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Original Research

Infant and Young Child Feeding Practice among Mothers with 0 - 24 months Old Children in Dire Dawa, Eastern Ethiopia

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Abstract

Background: Optimal nutrition in the first two years of a child is very important to prevent and/or reduce morbidity and mortality. Appropriate Infant and Young Child Feeding (IYCF) practices are one of the strategies to achieve good child nutrition. This study was aimed to identify prevalence and factors associated with infant and young child feeding practices among mothers with 0- to 24-month-old children in Dire Dawa, eastern Ethiopia.

Method: A community-based cross-sectional study was conducted in 2022 among 704 randomly selected mother-infant pairs at the Dire Dawa city administration. Data were collected by 30 data collectors through face-to-face interview techniques. Data were entered into Epi-data version 3.1, exported to SPSS version 25, and then cleaned and analyzed. All covariates that were significant at $p < 0.05$ in bivariate logistic regression were considered for multivariable logistic regression analysis. The direction and strength of statistical association were measured by an odds ratio of 95% CI. Finally, statistical significance was declared at a p-value ≤ 0.05.

Results: Appropriate infant and young child feeding practice was found to be 77.8% [95% CI: 75%-80.8%]. About 28.6% of mothers gave foods with minimum dietary diversity to their children. Postnatal care follows up [AOR=2, 95% CI:1.40-3.81]; infants and young children who received a growth monitoring program [AOR=0.65, 95% CI:0.42-0.99], the presence of only one under-five child in the house [AOR=3.9, 95% CI:1.06-14.71], and mothers' knowledge about infant and young child feeding practices [AOR=2.5, 95% CI:1.32-5.04] were significantly associated with infant and young child feeding practices.

Conclusion: Even though there was high overall appropriate infant and young child feeding practice, minimum dietary diversity practice was low. Thus, tailored intervention is needed to strengthen nutrition education with due focus on a diversified diet for infant and child growth and development.

Keywords: Child Feeding Practice, Minimum Dietary Diversity, Dire Dawa, Eastern Ethiopia.

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1. Introduction

Proper infant and young child feeding (IYCF) practices have been recognized as the most key intervention for improving child survival and development [1,2]. Malnutrition has been responsible for 60% of the 10.9 million deaths annually among children under five and over two-thirds of these deaths, are often associated with inappropriate feeding practices [2]. Infants and young children need adequate feeding to develop their full potential during the first 1,000 days' period [3,4]. World Health Organization (WHO) recommends appropriate infant and young child feeding practice with at least early initiation of breast feeding and exclusive breastfeeding for infants less than 6 months and feeding foods containing four and above out of the seven foods per 24hrs for those aged 6-24 months [2].

Globally, proper infant and young children feeding practice can prevent the death of 2.7 million children or 45% of all child mortality associated with malnutrition mainly in developing countries [2,5,6].Malnutrition in under five years children remained unfinished agenda for developing countries and the United Nations (UN) has planned to reduce the preventable death of under-five children to 25 per 1000 live birth by 2030 [7].

Proper feeding of infants and young children can increase their chances of survival and promote optimal growth and development. Ideally, infants should be breastfed within one hour of birth, breastfed exclusively for the first six months of life and continue to be breastfed up to 2 years of age and beyond with safe and age-appropriate complementary feeding starting at 6 months [3,8]. However, in many countries, less than a fourth of infants and young meet the criteria of dietary diversity and meal frequency appropriate for their age [4].

Approximately 25–50% of infant mortality is attributed to suboptimal IYCF practices. Achieving optimum IYCF practices is a major challenge in both developing and developed countries [3]. In Sub-Saharan Africa, IYCF practices are very low and about one-third of the globally undernourished children reside in this region [9]. Interventions to improve household food security and child nutrition can improve child growth and development [10]. The main barriers to the use of appropriate IYCF practices are caregiver's knowledge about breast and complementary feeding, the influence of culture and the burden of other responsibilities the caregivers have in the household [11].

