

Infant and Young Child Feeding Practices and Associated Factors Among Children Aged 0-23 Months in Assayita District Afar Region Ethiopia

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Abstract: Achieving optimum Infant and young child feeding practices is the major challenge in developed and developing countries. Globally, about 40% of under two years age deaths are attributed to inappropriate infant and young child feeding practices. In Ethiopia, a wide range of inappropriate infant and young child feeding practices were documented. The study was aimed to assess infant and young child feeding practice and its associated factors among children aged 0-23 months in Assayita districts, Afar region, Ethiopia, 2018. A Community based cross-sectional study was applied from January 1-30/2018 among 620 study participants. A pre tested structured questionnaire was used to collect data. After data get collected it was cleaned and entered using EPI-Data version-3.02 and exported to SPSS version-20 for further analysis. Binary logistic regression analysis was used to measure the strength of association between explanatory variables and outcome variable. Variables with $p < 0.25$ on univariable logistic regression analysis were candidates for multivariable logistic regression analysis and statistical significance was declared at P -value < 0.05 and 95% CI. In this study the prevalence of appropriate infant and young child feeding practice was 9.2% (95% CI. 7.1–11.6), children from mothers with secondary education (AOR=4.44, 95% CI (1.84, 10.7), delivered at health facilities (AOR=2.55, 95% CI (1.32, 4.93), had Ante Natal Care follow-up (AOR=4.2, 95% CI (2.2, 8.7), and heard information about Infant and young child feeding (AOR=4.38, 95% CI (1.97, 9.5) were predictors of appropriate Infant and young child feeding practice at 95% CI. Promoting institutional delivery, promoting Ante Natal Care service, maternal education and increasing awareness on infant and young child feeding practice should be implemented.

Keywords: Infant Young Child Feeding Practice, Assayita, Afar, Samara University

1. Introduction

Infant and young child feeding (IYCF) in the first two years of life is base for growth and development of children. [1] The first 1000 days of life from conception through the first two years of life is a window of opportunity for child development with optimal nutrition and it also avoids damage because the during this period is often permanent. [2] The global strategy for infant and young child feeding

describes essential actions to protect, promote and support appropriate infant and young child feeding. It focuses on the importance of investing in this crucial area to ensure that children grow to their full potential free from the adverse consequences of compromised nutritional status and preventable illnesses. [3] Under nutrition usually occurs at the age of 3-18 months, hence the child's first two years of life are considered a critical window of opportunity for the prevention of growth retardation and under nutrition, therefore age appropriate interventions should be taken to

ensure that children reach their full growth potential and to prevent irreversible stunting and acute under nutrition. [4, 5]

Promotion of exclusive breastfeeding is the single most cost-effective intervention to reduce infant morbidity and mortality in developing countries. Even after complementary foods have been introduced at 6th month, breastfeeding remains a critical source of nutrients for the infant and young child. It provides about one half of an infant's energy needs up to the age of one year, and up to one third during the second year of life. Breast milk continues to supply higher quality nutrients and protective factors than complementary foods. Therefore, breastfeeding recommended up to 2 years and beyond with adequate complementary feeding. [6-8]

Achieving optimum IYCF practices is the major challenge in developing and developed countries [9]. To improve, maintain and promote IYCF practices, the World Health Organization (WHO) recommended eight core indicators. Early initiation of breastfeeding, Exclusive breastfeeding under 6 months, Continued breastfeeding at 1 year, Introduction of solid, semi-solid or soft foods, Minimum dietary diversity, Minimum meal frequency, Minimum acceptable diet and Consumption of iron-rich or iron-fortified foods are those eight indicators. WHO also recommended seven optional indicators such as Children ever breastfed, Continued breastfeeding at 2 years, Age-appropriate breastfeeding, Predominant breastfeeding under 6 months, Duration of breastfeeding, Bottle feeding and Milk feeding frequency for non-breastfed children. [10]

Globally, about 40% of under two years deaths are associated with inappropriate feeding practices. [10] Optimal breastfeeding and appropriate complementary feeding could prevent 13% and 6% under-five mortality respectively. About two third of malnutrition associated with inappropriate feeding practices during the first year of life. [11] Every day, 3000 - 4000 infants die in the developing world from diarrhea and acute respiratory infections because they are given inadequate amounts of breast milk. More than 10 million children die each year in sub Saharan Africa and South Asia. A major contributor to their deaths is poor breastfeeding practices. The risk of death from diarrhea of partially breastfed infants 0 - 6 months of age was 8.6 times more risk than exclusively breastfed children. [12]

