

Knowledge, Attitude and Practice towards Initiation of Complementary Feeding Among Mothers of under Two Years Children in Birbir Town, Southern Ethiopia

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Abstract

Poor breast feeding and complementary feeding practices together with high rate of morbidity from infectious diseases are the prime proximate causes of malnutrition in the first two years of life. Sub optimal breast feeding practice, poor quality complementary food, not timely introducing complementary food as well as infrequent, unsupervised feeding and contamination of food and feeding utensils leads to morbidity from infectious disease and malnutrition. The main objective of this study is to assess maternal Knowledge, Attitude and Practice towards initiation of complementary feeding among mothers of under two years children. Community based cross sectional study was conducted from May 15-30, 2015. Simple random sampling technique was employed to select 205 households. Data were collected by using structured interviewer administered questionnaires and analyzed by using SPSS version 16.0 software and the results of the study was presented by using text, tables and charts. Among 205 respondents 81% of mothers knew about complementary feeding, 71.7% knew the exact time to initiate complementary food but only 39% of mothers started complementary feeding for their children at six month. Majority of mothers (62%) had positive attitude while the rest 38% had negative attitude towards timely initiation of complementary feeding. About 38.8% of mothers were given a complementary food for their children by using bottle and 29.4% feed their children by using hand. The study shows that more than half of the respondents have good knowledge on timely initiation of complementary feeding. Despite this, there is a great problem on the practice of complementary feeding. Therefore, there is a need of community based complementary feeding intervention as a part of primary health program to bring positive behavioral change on the practice of complementary food in the community.

Keywords: Complementary feeding; Mothers; Knowledge; Attitude; Practice

Introduction

Complementary feeding is the process of starting when breast milk or infant formula alone is no longer sufficient to meet the nutritional requirement of an infant and when other food or liquids along with breast milk or a breast milk substitute are needed. The age range for complementary feeding is generally from 6-24 months. The quantity, quality and frequency of complimentary feeding are all important to protect the child against malnutrition and other diseases [1, 2].

It is well recognized that the period from birth to two years of age is important for the promotion of optimal growth, health and development of child [2,3]. Insufficient quantities and inadequate quality of complementary foods, poor child feeding practices and high rate of infections have a great effect on health and growth in these years. Even with optimum breast feeding, children will become stunted if they do not receive sufficient quantities of complementary foods after six months of age [3-5]. An estimated 6% of under five deaths can be prevented by insuring optimal complementary feeding. Continued breast feeding beyond six months should be accompanied by consumption of nutritionally adequate, safe and appropriate complementary foods that help to meet nutritional requirement [6].

Under nutrition is prevalent in developing countries. One third to one half of all children are stunted and 20-24% are under weight. In most countries of eastern, central and southern Africa, one out of ten children suffer from acute malnutrition and 54% of the death in children under five are directly or indirectly attributable to malnutrition [7].

In appropriate child feeding practice is one of the leading causes of high morbidity and mortality in the world. More than ten million children die each year. Forty one percent of these deaths occur in sub Saharan Africa and 34% in south Asia. In Madagascar, one in ten children dies in the first year of life. Major contributor to their death is poor feeding practice [4,8].

Complementary feeding is uncommon in Ethiopia, 3% of children age 0-1 months receive complementary food and only 10% of infants under six months are given complementary foods in addition to breast milk. All children age 6-9 months, in contrast, should receive complementary foods. However, only half of them (51%) received complementary food [4].

Giving complementary foods too early is dangerous because: A child does not need these foods yet and they may displace breast milk. The child takes less breast milk and the mother produces less breast milk. Starting complementary feeding too late is also dangerous to the child because a child does not get the extra food needed to fill the energy and nutritional gaps so the child stops growing or grows slowly due to this the risk of malnutrition and infection increase [9-11].

Therefore, this study assessed Knowledge, Attitude and Practice towards initiation of complementary feeding among mothers of under two years children in Birbir town, Southern Ethiopia. The finding of this study will help to provide valuable information to the district health office and Non Governmental Organizations in order to inform, plan and create awareness in the community on appropriate infant and children feeding practice to reduce malnutrition and infection. The finding may also used as base line information for further researchers.