Worldwide, 45% of infants and young children got breastfeeding within one hour of birth, 40% exclusively breastfed (0-5 months), 66% introduced semi-solid foods (6-8 months), and 52%

received a minimum meal frequency, 30% met minimum diet diversity and 17% got minimum acceptable diet (6-23 months). Whereas in Eastern and Southern Africa 63%,55%, 75%, 43% 24% and 13% have received breast milk within one hour of birth, exclusively breastfed (0-5 months), introduced to solids foods (6-8 months), received a minimum meal frequency, minimum diet diversity and minimum acceptable diet respectively (6-23 months) [12]. In Africa, Asia, and Latin America only 47–57% of infants are exclusively breastfed [13].

The under-five mortality rate in Ethiopia is 67 per 1000 live birth in 2016 [14]. The Ethiopia developed the IYCF guideline in 2004 following WHO recommendation of global strategy for feeding infants and young children for proper nutrition and health [15]. In southern and northern Ethiopia, breastfeeding is widely practiced but the timing, complementary feeding and dietary diversity practices are inadequate [16]. Only 60% of children aged 6 to 8 months received timely complementary foods. Insufficient quantities and inadequate quality of complementary foods, together with poor feeding practices, pose a threat to children's health and nutrition. Interventions to improve complementary feeding is critical to reducing all forms of malnutrition [17].

In Ethiopia, only 58 % of infants under 6 months are exclusively breastfed and only 7% of children age 6-23 months have met the criteria for a minimum acceptable diet. A major contributing factor for child malnutrition is poor feeding practices. The further analysis of EDHS 2011 data indicated that 10.8% and 44.7 % of children aged 6–23 months have received minimum dietary diversity and minimum meal frequency, respectively and the Minimum acceptable diet is 4% in Ethiopia [18,19].

Given the high burden of undernutrition among under-five children in Ethiopia, to achieve the goals of reducing undernutrition and the resulting health problems, it is very important to conduct studies to know the existing practices and status of the IYCF in the country. Even though some studies were conducted on the magnitude of selected IYCF indicators and related risk factors in different parts of Ethiopia, there is still limited information available regarding many of the IYCF indicators, and there is no well-documented study with epidemiologically reliable evidence and an adequate sample size, particularly in eastern Ethiopia and the study area. Thus, this study was aimed at identifying the prevalence and factors associated with IYCF practices among mothers with children 0-24 months old in Dire Dawa, eastern Ethiopia.

2. Materials and Methods

2.1. Study Design and Period

This community based cross-sectional study was conducted during February 1-30, 2022.

2.2. Study Setting and Population

The study was conducted in Dire Dawa city administration, located 515 kilometers to the east of Addis Ababa, the capital city of Ethiopia and 50 km from Harar town. According to the 2007 Ethiopian Census, the population of the administration was 341,834 of which 171,461 were males and 170,373 females. There were 41,767 children under five children. The city administration achieved 100% primary health care geographic access. The city administration has six hospitals, fifteen health centers and more than forty Health posts that provide health services to the residents in its nine urban and thirty-eight rural Kebeles [20]. All mothers of infants 0- 24 months in the city administration were source population while study populations were all randomly selected mothers of infants 0- 24 months in the selected kebeles of the city administration.

2.3. Sample Size and Sampling Procedures

The single population proportion formula was used to determine sample size with an assumption of 95% confidence level, 5% margin of error, and 32.1%prevalence of appropriate infant and young child feeding practice(21). We considered design effects 2 and 5% to account for the non-response rate. Thus, the final sample size was 704 mothers of infants 0-24 months old. Among the 47 kebeles in the administration, fifteen were selected using the simple random sampling technique by lottery method. The sample size was proportionally allocated to the fifteen kebeles, based on the number of mother-infant pairs of each kebele obtained from the city administrative Health Bureau and health extension workers registry. The study participants were selected by a simple random sampling technique using their list from the health extension workers registry.