In low- and middle-income countries, recent data revealed that optimal breast feeding prevents about 12% of under-5 child mortality every year. [13] Other contemporary studies in Ethiopia, Ghana, Bolivia and Madagascar have shown that breast feeding prevents 20–22% of neonatal deaths. [14-16] Suboptimal IYCF practices increase the risk of infant and child morbidity and mortality by up to five fold. [17] Child malnutrition causes approximately 2.7 million deaths per year, 156million stunting, 50million wasting and 42million overweight or obesity. [18] In developing countries, approximately 25–50% of infant mortality is attributed to suboptimal IYCF practices. [19-21] The Central Statistical Agency (CSA) 2016 report indicated that the neonatal mortality rate accounts for 43% of under-5 mortality in Ethiopia. [22]

A wide range of harmful infant and young child feeding

practices were documented in Ethiopia. According to Ethiopian Demographic and Health Survey of 2016, 73% of infants started breastfeeding within one hour of birth and 58% infants practiced exclusive breastfeeding during the first six months. About half (60%) of children aged 6 - 8 months consumed solid, semi-solid, or soft foods and 14% of children were fed minimum dietary diversity and 45% of children fed minimum meal frequency per day while 92% of children continued breastfeeding at one year, and 76% continued at 2 year. Only 67% children under the age of two received age-appropriate breastfeeding. The pre-lacteal feeds within the first three days of life were 8%, while 14% used a bottle with a nipple. [22]

To optimize National IYCF practices, the Ethiopian government has been training health professionals, developing and revising procedural manuals and implementing the community integrated management of childhood illnesses and Baby-friendly Hospital Initiative program based on expert opinion, International research and adapted tools accordingly. [23-25] several systematic reviews and meta-analyses have been conducted on the time of initiating of breast feeding (TIBF) [26], exclusive breast feeding [9], long-term effects of breast feeding [27], breast feeding and intelligence [28], duration of exclusive breast feeding [29] and effectiveness of complementary feeding [30]. However, these efforts have failed to bring about substantive and sustainable changes leading to improvement of infant and young child feeding practices. There are limited studies regarding infant and young child feeding practice and associated factors with inappropriate feeding practices in the study area. Therefore, this study was aimed to assess infant and young child feeding practice and associated factors among mothers of children aged 0-23 months in Assayita district, Afar region, Ethiopia.

2. Methods

2.1. Study Area and Period

The study was conducted in Assayita district which is one of 32 districts in Afar. It is 655 kms far away from the capital city Addis Ababa and 70 kms far from the capital city of Afar, Samara. According to the regional administrative report, total population of the districts is 58,274 and the total population of under 5 children is 7645 with a total of 11,655 households. Livestock production is the dominant livelihood source. As of the report from the ARHB, the district has one hospital, one health center, 10 health posts, and 4 private clinics with a total no of 20 health extension workers. The study was conducted from January1-30/2018.

2.2. Study Design

Community based cross-sectional study design.

2.3. Eligibility Criteria

2.3.1. Inclusion Criteria

All mothers having children aged 0-23 months of age in

the selected kebelles were part of this study.

2.3.2. Exclusion Criteria

Mothers who were seriously ill and mothers who were unable to communicate were excluded from this study

2.4. Sample Size Determination

The sample size was determined by using single population proportion formula

$$n = \frac{(Z\alpha/2)^2 \times P(1 - P)}{d^2}$$

Considering the following assumptions:

A Prevalence of exclusive breastfeeding practice 52% [31].

$Z\alpha/2$ =critical value at 95% Confidence level of certainty (1.96).

d =marginal error 5%.

$$n = \frac{1.96^2 \times 0.52 \times 0.48}{0.05^2} = 383$$

Using 1.5 design effect and 10% non-response rate the final sample size was 632.

2.5. Sampling Procedure

Districts were stratified to urban and rural kebelles and four rural and 2 urban kebelles were selected randomly. Next to this, number of households was proportionally allocated to each selected kebelles according to their population proportion to size. Finally systematic random sampling technique was used to get the required samples from each selected kebelles.

2.6. Operational Definition

Optimal infant and young child feeding: initiation of breastfeeding within one hour of birth, exclusively breastfed for the first six months, after which nutritiously appropriate, adequate, and safe complementary foods should be introduced along with continuing breastfeeding up to two years and beyond [8].