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Methods and Materials

Study area and period

Community based cross sectional study was conducted from May 15-30 2015 in Birbir town, Mirab Abaya woreda, Gamo Gofa Zone, SNNPR, Ethiopia. The town is located in southern Ethiopia, 465 km from Addis Ababa, 204 km from Hawassa and 46 km from Arba Minch. The total population in this town is 6992. There are different governmental and private institutions. Among these one health center, one health post, one elementary school, one high school and preparatory school, three private clinics and three pharmacies. The annual temperature and rainfall are 27.9 °C and 800-1000 mmHg respectively. The main crop productions in the area are maize (corn), fruits like mango, avocado and banana [12]. All mothers who have children less than two years in Birbir town was a source population and mothers who have children less than two years in Birbir town and were selected and from whom the data was collected were the study population. Mothers who are resident in the study area for at least six months but mothers, who are mentally ill and children who do not have family were excluded from the study.

Sample size determination and sampling procedures

A single population proportion formula was used to calculate the sample size, by using an assumption of the prevalence of children started complementary feeding under 6 months of age, 95% confidence interval, 5% margin of error, the sample size becomes 384 [4]. Since the source population is less than 10,000, reduction formula was used and the sample size becomes 186. By adding 10% non-response rate, the final sample size becomes 205. To obtain the study respondents, firstly, the number of households living in the area that hosts less than two years children was obtained from health extension workers' data. Then, from the frame, the required households were selected by using simple random sampling methods.

Measurements

To measure the out-come variables, the following operational definitions were used. Good knowledge: Mothers, who answer greater or equal to four knowledge question out of seven. Poor knowledge: Mothers, who answer less than or equal to three knowledge questions. Positive attitude: Mothers, who answer greater or equal to three attitude question out of six. Negative attitude: Mothers, who answer less than or equal to two attitude questions. Good practice: Mothers, who answer greater or equal to seven practice questions out of fourteen. Poor practice: Mothers, who answer less than or equal to five practice questions.

Data collection tools and procedure and quality control

Data was collected using structured interviewer administered questioner developed by reviewing different literatures and modified based on the local context. Eight grade 12 completed data collectors and two supervisors were involved in data collection. Training was given for three days for data collectors and supervisors by principal investigators. The questioner was prepared in English and translated to local language and retranslated to english by an independent person to ensure its consistency. To ensure the quality of data, pretest was made on 5% of the sample in the area outside of the study site, training was given for data collectors and supervisors, close supervision was conducted by supervisors and principal investigators and finally the filled questionnaires were checked for completeness and clarity.

Data processing and analysis

Data were entered to Epi info version 3.5.1 and exported to SPSS

version 16.0 for analysis. To measure the degree of association between independent and dependent variables Chi-square test were calculated. The frequency of different variables were assessed and presented by using tables, graphs and charts.

Ethical consideration

Ethical clearance was obtained from Arba Minch University, college of medicine and health science. Written consent from woreda health office in Birbir Town. Then informed verbal consent from each study participant was obtained after explanation of the purpose of the study.

Results

Socio-demographic characteristic

All respondents were participated in the study making response rate of 100%. The mean age of the respondents was 27 (SD ± 6.9) years with the maximum of 44 years and minimum age of 16 years. Thirty eight percent of the respondents were 25-29 years of age.

The predominant ethnicity of the respondents was Gamo (52.2%) followed by Wolaita (29.7%). The majority, 94.6% of respondents was married and only 1.5% was divorced. Regarding their educational status 31.2% of respondents were join primary school while only 11.2% respondents can read and write. From 205 respondents most of them, 119 (58%) are follower of protestant christian, while only 17 (8.4%) are follower of muslim (Table 1).

Socio demographic characteristics	Number(n=205)	Percent (%)	
Age	15-19	10	4.8
	20-24	46	22.4
	25-29	78	38
	30-34	48	23.5
	35-39	19	9.4
	40-44	4	1.9
Ethnicity	Gamo	107	52.5
	Wolyta	69	33.7
	Amhara	18	8.8
	Gurage	7	3.4
	Others	4	1.9
Marital Status	Unmarried	4	1.9
	Married	194	94.7
	Divorced	3	1.5
	Widowed	4	1.9
Religion	Protestant	119	58
	Orthodox	69	33.6
	Muslim	17	8.4
Educational Status	Illiterate	37	18
	Read and write	23	11.2
	Primary	64	31.3
	Secondary	56	27.3
12*	25	12.2	
Occupation	Government employee	23	11.2
	House wife	118	57.5
	Daily laborer	11	5.4
	Merchant	32	15.6
Private employee	17	8.3	

Table 1: Socio demographic characteristics of respondents in Birbir town Mirab Abaya district Gamo Gofa zone of SNNPR, 2015.