2.4. Data Collection Tool and Procedure

Data were collected using interviewer-administered techniques using a structured questionnaire which was extracted from previously published studies [10,14,18-19,21-30] and adapted World Health Organization IYCF assessment guidelines [2-3]. The questionnaire included socio-demographic characteristics of infants, young children, mothers and fathers, maternal health, obstetric history and health service utilization characteristics, mothers' knowledge of IYCF, and infant and young child feeding and dietary habits. Infant and young child feeding practice were assessed using the WHO feeding practice indicators based on a 24-

hours recall method. The indicators used were initiation of breastfeeding within one hour of birth, breastfeeding exclusively for the first six months, continued breastfeeding at 1year, no pre-lacteal feeding, no bottle feeding and initiation of solid and semi-solid food at six-month, minimum dietary diversity, minimum meal frequency, and minimum acceptable diet [2,3].

2.5. Data Quality Control

The questionnaire was initially prepared in English and translated Afan Oromo, Af-Somali and Amharic and back to English to check for consistency. The questionnaire was pre-tested on 5% of mothers with infants and young children aged 0-24 months in kebele outside the study area and necessary corrections were considered before the actual data collection. The interview was conducted at mothers' home-keeping their privacy. Data collectors and field supervisors were trained on the data collection tool and interview approaches. Onsite data collection supervision was carried out by the investigators and field supervisors, and appropriate feedback was given where needed.

2.6. Data Processing and Analysis

The data were checked for completeness, entered EPI data version 3.1 and then exported to SPSS statistical software for analysis. The findings of the study were summarized in text descriptions, tables, and graphs. The outcome variables were coded into binary as "1" for appropriate IYCF practice whereas "0" for inappropriate IYCF practice. Appropriate IYCF practice: defined as exclusive breastfeeding in children age less than 6 months, early initiation of breastfeeding, nonuse of bottle feeding, minimum meal frequency, minimum dietary diversity, timely introduction of solid, semi-solid and soft foods in 6 - 8 months and breastfeeding. A practice that was appropriate for a specific age group was given a score of 1 and a practice that was inappropriate was given a score of 0. If sum scores were 4 or above, it was considered as appropriate practice and if not considered as inappropriate IYCF practice. Good IYCF knowledge as if the mothers responded correctly to 60% or above 60% IYCF knowledge questions while Poor IYCF knowledge was when the mothers responded correctly to below 60% of IYCF knowledge questions

The association between the outcome variable (appropriate IYCF practice) and independent variables were analyzed using a binary logistic regression model. Covariates yielding a p-value<0.25 were retained and entered into the multivariable logistic regression analysis. For measuring the strength of the association between the outcome and independent variables, Crude Odd Ratio (COR) and Adjusted Odd Ratio (AOR) along with 95% Confidence interval (CI) were calculated. The fitness of the model was tested by Hosmer-Lemeshow goodness of

fit test, and accordingly, the model was considered fit because it was insignificant at $p < 0.05$. Finally, statistical significance was declared at p-value ≤ 0.05.

3. Results

3.1. Socio-demographic Characteristics of Study Participants

A total of 704 (100%) mothers of infants and young children aged 0-24 months responded to the questionnaire. The mean (+ SD) age of mothers/caregivers was 28.9 ± 4.7 years and ranged from 16 to 42 years. The majority of infants' and young children's mothers (83.5%) were married. About 468 (62.2%) of the respondents were from urban areas. Around 38.2% of mothers were Muslim by religion (Table 1).

Table 1: Socio-demographic characteristics of parents of infants and young children in Dire Dawa administration, eastern Ethiopia: February,2022.