Appropriate infant and young child feeding practice: Exclusive breast feeding in children age less than 6 months, early initiation of breast feeding (within one hour), minimum meal frequency (≥ 2 for children aged 6 to 8 months, ≥ 3 for children aged 9 to 23 months in breast feeding children) and (≥ 4 for children aged 6 to 23 months in non-breast feeding children), minimum dietary diversity (≥ 4), timely introduction of solid, semi-solid and soft foods in 6 - 8 months and breast feeding, minimum acceptable diet, consumption of iron-rich or iron-fortified foods and continued breast feeding up to one year (12-15 months). A practice is considered as appropriate if a specific age group received a score of 1, and a practice that is considered as inappropriate if received a score of 0. If summed score of the indicators is equal to 4 or above, it was considered as appropriate IYCFP and if it is below 4 it is inappropriate [36].

Complementary foods: any solid or semi-solid or soft foods which are given to the child. Timely initiation of breast feeding: Putting neonate on mother breast to suck within 1 hour of delivery (including 1hour) [7, 8].

Ever breast feeding: breast feeding any time since birth

Minimum dietary diversity: children 6 - 23 months of age who consume 4 or more food groups from 7 food groups with 24 hours dietary recall.

Continued breast feeding at 1 year: children 12 - 15 months of age who had breast feed [3, 7].

Continued breast feeding at 2 year:-children 20 - 23 months of age who had breast milk fed.

Exclusive breast-feeding (EBF): Infants, who received only breast-milk from his/her mother, and no other liquids or solids with the exception of drops or syrup consisting of vitamins, mineral or medicines. EBF measured for child less than 6 months if the child only breast fed within 24 hour and if child is greater than 6 months [7, 8].

Minimum acceptable diet: -a composite indicator of minimum dietary diversity and minimum meal frequency. It is considered if the currently breastfed and non-breast fed child meets both the minimum diversity and the minimum meal frequency [7, 8].

Minimum meal frequency: - children age 6 - 23 months who receive solid, semi-solid, or soft foods the minimum number (3 times for breastfed children and 4 times for non-breastfed children with 24 hours dietary recall [7, 8].

Predominant breast feeding: the infants' predominant nourishment with breast-milk and allows the infant to receive certain liquids (water and water-based drinks, fruit juice), ritual fluids and ORS, drops or syrups (vitamins, minerals, medicines). Non-human milk and food-based fluids are not allowed [7, 8].

Pre lacteal feeding: -children have given something other than breast milk during the first three days of life.

2.7. Data Collection Tools

Pretested structured questionnaire was used to collect the data. The data was collected by four diploma nurses who are proficient in writing and speaking both Amharic and the local language Afargna with close supervision by supervisor and the researcher.

2.8. Data Collection Procedure and Quality Control

The questioner was prepared in English and translated in to Amharic and local language Afaraff. Data collectors and supervisors were trained for two days on the objective of study, content of questionnaire, how to help study participants and how to take consent from respondents in order to ensure quality of data. The developed questionnaires was pretested on 5% of sample size and based on feedback from pre-test, necessary modifications were done.

2.9. Data Management, Analysis and Interpretation

At the end of data collection, data was checked for completeness, entered in to Epi- data software for cleaning

and transported to SPSS for analysis. Descriptive analysis was used to see frequency, and percentages of the characteristics. Binary logistic regression was used to assess significant predictors of the outcome variable. Variables having P -value ≤ 0.25 in univariable binary logistic regression were taken to multivariable logistic regression to control confounding effect. Finally, Odds Ratio (OR) and 95% confidence intervals (CI) were used to express the final model and statistical significance was declared at P -value ≤ 0.05 .

2.10. Ethical Consideration

Ethical clearance was obtained from Samara University Ethical Review Committee and Permission to conduct the study was obtained from Afar regional health bureau, Assayita districts health office. Oral informed consent was obtained from mothers after describing the benefits of the study and participant's involvement in the study was on voluntary basis and participants who would be unwilling to participate in the study and those who wish to quit their participation at any stage were informed to do so without any restriction.