Maternal characteristics

From total respondents, biological mothers accounted for 95.6% of care givers, while 4.4% were other care givers such as grandmothers, sisters and other relatives. From the respondents, 97.6% and 2.4% mothers have one and two under two years children respectively. Out of total respondents, 52.2% have a family size of less than 4, while the rest 47.8% have greater than four family sizes.

From the total respondents, 53.6% have 1-2 children and 11.7% have above five children. Majority of the mother, 56.7% gave birth with age interval of 2-3 years. About 91.2% of respondents have ANC follow up during the last pregnancy while the rest 8.8% don't have. Among those who have ANC follow up, 71.6% finished the entire visit up to four but 1.6% have only one visit (Table 2).

Child characteristics

Out of total respondents, 46% have female child while the rest have (53.1%) male children. All of them took vaccination for their age. All the children who are above nine months of age took vitamin A. Majority of the children 47.3% are between 13-24 months (Figure 1).

Knowledge of mothers towards initiation of complementary food

Eighty one percent of mothers know about complementary feeding while the rest 4% don't know. Among those who have knowledge of complementary feeding, 26.2%, 25.3%, 37.3% and 11.2% obtain information from mass media, health extension worker, health institution, friends and neighbor respectively. Out of the total respondents, 71.7% mothers know the exact time to initiate complementary feeding (Table 3).

Among respondents who know about complementary feeding, 61% know cow milk as complementary food for infant. More than half (68.3%) of mothers don't know water as complementary food (Table 4).

Maternal characteristics		Number	Percent (%)
Number of children	1-2	110	53.7
	3-4	71	34.6
	5+	24	11.7
Number of ANC follow up	1 times	3	1.6
	2 times	14	7.5
	3 times	36	19.2
	4 times	134	71.7
Age difference between the last two children	<2	6	4
	2-3	85	56.7
	4+	59	39.3

Table 2: Maternal characteristics in Birbir town, Mirab Abaya district Gamo Gofa zone, 2015.

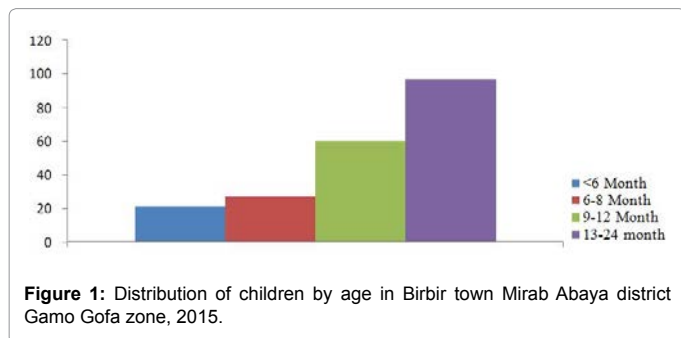


Figure 1: Distribution of children by age in Birbir town Mirab Abaya district Gamo Gofa zone, 2015.

Time of initiation of complementary food	Number	Percent (%)
<4 month	1	0.5
4-6 month	26	12.7
At 6 month	147	71.7
6-8 month	31	51.1
Total	205	100

Table 3: Knowledge of mothers on the time of initiation of complementary feeding for infants in Birbir town Mirab Abaya district Gamo Gofa zone, 2015.

Knowledge of complementary feeding initiation	Yes (%)	No (%)
Know time to initiate	166(81)	39 (19)
Know time to initiate	147 (71.7)	58 (28.3)
Know 'cow milk' as complementary food	125(61)	80 (39)
Know 'water' as complementary food	65(31.7)	140 (68.3)

Table 4: Knowledge of the study subject towards the initiation of complementary feeding in Birbir town Mirab Abaya district Gamo Gofa zone, 2015.

Majority of the respondents (92.7%) know the type of food to be initiated. Majority of the respondents know water mix with sugar, grain gruel, cow milk and fruits as food to be initiated. Most of the respondents (68.3%) have "good knowledge" while the rest 31.7% have "poor knowledge" on the initiation of complementary feeding.

Attitude of mothers towards initiation of complementary feeding

Sixty six (32.2%) of the respondents believe that starting additional food or liquid other than breast milk for infant too early before six month is beneficial while 120 (58.5%) don't believe and 19 (9.3%) of them do not know whether it is beneficial or not.

Out of the respondents, who believe that starting additional food for infants before six month is beneficial, 25.4% believe that it relieves from hunger and reduce maternal work load, 18.4% believe that it gives vitamin and energy, 20.3% believe that breast milk alone is not enough for infants growth and development, 11.4% believe that it supports breast milk, 7.9% believe that it prevents from disease and 6.1% believe that it trains the infant how to feed for the future while 10.5% believe that it was beneficial but don't know the correct benefit.