Variables (n=704)	Categories	Frequency	Percentage
Age (years)	≤19	13	1.8
	20-24	87	12.4
	25-29	307	43.6
	30-34	201	28.6
	≥35	96	13.6
Educational status of the mother	No formal education	232	33
	Secondary school & below	338	48
	College and above	134	19
Education status of husband	No formal education	137	19.5
	Secondary school & below	394	56
	College and above	173	24.6
Occupation of husband	Government employee	294	41.8
	Private	182	25.9
	Farmer	181	25.7
	Others	47	6.6
Marital status	Married	588	83.5
	Others	116	16.5
Occupation of mother	Government employee	85	12.1
	Other than a government employee	619	87.9
Family size	≤ 3	235	33.4
	>3	469	66.6
No of under five children	2-Jan	684	97.2
	4-Mar	7	1
	≥5	13	1.8

3.2. Sociology-demographic and Related Characteristics

The mean ± SD age was 13.5 ± 5.33 months. About 274 (38.9%) were below 12 months. Almost half, 50.1%, of them were male by sex. About 26.3% of children had a preceding birth interval of less than 12 months (Table2).

Table 2: Socio-demographic and related characteristics of Infants and Young Children (IYC) in Dire Dawa administration, eastern Ethiopia: February,2022.

Variables (n=704)	Category	Frequency	Percentage
Age (months)	<12 months	274	38.9
	12-18 months	222	31.5
	19-23 months	208	29.5
Sex of the child	Male	354	50.3
	Female	350	49.7
Birth order	First	267	37.9
	2^{nd} - 4^{th}	422	59.9
	$\geq 5^{th}$	15	2.1
Preceding birth interval	No previous birth	317	45.0
	<12 moths	185	26.3
	≥ 12 months	202	28.7
Infant weaned at age < 6 months	Yes	120	17.0
	No	584	83.0

3.3. Maternal Obstetric History and Health Services Utilization

During the pregnancy and delivery of the index infant/young child, 73.4% of mothers reported that they had four or more antenatal care (ANC) visits, and 77.7% of them delivered by spontaneous vaginal delivery. Only 30% of mothers recommended postnatal care follow-up. The majority (90%) of their labor was attended by health professionals (Table 3).

Table 3: Obstetric History and Health Services Utilization by Mothers of Infants and Young Children 0-24 months old in Dire Dawa Administration, Eastern Ethiopia: February, 2022.

Variables (n=704)	Category	Frequency	Percentage
ANC visits	No ANC visit	7	1
	Less than four visits	180	25.6
	Four and above visits	517	73.4
Mode of delivery	SVD *	547	77.7
	CS*	157	22.3
Place of delivery	Health facility	522	74.1
	Home	182	25.9
Postnatal care follow-up	Yes	211	30.0
	No	493	70.0
Labor attended by	Health professionals	640	90.9
	SBA*	41	5.8
	TBA*	23	3.3
The attended growth monitoring program	Yes	324	46.0
	No	380	54.0
Attended EPI*	Yes	324	46.0
	No	380	54.0

SVD*=Spontaneous vaginal delivery, CS*=caesarian section, SBA*=skill birth attendant, TBA*=traditional Birth Attendant, EPI*=Expanded program on Immunization

3.4. Maternal knowledge of Infant and Young Child (IYC) Feeding

We assessed the mother's knowledge on IYCF, and the result revealed that more than half of mothers (60.7%) had good knowledge. The majority of mothers, 79.8%, heard about infant and young child feeding practices. About 78.1% and 85.7% of mothers correctly answered that complementary foods are introduced at the age of six months and the importance of colostrum for infant/child health growth and development, respectively. The majority, 515 (72.3%), have also correctly mentioned that breastfeeding should be practiced at least every 2-3 hours per day and that it has to be continued for a minimum of 24 months by describing the importance of doing the same for the stated duration.

3.5. Prevalence of Appropriate Infant and Young Child Feeding Practice

Of the total study participants, 77.8% [95% CI (75.0%-80.8%)] of mothers practiced appropriate infant and young child feeding practices, while the remaining participants did not. The majority of the mothers, 598 (85%), practiced ever breastfeeding. Similarly, about 571 (81.1%) of mothers practiced exclusive breastfeeding up to 6 months, while 521 (76%) mothers reported that they used non-bottle-feeding for their infant and/or young child. Two hundred (28.5%) mothers provided minimum dietary diversity to their children (Figure 1).

