

ORIGINAL ARTICLE**PERCEPTION AND PRACTICE OF MOTHERS ON CHILD NUTRITION IN JIMMA TOWN, SOUTHWEST ETHIOPIA**

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ABSTRACT

Background: *To reduce child morbidity and mortality due to malnutrition associated with communicable diseases, setting strategies in nutrition education programs that demonstrate the importance of child nutrition is crucial. This study was conducted to assess mothers' or child caretakers' perception and practice on child nutrition.*

Methods: *The study employed cross sectional design on a systematic random sample of 217 mothers or child caretakers who had at least one under five child found in Kefstegna (higher) 2 Kebele 04 Jimma town, Southwest Ethiopia from March to April 1999. Data collectors were nurses who received training about the data collection methods. The data were entered into computer and analyzed using SPSS for windows.*

Results: *The data on nutrition indicated that only 39(18.0%) mothers had good knowledge, 48(22.1%) had good nutritional practice. Also only 97(44.7%) mothers started additional feeding to their children between the age of 4 to 6 months but 67 (31%) believe that additional feeding is not necessary during the first four months of life. With respect to signs of malnutrition only 7(3.2%) had good knowledge in identifying signs of malnutrition and the majority of the mothers 156(72%) had low knowledge on identification of the signs of malnutrition. Mothers' level of nutritional knowledge was significantly associated with their age ($p=0.030$).*

Conclusion: *From this study we can conclude that mothers were found to have poor knowledge and practice on child nutrition. In addition most mothers introduced supplementary feeds earlier or later than the recommended age of between 4 to 6 months. Concerning identification of the signs of malnutrition, the majority of the signs were not known by respondents except weakness and thinness which were known by some mothers. Therefore there is need for concerted effort in changing the perception and practice of mothers on child nutrition to reduce the rate of malnutrition in children.*

Key words: *Mothers, Children, Nutrition, Perception, Practice.*

INTRODUCTION

The rate of malnutrition, morbidity, and mortality in under five children in Ethiopia in general is high. Reports reveal 7% of children are wasted, 28% stunted and 45% malnourished and the national and Oromiya region under five mortality rate

are estimated at 161/1000 and 163/1000 (1,2).

Nutrition is an essential part of children's health that deserves special attention (3). Malnutrition is a disorder of nutrition that may be due to a deficient diet or deficient breakdown, assimilation or utilization of food in the body.

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Malnutrition is considered from the points of view of under nutrition that is widely spread throughout the world especially in developing countries (4, 5). In Sub-Saharan African countries children grow slowly and more unevenly than in other regions. The risk of dying before the age of five years is still higher than in any other region where poverty is a serious problem (6).

The science of human nutrition is mainly concerned with the importance of the nutritional requirements for the promotion, protection and maintenance of health in all age groups of the population. Such knowledge specially is necessary in order to assess the nutritional adequacy of diet for the growth of infants and children (7).

Maternal nutritional knowledge and practice on child nutrition have an impact on the nutritional status of household members especially those who are under the age of five. Maternal perception on child's nutritional needs is one of the most important factors that enable mothers to prevent child malnutrition. Mothers' perception of child nutritional requirement determines her ability to prevent malnutrition occurring in her children by improving her nutritional practice on children. Several studies have shown the importance of maternal knowledge (perceptions) of nutrition to children, family and the community at large. The ability to judge what is normal and abnormal for their own child is a skill that mothers alone possess from their exposure to their problems (5).

The child's state of nutrition is closely related to mothers' knowledge and practice on child nutrition. The mother is often referred to as a "change agent" who can influence others to accept new ideas to better conditions. Studies indicate that child nutrition, health, and better care of

children are associated with maternal education (8, 9, 10, 11).

Measures have been taken to combat malnutrition through health education and demonstration of food preparation for malnourished children at different levels of health institutions. However, there is not much research conducted on mothers or child caretakers' perception and practice on child nutrition. The objective of this study is therefore to describe mothers or child caretakers' perception and practice on child nutrition, timing of additional feeding and knowledge in identifying signs of malnutrition in higher 2 kebele 04 in Jimma town. This kebele was selected based on personal observation during supervision of nursing students for their professional practices at the MCH clinic where the study kebele is found, that many mothers came with their children with some signs of malnutrition.

MATERIALS AND METHODS

The study employed a cross-sectional design based on a systematic random sample of 217 mothers/child caretakers out of 486 target population who had at least one under five child who resided in Higher 2 Kebele 04 of Jimma town, Oromia Region, Southwest Ethiopia. The sample size was estimated using the formula for proportion estimate with 95% confidence level, 5% margin of error and 50% proportion of mothers with good nutritional practice. In this manuscript where mothers are separately indicated that also include caretakers.