More than half of the study subjects, 78.2% think that starting additional food for infants before six month has health problem, 17% of them think that it has no health problem and 4.8% of them don't know whether it has health problem or not. Out of respondents who think starting additional food for infants before six month has health problem, 51.6% think as it induce abdominal pain, diarrhea and vomiting, 22.0% think that it cause abdominal distension and growth retardation, 18.4% think that at this age the stomach of the infant is unable to digest additional food, 8% them think that it induce pain during defecation and the infant contaminate its cloth by involuntary passage of stool and increase amount of stool.

Majority of the respondents 88.8% believe that starting additional food for infants late after 6 months is beneficial while 7.3% believe that it was not beneficial and 3.9% of them do not know whether it is beneficial or not. Out of respondents who believe it was beneficial, 53.9% believe that breast milk was decreased and the time to train the infant habit of eating, 37.5% believe that the stomach of the infants can easily digest food, 19.5% believe that it was the time at which infant needs additional food and mature enough for eating and 12.1% did not know the exact reason for the initiation of complementary food. Generally, majority of mothers (62%) had positive attitude while the rest 38% had negative attitude towards timely initiation of complementary feeding.

Practice of mothers towards initiation of complementary feeding

Out of the total respondents, 53.2% of the initiated breast feeding immediately, 45.8% initiated within 1 h after delivery and the rest 1% didn't know when they initiated the breast feeding.

Majority of the mother (86.8%) didn't give pre lacteal feeding while the rest (13.2%) gave prelacteal feeding. Among the mother who gave prelacteal feeding, 37% gave 'tenadam' 18.5% gave butter and 44.4% gave water for their infant before they initiated breast milk. The reason for giving prelacteal food includes, protecting their child from evil eye in 25.9%, for child growth in 7.4% and due to culture in 59.3%.

Out of the total study subjects, most of them, (39%) started complementary feeding at 6 months while only 9 % started before 4 months (Figure 2).

Majority of the respondents (39%) were started complementary feeding with grain gruel while only 0.9% started complementary feeding by other foods (Figure 3).

Majority of the mother 72.2% started complementary food for their infant because of breast milk alone does not enough for the infant, 12.7% not enough time for breast feed, 7.8% baby always crying, 5.3% six month is the correct age to start complementary feeding. The rest 2% has other reason for initiation of complementary food.

About 90.7% of the respondents gave complementary food for their child in the last 24 h while the rest 9.3% did not.

Out of the study subject, 62.4% give complementary food for their infant 3-4 times per day 32.2% above four times per day and the rest 5.4% less than or equal to two time per day.

Around thirty nine percent (38.8%) of mothers were give complementary food for their infants by bottle, 29.4% by their hand, 12.9% by spoon and 18.9% by cup (Table 5).

From the respondents, 27.3% of mothers enforced their child

Way of giving complementary food	Number	Percent (%)
By spoon	26	12.9
By cup	39	18.9
By bottle	80	38.8
By hand	60	29.4

Table 5: Ways of giving complementary food for infants in Birbir town Mirab Abaya district, Gamo Gofa zone, 2015.

to breast feed when the child refuses, 47.3% brought the child to the health institution when he/she refuses, 9.3% continue to feed by using cup, 9.7% continue to feed by using bottle and the rest 6.4% brought to traditional medicine. Majority (66.83%) of respondents had poor practice while the rest 68 (31.17%) had good practice to wards initiation infant feeding.

Discussion

In this study, 68.3% of respondents have good knowledge and 31.7% have poor knowledge on the time of initiation of complementary feeding. Majority of the respondents, 62% have positive attitude and 38% have negative attitude on timely initiation of complementary feeding. Even if majority of the respondents have knowledge and attitude towards timely initiation of complementary feeding, majority (66.83%) practiced complementary feeding poorly and the rest 31.17% practiced complementary food initiation in a good manner.

Mothers with higher educational level introduce complementary feeding earlier compared to those with lower educational level. In contrast, the study conducted in Kenya Nairobi shows, mothers who have lower educational level are prone to introduce complementary feeding earlier than those with higher educational level [3]. Most of married mothers are responsive to initiate complementary feeding timely compared with other marital status, which is similar with the study done in Derashe special district of southern Ethiopia [9].