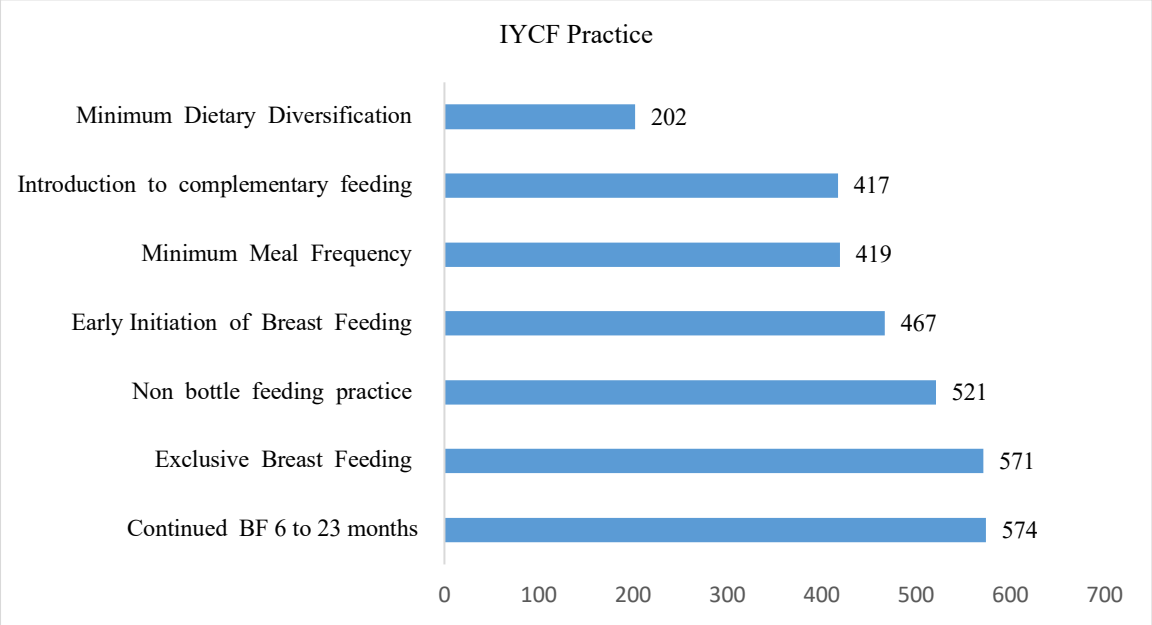

Figure 1: Infant and Young Child Feeding Practice among Mothers of Infants and Young Children aged 0-24 months in Dire Dawa administration, eastern Ethiopia: February, 2022.

More than half (59.2%) of mothers started complementary foods for their children of 6 to 8 months on time, of which 211 (30%), 141 (20%), and 74 (10.5%) were semi-solid, soft, and solid foods, respectively. The majority, 553 (78.6%), of the mothers provided grain, roots, and tubers; 441 (60%) gave dairy products; 329 (46.7%) gave fruits and vegetables; 266 (37.8%)

provided eggs; 203 (28.8%) gave flesh foods; and only 92 (13%) provided legumes to their infants and young children. The mothers were asked about the history of IYC illness, and the result showed that 239 (33.4%) of infants and young children were sick in the two weeks before the data collection date with different illnesses as shown below (Figure 2).

