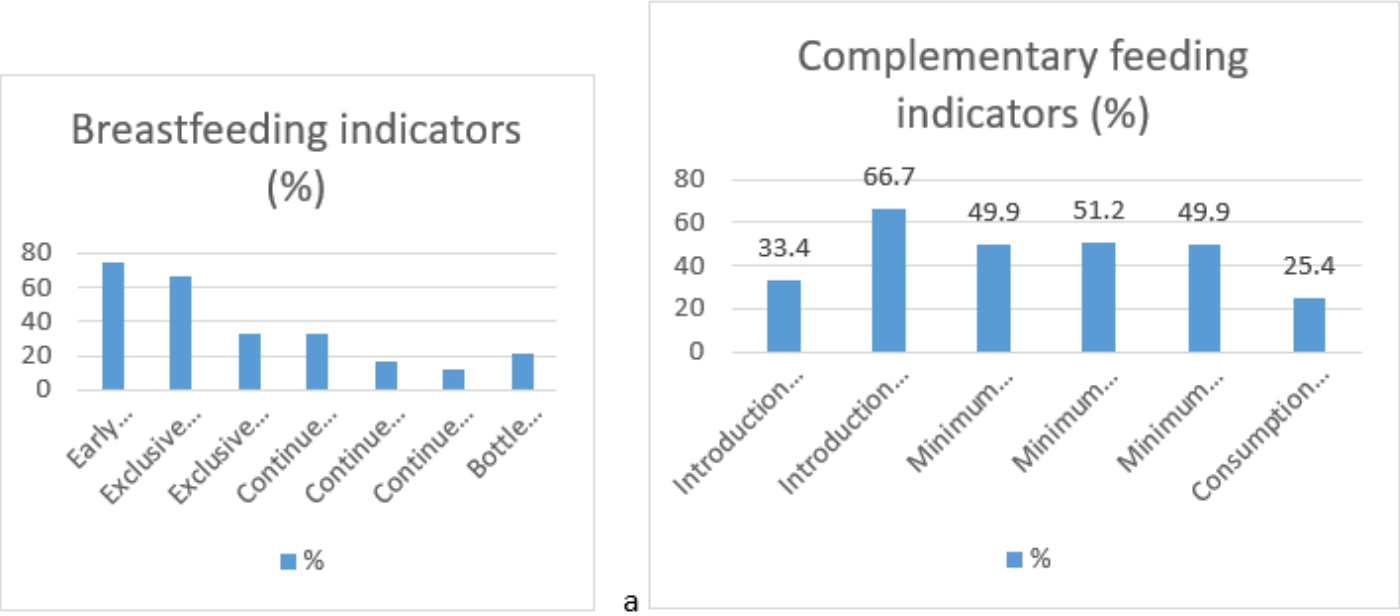

Figure 1

the IYC breastfeeding and complementary feeding practices of study participants in Ethiopia (by using 8 core indicators of WHO, 2020