3. Results

3.1. Socio Demographic Characteristics of Respondents

A total of 620 study participants were included in the study with response rate of 98.1%. Three hundred forty five (55.6%) of the study subjects were female and 259 (41.8%) of them were between 12-23 months old with the mean age of 10.1 (± 6.39 SD) months. Two hundred seventy nine (45%) of the study subject were with birth interval < 24 months. The ages of the study participants were between 20-34 (76%) years with the mean age of 26.35 (± 5.54 SD) years and 349 (56.3%) of them were with no education. Five hundred fifty two (89%) mothers of the study subjects were married. With regard to religion, 561 (90.5%) of the study participant were Muslim and 489 (78.9%) of the households have monthly income > 1000 birr per month (Table 1).

Table 1. Socio demographic characteristics of study subjects in Assayita district, Afar region, Ethiopia, 2018 ($n=620$).

Variables	N	%
Age of child in months		
<6	196	31.6
6-11	165	26.6
12-23	259	41.8
Sex		
Male	275	44.4
Female	345	55.6
Birth order		
1 st	157	25.4
2-4	389	62.7
>4	74	11.9
Birth interval		
No previous birth	157	25.3
<24	279	45
≥ 24	184	29.7
Maternal age		
15-19	109	17.5

Variables	N	%
20-34	471	76
>34	40	6.5
Marital status		
Married	552	89
Divorced	35	5.6
Single	33	5.4
Religion		
Muslim	561	90.5
Orthodox	59	9.5
≤ 1000	131	21.1
> 1000	489	78.9

3.2. Reproductive Health Services and Child Health Characteristics of Respondents

Three hundred sixty four (58.7%) of women were delivered their current child at home and 256 (41.3%) of them were had ANC follow up. With regard to postnatal care services, 218 (35.2%) of mothers of the study subjects got the services. Three hundred two (48.7%) of mothers of the study subject had 3-5 number of pregnancies. with regard to information related to IYCF service, 388 (62.6%) of mother had heard the information from different sources (Table 2).

Table 2. Reproductive health services and child health characteristics among study participants in Assayita district, Afar region, Ethiopia, 2018 ($n=620$).

Variables	N	%
Place of delivery		
Home	364	58.7
Health facilities	256	41.3
Mode of delivery		
Normal	475	76.6
C/s	145	23.4
ANC follow up		
Yes	256	41.3
No	364	58.7
Number of ANC visit		
1 st	72	28.1
2-3	112	43.8
≥ 4	72	28.1
Counselled on IYCFP		
Yes	179	69.9
No	77	30.1
PNC		
Yes	218	35.2
No	402	64.8
Counselled on breast feeding		
Yes	195	89.4
No	23	10.6
Child sick in the last 2 wks.		
Yes	131	21.1
No	489	78.9
Heard about IYCF information		
Yes	388	62.6
No	232	37.4

3.3. Child Feeding Practice Characteristics

Six hundred twenty (100%) of the study subject were ever breast fed and 343 (55.5%) of study subjects initiated breast feeding within one hour interval. Five hundred ninety one (95.3%) of the study subjects fed colostrum. Six hundred two (97.1%) of the study subject were currently breast feeding

and 315 (52.3%) of study subject breast fed ≥ 8 times per day. One hundred thirty four (68.4%) of the children were exclusively breast fed from 0-5 months old and the mean age of exclusive breast feeding was 4.35 (± 1.48 SD) months and 119 (19.2%) of the study subject were experienced pre-lacteal feeding (Table 3).

Table 3. Child feeding practice among children aged 0-23 months in Assayita district, Afar region, Ethiopia, 2018 (n=620).

Variables	N	%
child Ever breast feed		
Yes	620	100
Current breast feeding		
Yes	602	97.1
No	18	2.9
Pre lacteal feeding		
Yes	119	19.2
No	501	80.8
Bottle feeding		
Yes	186	30
No	434	70
Perceived importance of breast feeding		
Growth and development		
Yes	485	78.2
No	135	21.8
Prevent from disease		
Yes	399	64.4
No	221	35.6
Immunity		
Yes	394	63.5
No	226	36.5

3.4. Child Complementary Feeding Practice of Respondents

Three hundred twenty nine (68.7%) of the study subjects started semisolid foods at ≥ 6 months and 98 (100%) of breast feeding children (6 to 8 months) had minimum meal frequency ≥ 2 times. Sixty eight (69.4%) of the study subject were introduced solid, semisolid and soft food between 6 to 8 months. Fifty seven (9.2%) of the study subjects had appropriate IYCF practices (Table 4).