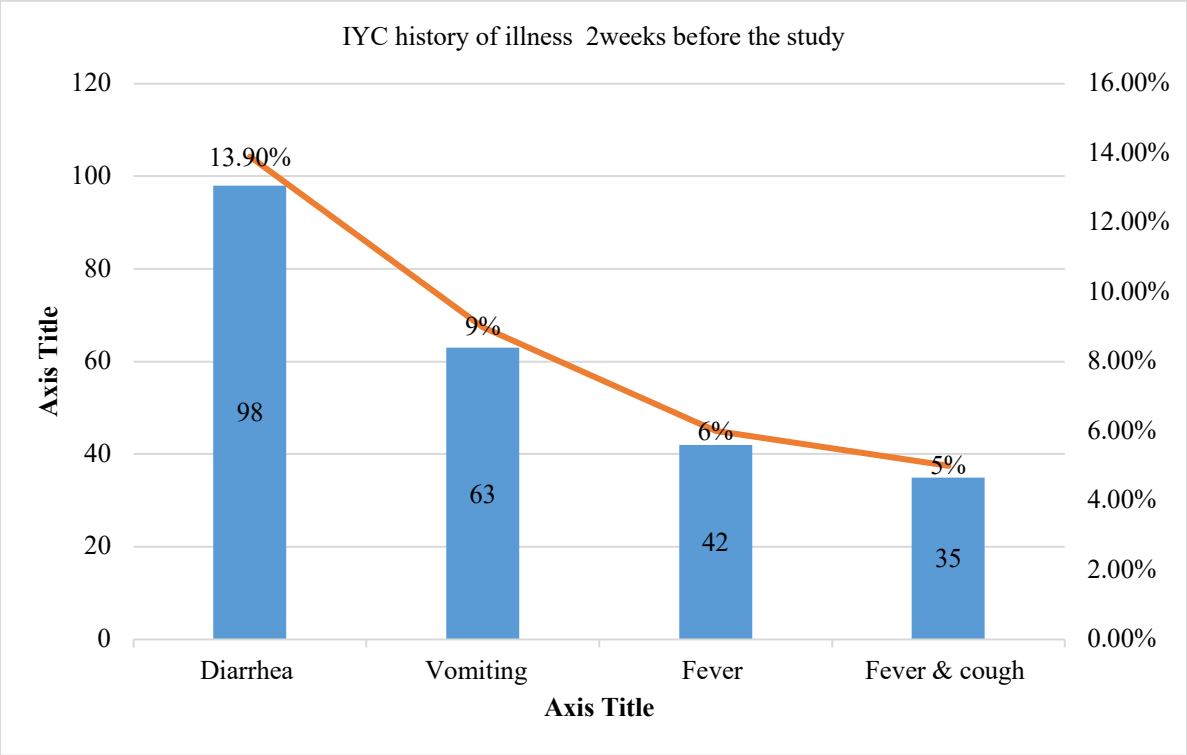

Figure 2: History of illness in the past two weeks among Infants and Young Children in Dire Dawa administration, eastern Ethiopia: February1-15, 2019.

3.6. Factors Associated with IYCF Practice

In bi-variable logistic regression, birth order of the infant/young child, number of children under five years in the household, place of delivery for the index child/infant, having postnatal care follow-up after delivery of the index infant/child, attending a growth monitoring program for the index infant/child, and the mother's knowledge about infant and young child feeding were associated with appropriate IYCF practice.

In multivariable regression analysis, the number of children under 5 years of age in the household, having PNC follow-up after delivery of the index infant/child, attending the growth monitoring program for the index infant/child, and the mother's knowledge about IYCF sustained their association with appropriate IYCF practice. Households with only one child under five years [AOR: 3.9 (95% CI: 1.06-14.71)], mothers who had postnatal care follow-up after delivery of the index infant/child [AOR: 2.8 (95% CI: 1.4-3.81)], and good maternal knowledge about IYCF [AOR: 2.5 (1.32-5.04)] were more likely to practice appropriate IYCF

than their counterparts, whereas the index child who had a growth monitoring program [AOR: 1.6 (95% CI: 11.2-3.4)] was negatively associated with appropriate IYCF practice (Table 4).

Table 4: Factors Associated with Appropriate IYCF Practice among mothers of Infants and Young Children aged 0-24 months in Dire Dawa administration, eastern Ethiopia: February1-15, 2019.