In this study, 22.7% of mothers believe that starting complementary food too early before six months was beneficial. Out of these, 20.3% believe that breast milk alone is not enough for children growth and development, 18.4 % believe that that it gives vitamin and energy, 25.4% believe that it relieves the child from hunger and reduce maternal work load, 7.9% believe that it supports breast milk which is similarly with study conducted in Sidama and east Hararge and contrast with study conducted in Kenya [2,12].

In this study, 9% of mothers introduced complementary food for children before 4 months and 38% introduced complementary food within 4-6 months. Similarly, Ethiopian demographic and health survey shows that, some infants were introduced complementary food too early [4]. In addition, study shows that, very low level of exclusive breast feeding among children under the age of four months with a percentage ranging from two percent in Nigeria to about 34% in Tanzania [3].

The findings in this study showed that there is universal breast feeding in the study subject. Although this high initiation rate is encouraging compared with 2011 Ethiopian demographic and Health survey, the early introduction of complementary feeds is a great concerns. Despite the efforts of Ministry of health and Health education programmes on complementary feeding, many participants still introduced either prelacteal fluids or supplementary food before the children reached six months of age [2,4].

WHO recommended children of 6-8, 9-12 and 13-24 months of age to be fed less than or equal to two times, three to four times and above four times per day respectively with the additional 1-2 snacks.

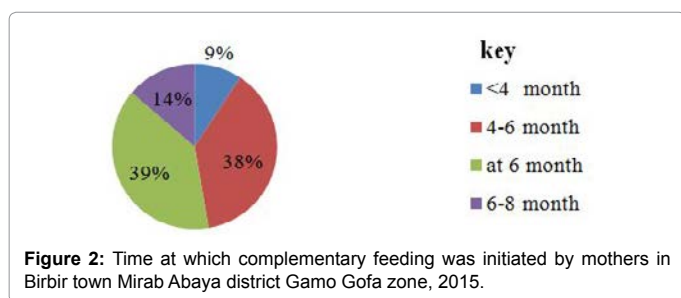


Figure 2: Time at which complementary feeding was initiated by mothers in Birbir town Mirab Abaya district Gamo Gofa zone, 2015.

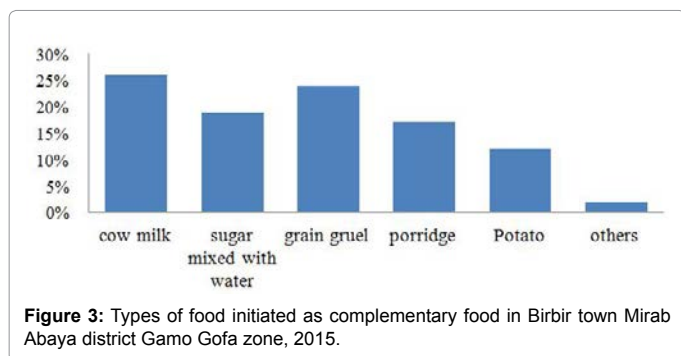


Figure 3: Types of food initiated as complementary food in Birbir town Mirab Abaya district Gamo Gofa zone, 2015.

In this study 90% of the children with in each of these respective age group received complementary food as frequent or more than WHO recommendation [9].

Strength and Limitations of the Study

Strength of the study

Respondents included in the study were selected randomly to generate representative information for the study district and every effort was used to keep the quality of data in this study.

Limitations of the study

Being cross sectional study design makes this study to share the drawbacks of other cross sectional studies (difficult to establish temporal relationship). The study used interview questionnaire therefore, social desirability bias may not be excluded.

Conclusion and Recommendations

The study shows that despite universal breast feeding in this study population, WHO complementary feeding recommendation is not much practiced and complementary feeding practice in this study is sub optimal. More than half the respondents have good knowledge on timely initiation of complementary feeding despite this there is a great problem on the practice of complementary feeding. About 61% of mothers did not initiate complementary feeding at correct age, 38.8% and 29.4% of mothers feed their children by using bottle and their hand respectively.

Based on the study findings, the following recommendation should be forwarded. There is a need of community based complementary feeding intervention programme and promotion of timely initiation of complementary food as a part of a primary health strategy to decrease health risks and problems in the study area. For this purpose, various sector involvements are needed for strong health education. In addition, great attention should be given for the community by Woreda health office in collaboration with health extension worker on counselling of mothers about complementary feeding.

Declarations

Authors' contribution: MG, wrote the proposal, participated in data collection, analyzed the data, drafted the paper and revised subsequent drafts of the paper. GK approved the proposal with great

revisions and revised subsequent drafts of the paper. Both authors read and approved the final manuscript.

Competing interests: Authors declare that there is no conflict of interest regarding the publication of this paper.

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