Table 4. Child complementary feeding practices among children aged 0-23 months in Assayita district, Afar region, Ethiopia, 2018 (n=620).

Variables	N	%
Age of initiating semisolid food		
<6months	150	31.3
≥ 6 months	329	68.7
Thickness of food		
Thin like soap	214	45.1
medium thickness	235	49.5
Very thick	26	5.5
Minimum meal frequency (9-23 months breast feed per 24hr)		
<3	135	43.8
≥ 3	173	56.2
Minimum meal frequency (6-8 months breastfeed per 24 hrs)		
<2	0	
≥ 2	98	100
Minimum meal frequency (6-23 months none breastfeed)		
<4	12	66.7
≥ 4	6	33.3
Minimum acceptable diet		
No	424	100
Yes	0	

Variables	N	%
Introduction solid, semisolid and soft food (6-8 months breast feed)		
No	30	30.6
Yes	68	69.4
Child feed Flesh foods (meat, fish, liver/organ meats) per 24hr		
No	229	56.4
Yes	177	43.6
Continued breast feeding up to 1 year (12-15 moths)		
No	7	6.3
Yes	105	93.7
IYCF practice		
Appropriate	57	9.2
In appropriate	563	90.8

3.5. Minimum Dietary Diversity Practice

Fifty four (13.3%) of the children had minimum dietary diversity score ≥ 4 within 24 hours prior to the survey date and 230 (56.7%) of the study subjects have consumed grains, roots and tubers food groups and 375 (92.4%) dairy products within 24 hours prior to the study period.

Table 5. Minimum dietary diversity among 6-23 months old breast feeding children in Assayita district, Afar region, Ethiopia, 2018 (n=620).

Variables	N	%
Grain, roots and tubers		
No	176	43.3
Yes	230	56.7
Dairy product		
No	32	7.6
Yes	375	92.4
legumes and nuts		
No	92	22.7
Yes	314	77.3
Eggs		
No	327	80.5
Yes	79	19.5
Flesh foods		
No	229	56.4
Yes	177	43.6
Vitamin A rich fruits		
No	379	93.3
Yes	27	6.7
Others fruits and vegetables		
No	386	95.1
Yes	20	4.9
Minimum dietary diversity (6-23 months per 24 hrs)		
<4	352	86.7
≥ 4	54	13.3

3.6. Factors Associated with Infant and Young Child Feeding Practices

The selected variables were tested their individual contribution for infant and young child feeding through univariable logistic regression analysis. Then variables with p-value < 0.25 were entered together to determine their effect on the outcome variable IYCF practice on multivariable logistic regression analysis and found that being educated mothers with secondary education (AOR=4.44, 95% CI (1.84, 10.7)), delivered at facilities (AOR=2.55, 95% CI (1.32, 4.93)), had ANC follow-up (AOR=4.2, 95% CI (2.2, 8.7)), and heard information about IYCF (AOR=4.38, 95% CI (1.97, 9.5)) were predictors of appropriate IYCF at 95% CI (Table 6).

Table 6. Logistic regression analysis output of factors affecting infant and young child feeding practice in Assayita district, Afar region, Ethiopia, 2018 (n=620).

Variables	IYCF practice		COR (95% CI)	AOR (95% CI)
	Appropriate n (%)	In appropriate n (%)		
Maternal education				
No formal education	20 (35.1)	329 (58.4)	1	1
Primary	10 (17.5)	66 (11.7)	2.49 (1.12, 5.5)	1.79 (0.66, 4.8)
Secondary	17 (29.8)	110 (19.5)	2.54 (1.28, 5.1)	4.44 (1.84, 10.7)*
Higher	10 (17.5)	58 (10.3)	2.84 (1.26, 6.4)	2.1 (0.71, 6.1)
Husband education				
No formal education	15 (30.6)	174 (34.6)	1	1
Primary	13 (26.5)	73 (14.5)	2.21 (0.91, 4.5)	1.87 (0.74, 4.65)
Secondary	12 (24.5)	70 (13.9)	1.98 (0.88, 4.46)	1.42 (0.52, 3.8)
Higher	9 (18.4)	186 (37)	0.56 (0.24, 1.32)	0.32 (0.16, 1.01)
Place of delivery				
Home	21 (36.8)	343 (60.9)	1	1
Health facility	36 (63.2)	220 (39.1)	2.67 (1.52, 4.69)	2.55 (1.32, 4.93)*
ANC				
Yes	40 (70.2)	216 (38.4)	3.78 (2.1, 6.8)	4.2 (2.2, 8.7)*
No	17 (29.8)	347 (61.6)	1	1
PNC				
Yes	27 (47.4)	191 (33.9)	1.75 (1.01, 3.03)	0.83 (0.41, 1.67)
No	30 (52.6)	372 (66.1)	1	1
Heard about IYCF				
Yes	43 (75.4)	345 (61.3)	1.94 (1.04, 3.63)	4.38 (1.97, 9.5)*
No	14 (24.6)	218 (38.7)	1	1