Variable	Category	IYCF Practice		COR (95 CI)	AOR (95% CI)
		Inappropriate	Appropriate		
Residence	Urban	48(30.8%)	218 (39.8 %)	0.67(1.28,3.08)	1.6(1.01-2.40) **
	Rural	108(69.2)	330(69.2%)	1	1
Maternal current working status	Yes	42(26.9%	204(37.2%)	0.6(0.41-0.92)	0.6(0.41-1.01)
	No	114(73.1%)	344(62.8%)	1	1
Educational status of husband	No formal education	35(22.4%)	102(18.6%)	1	1
	2ndry school & below	97(62.2%)	297(54.2%)	1(0.67-1.64)	1.2(0.74-2.01)
	College & above	24(15.4%)	149(27.2%)	2(1.19 - 3.79)	1.8(0.89-3.42)
Birth order	First	46(29.5%)	221(40.3%)	4(1.45-12.17)	2.6(0.83-8.18)
	2nd - 4th	103(66.0%)	319(58.2%)	3(0.95 -7.65)	1.7(0.56-5.11)
	>=5th	7(4.5%	8(1.5%)	1	1
Number of children under 5 years children	One	112(71.8%)	364(66.4%)	6(2.35-15.40)	3.9(1.06-14.71) **
	Two	31(19.9%)	177(32.3%)	10(3.92-28.67)	0.81(0.10-6.51)
	Three & above	13(8.3%)	7(1.3%)	1	1
Place of delivery	Health institution	103(66.0%)	419(76.5%)	1.7(1.10 -2.50)	1.34(0.88-2.04)
	Home	53(34.0%)	129(23.7%)	1	1
PNC*	Yes	24(15.4%	187(34.1%)	2.8(1.78-4.56)	2(1.4-3.81) **
	No	132(84.6%)	361(65.9%)	1	1
Attended growth monitoring Program	Yes	53(34.0%)	271(49.5%)	1.9(1.30-2.70)	1.6(1.2-3.4)**
	No	103(66.0%)	277(50.5%)	1	1
Knowledge of IYCF	Yes	33(21.2%)	393(71.7%)	3.8(2.50-5.70)	2.5(1.32-5.04) **
	No	33(21.2%)	123(78.8%)	1	1

*=significant COR at P < 0.05, **=significant AOR at<0.05andPNC*=postnatal Care Follow up

4. Discussion

The magnitude of appropriate infant and young child feeding practice was found to be 77.8% [95% CI (75.0%-80.8%)]. A number of under-five children in the household having postnatal care after delivery of index children and having good knowledge about IYCF were positively significantly associated with appropriate IYCF practice. But having growth monitoring for infants and young children was found to be negatively associated with appropriate IYCF practice. In terms of the prevalence of appropriate IYCF practice, this is higher than the finding of the study in Shashemene (32.1%) [21] and the Ethiopian national survey (30.6%). other countries' demographic and health surveys, like 32.8% in Kenya, 25.7% in Eritrea, and 19.2% in Uganda [31]. This variation might be due to a difference in the study period or study population characteristics such as lifestyle and study settings.

It has been shown in this study that 81.1% of IYC received exclusive breastfeeding for the first 6 months. This finding is higher than study findings in Shashemene (50.1%) [21], Debre Berhan (58%) [32], and Goba (52.4%) [24], India (13.6%) [30], Nepal (57.8%) [33], and Tanzania (40.8%) [34]. However, this was similar to the study in Bahir Dar [34]. This difference might be due to the difference in population and study setting. Regarding the timely introduction of complementary foods, it was found to be 59.2%. This finding is nearly comparable to the study in Shashemene (65.7%) [21].

The prevalence of bottle feeding in this study was 26%, and in relation to this, 13.9% and 9% of children got sick due to diarrheal disease and vomiting during the past two weeks preceding the survey. This finding is higher than the finding of the Shashemene study (20.9%) [21], the Ethiopian national survey (12%) [14], Zambia (10%) [35], and Tanzania (10.5%). The difference might be mothers' current working status and the easy availability of formula feeding, which is convenient for bottle-feeding. But this finding is lower than the finding of a study in Ethiopia (60.2%) [18]. This could be due to differences in study period, design, and sample size.

The composite mean score of acceptable minimum meal frequency was 59.5%, but minimum meal frequency for breastfed and non-breastfed children was 70% and 75%, respectively, in the 24 hours preceding the survey date. However, this is lower than reports from Shashemene (82%) [21], India (67.8%) [36], Southern Ethiopia (68.4%) [27], Ghana (34.8%) [37], and Tanzania (38%) [38]. This might be due to different methods of MMF calculation and the proportion of age classification specification used. In contrast to this, the current finding is higher than the study findings in Pakistan (48.6%) [10] and Northern Ethiopia (50.4%) [26].

A number of children younger than five years old were significantly associated with IYCF practice. Mothers who had only one under-five infant/young child in the household were 3.9 times more likely to practice appropriate IYC feeding than their counterparts. This might be because more expenses come as the number of children increases, and it would also be difficult to manage their behavior so that appropriate feeding will be compromised. Mothers who had postnatal care (PNC) follow-up after delivery of the index infant/young child were 2 times more likely to practice appropriate IYC feeding compared to those who did not attend PNC follow-up. This is because those mothers who attended PNC would get nutrition education on appropriate IYC feeding practices even if they did not receive such information beforehand that would help them to feed their children appropriately.

The odds of children who had growth monitoring were 1.6 times more likely to practice appropriate IYC feeding. This could be as a result of mothers getting health education and recognizing that proper feeding helps to prevent malnutrition and poor physical growth and mental development among IYC. Another factor that is significantly associated with appropriate IYC feeding practice was mothers' knowledge about IYC feeding. Mothers who had good knowledge about IYC feeding were 2.5 times more likely to practice appropriate IYC feeding as compared to their counterparts. This is because mothers with good knowledge could strive to implement it on time and with the required quality and quantity of food items better than those who lack the knowledge.

5. Limitation of the study

The data used for this study were collected using an interview about the recall of past dietary history, and the accuracy of the information largely depends on the ability of mothers to memorize. As such, it might be subject to recall bias. Though we tried our best to prevent leading questions, social desirability bias might have been introduced by respondents while the data collectors were attempting to clarify the questions to the respondents.

6. Conclusions

The research area has a high overall suitability for IYCF when compared to national data; however, the minimal dietary variety practice is low. Independent factors linked to proper IYCF practice were having a mother who was well-versed in IYCF, having a single kid under five, having postnatal care follow-up, and having an infant or young child who participated in a growth monitoring program. As a result, stakeholders should focus on promoting mothers' attendance at postnatal care follow-ups and enhancing nutrition education, emphasizing the value of a varied diet for newborns and the growth and development of children.

Abbreviations

ANC: Antenatal Care, AOR: Adjusted Odd Ratio, CS: Caesarian Section, CI: Confidence Interval, COR: Crude Odd Ratio, EDHS: Ethiopian Demographic and Health Survey, EPI: Expanded Program on Immunization, IYC: Infant and Young Child, IYCF: Infant and Young Child Feeding, PNC: Postnatal Care, SVD: Spontaneous Vaginal Delivery, SBA: Skill Birth Attendant, TBA: Traditional Birth Attendant, SD: Standard Deviation, UN: United Nations, WHO: World Health Organization.

Authors Contributions

All authors made substantial contributions to the study, including its conception, design, execution, data acquisition, analysis, and interpretation. They were involved in drafting, revising, or critically reviewing the manuscript, approved the final version for publication, consented to submission to the selected journal, and accepted full responsibility for the integrity and accuracy of the work.

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Ethical Consideration

Ethical approval was obtained from the Institutional Research Review Committee of the College of Medicine and Health Sciences at Dire Dawa University. An official letter of cooperation was subsequently secured from the Dire Dawa Administration Health Bureau and submitted to the selected public health institution. All data were collected anonymously, and confidentiality was strictly maintained throughout the study period.

Conflict of Interests

The authors declare that there is no conflict of interest to declare for publication of this study.

Availability of Data and Materials

All the data of this study are available from the corresponding author upon request

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