COR=Crude odds ratio, AOR=Adjusted odds ratio, CI=confidence interval, *significant at p<0.05.

4. Discussion

This study assessed infant and young child feeding practice and associated factors among children aged 0-23 months in Assayita district Afar region Northeast Ethiopia and the magnitude of appropriate infant and young child feeding practice was found to be 9.2%.

The WHO guidelines on infant and young child feeding practices do not provide the baseline or neither minimum standard that needs to be reached nor what percentage should be considered alarming for public health significance. [7-8] logically, it is desirable that all children 0 - 23 months meet the recommended feeding practices. To compare the similarities and differences of the prevalence and factors associated of infant and young child feeding practice with other studies are difficult due to lack of study on IYCF practices in composite of similar indicators. These study findings were discussed based on the individual components of IYCF. Despite this limitation, we tried to discuss the prevalence and associated factors with infant and young child feeding practice by considering appropriate IYCFP (if study subject use 50% or above (≥ 4) of the 8 core WHO indicators IYCF).

The prevalence of appropriate IYCF practice in this study was lower than study conducted in Shashemene which is 32.1%. [32] The difference might be due to socioeconomic and cultural difference between the study subjects. This study showed the prevalence of ever breast fed was 100%. This was nearly similar to study done in Mekelle town 98.9% [33], Shshemene 99.3%, Arbaminch which was 95.8%. [34] This high rate of breast feeding in study area may be due to

the fact that breast feeding practice is common and normal among the society.

Despite the fact that WHO Global and National Infant, and Young Child Feeding Guidelines recommend that all newborns should start breastfeeding immediately within the first hour after delivery [7], our study finding revealed that 55.3% of study subjects initiate breast feeding within one hour interval after birth. This was similar with study done in Shashemene 58.0% [32] and EDHS 2011, 52% [22]. However, this finding was lower than study done in Mekelle 78%, Bahirdar 85% [35] and Asela 86.3%. [36] The difference might be due to socio-cultural difference or lack of knowledge about the initiation of breast feeding.

This study finding revealed that the prevalence of exclusive breastfeeding for infants less than six months from 0-5 months old was 68.4% and the mean age of exclusive breast feeding was 4.35 (± 1.47 SD) months which is contrary to recommendation by WHO that all children under age 6 months should be exclusively breastfed. [7] This is higher than EDHS 2016, 58% [38], Mekelle town 60.8%, However, the study finding was lower than study done in Shashemene 87.8% and Asela 77%. Our study finding showed the prevalence of bottle feeding was 30%. This was higher than study done in shashemene 20.9%, Bahirdar 23% and Western Uganda 10% [37].

Timely introduction of nutritionally adequate and safe complementary foods promotes growth and good nutritional status among infants and young children. Our study finding revealed that, 69.4% of children 6-8 months received solid, semisolid and soft foods. This was similar to study done in shashemene 65.7%. However this finding was lower than study done in Uganda (75%), Tanzania (92.3%) [38] and

Kenya (81%). [11] This may be due to the difference in mothers' knowledge on what and when to start additional foods to child and their perception that the child is unable to digest foods in this age in the study areas.

This study showed that 98 (100%) children aged 6- 8 months received requirements for minimum meal frequency (≥ 2) and children 9-23 months received 56.2% requirements for minimum meal frequency (≥ 3). However, 33.3% of non-breast fed children aged 6 - 23 months received minimum dietary diversity within 24 hour prior to the survey (≥ 4). This is lower than study done in Tanzania 38% of children age received minimum dietary diversity. Our study finding was also higher than study done in South Asia; the minimum meal frequency was less than 50% in most of south Asia countries. [39]

Our study findings revealed that consumption of flesh foods like meat and iron rich foods was 43.6%. This finding is higher than study finding in shashemene. This difference might be due to difference in the study settings.

With regard to factors associated with infant and young child feeding the multivariable logistic regression analysis revealed that mothers with secondary education (AOR=4.44, 95% CI (1.84, 10.7), delivered at facilities (AOR=2.55, 95% CI (1.32, 4.93), had ANC follow-up (AOR=4.2, 95% CI (2.2, 8.7), and heard information about IYCF (AOR=4.38, 95% CI (1.97, 9.5) were predictors of appropriate IYCF at 95% CI.

This study finding revealed that, infant and young children's from educated mothers with secondary level education were 4.4 time more likely to have appropriate IYCF practice than infant and young children's from non-educated mothers (AOR=4.44, 95% CI (1.84, 10.7). This might be due to the fact that, educated mother would have better skills and information for planning purposes as well as for implementing strategies that can meet adequately the nutritional needs of children and the whole family. Moreover, mothers with better education are more likely to have acquired a better childcare skill that is essential to meet the nutritional needs of their children. [40]

Our study also showed that study subject whose mothers had ANC follow-up were 4.2 times more likely to have appropriate feeding than their counterpart (AOR=4.2, 95% CI (2.2, 8.7). This is similar to study done in shashemene. This might be because of lack of antenatal visit might create favorable environment for traditional child feeding malpractices that might affect child nutritional status. In contrast to this, mothers who had attended antenatal visit might have advised by health professionals on proper child feeding practices.

This study revealed that, infant and young children's delivered at facility level were more likely to have appropriate IYCF practice than their counterpart (AOR=2.55, 95% CI (1.32, 4.93). This is in line with study done in shashemene. This could be explained by the fact that mothers who delivered at health facility could have got breast and complementary feeding advice.

Our finding also revealed that study participant who had heard about IYCF information were 3.88 times more likely to

have appropriate IYCF Practices than their counterpart (AOR=4.38, 95% CI (1.97, 9.5). This is in line with study on analysis of 2005&2011 Ethiopia demographic and health surveys. [41]

4.1. Strength of the Study

We have used primary data Source.

4.2. Limitation of the Study

Due to the fact that the study was cross sectional study describing cause and effect relationship of the exposure and outcome variables was difficult.

5. Conclusion

The overall prevalence of appropriate infant and young child feeding practice was 9.2%. Infant and young child feeding practice in the community is still very poor. Children from a mother with secondary education, children from mothers delivered at facilities, children from mothers had ANC follow-up and heard information about IYCF were important predictors of appropriate infant and young child feeding practices.

6. Recommendation

The regional health bureau and Asita district health office should increase awareness creation on mothers particularly using the health extension workers and community social mobilization on components or indicators of infant and young child feeding.

Strengthen the health post-health center (hospital) referral linkage to increase institutional delivery and ANC coverage.

Promote maternal education through adult education and Increase IYCF message through available local Medias.

Abbreviations

ANC: Antenatal Care; BF: Breast Feeding; BMI: Body Mass Index; CF: Complimentary Feeding; DHS: Demographic Health Survey; EBF: Exclusive Breast Feeding; EDHS: Ethiopian Demography Health survey; EPI: Expand Program of Immunization; IYCF: Infant and Young Child Feeding; IYCFP: Infant and Young child Feeding Practice; OR: Odds Ratio; PI: Principal Investigator; PNC: Post natal Care; UNICEF: United Nation Children's Fund; WHO: World Health Organization; TICF: Time of initiating complementary feeding.

Authors' Contribution

EE has conceived the study, carried out the overall design and execution of the study, performed data collection and statistical analysis. MK, EW OS and SR has critically revised the design of the study, data collection techniques and helped the statistical analysis. MK has drafted the manuscript. All

authors read and finally approved this manuscript for submission.

Competing Interests

This is to declare that we all authors have no competing interest in this research title.

Availability of Data and Materials

The datasets supporting the conclusions of the study are included in the article. Any additional data will be available on request. The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethics Approval and Consent to Participate

The study was approved by the Institutional Review Board of Collage of Medical and Health Sciences, Samara University. A letter of support was obtained from Assayita district health office. All results of this research were based on the use of primary data and the data collection was performed prospectively. Therefore, informed written consent form from the study participants was obtained and the study was conducted in accordance with the ethical standards of the institutional and National research committee. The study also adhered to the declarations of Helsinki.

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