To assess mothers'/child care takers perception on child nutrition a total of seven questions were asked. The mothers were classified into three levels of knowledge: poor, scoring below -1 SD from the mean score, fair, between -1 and $+1$ SD from the mean score and good, greater than $+1$ SD from the mean (12).

Concerning practice, there were nine questions asked for classification of practice levels and the same categorization as that of knowledge above was used. For mother timing of additional feeding, early was considered if mothers start giving addition feeding before 4 months of age, on time, between 4 to 6 months and late, after 6 months. For the determination of mothers' knowledge on signs of malnutrition nine variables were included and determine the level of perceptions the same methods based on mean score and standard deviations was used.

The data were entered into computer and analysed using the SPSS for windows package. Data were organized using tables and tests were made using a chi-square test. A p-value of less than 5% was considered to be statistically significant.

Ethical considerations

Permission letters were produced to concerned offices and after giving full explanation consent was obtained from each mother to participate or not in the research. Confidentiality of responses was assured.

RESULTS

Of the total 217 women interviewed, 193 (89%) were biological mothers and 24 (11%) were caretakers. The majority 154(71.0%) of mothers/caretakers are in age group 25-49 while the rest were in the two extremes and almost eighty percent, 172(79.3%), mothers were married. Among the mothers 67(30.9%) were from the Oromo ethnic group and 63(29.0%) from Gurage and the rest constituted other groups.

With regard to religion just over of them 118(54.4%) were Christians. Most 169(77.9%) mothers/caretakers were literate while 48(22.1%) were illiterate. Concerning their occupation 97(44.7%) were housewives. As to their income

133(61.3%) mothers said their family earned a monthly income below 200 birr (table 1 and 2).

The analysis of data on knowledge of mothers on child nutrition indicated that 39(18.0%) mothers had good, 48(22.1%) had good nutritional practice, 147(68.0%) and 114(53.0%) mothers had fair knowledge and nutritional practice while 31(14.4%) and 55(25.4%) mothers had poor knowledge and nutritional practice (table 1 and 2).

Regarding supplementary food starting time 97(44.7%) mothers started additional feeding to their children between the age of 4 and 6 months and 67(30.9%) believe that additional feeding is not necessary during the first four months of life while the rest had started earlier. With respect to the identification of the signs of malnutrition only 61(28.1%) had good knowledge and 20(9.2%) had no knowledge while majority, 136(62.7%), had fair knowledge (table 3 and 4). Mothers' knowledge on child nutrition was significantly associated with their practice ($p=0.021$), level of identifying signs of malnutrition ($p = 0.021$) and starting time of supplementary feeding ($p < 0.001$) to children (table 5). Furthermore, mothers' level of knowledge on the identification of the signs of malnutrition was significantly associated with maternal nutritional practice ($p < 0.001$) [Table 6].

At the time of interview mothers/caretakers were asked to give reasons why some foods are forbidden for infants and some of the reasons given by most respondents were, it can not be digested 21.7% ($n= 47$), fear of worms 22.6% ($n =49$), causes diarrhea 12.9% ($n =28$) and other reasons 14.8% ($n = 32$) etc. These are some of the misconceptions reflected by the respondents that have to be corrected.

Table 1: Socio-demographic Characteristics of Mothers/Caretakers by Level of knowledge and practice in Child Nutrition, Higher 2 Kebele 04, Jimma Town, 1999

Socio-demographic characteristics	Mothers'/Caretakers' knowledge on						Mothers'/Caretakers' practices on							
	child nutrition			child nutrition			child nutrition			child nutrition				
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor		
n	%	n	%	n	%	n	%	n	%	n	%	n	%	
Age group	9	29.0	23	15.6	7	17.9	9	16.4	19	16.7	11	22.9	39	78
15 - 24	9	29.0	23	15.6	7	17.9	9	16.4	19	16.7	11	22.9	39	78
25 - 34	10	32.3	49	33.3	19	48.7	15	27.3	44	38.6	19	39.6	78	76
35 - 49	6	19.4	57	38.8	13	33.3	22	40	39	34.2	15	31.3	76	76
50+	6	19.4	18	12.2	0	0	9	16.4	12	10.5	3	6.3	24	24
Ethnic group	9	29.0	48	32.7	10	25.6	20	36.4	31	27.2	16	33.3	67	63
Oromo	9	29.0	48	32.7	10	25.6	20	36.4	31	27.2	16	33.3	67	63
Amara	2	6.5	14	9.5	4	10.3	6	10.9	8	7	6	12.5	20	20
Gurage	10	32.3	41	27.9	12	30.8	18	32.7	35	30.7	10	20.8	63	47
Dawaro	8	25.8	31	21	8	20.5	8	14.5	28	24.6	11	22.9	47	47
Others	2	6.5	13	8.8	5	12.8	3	5.5	12	10.5	5	10.4	20	20
Religion	12	38.7	84	57.1	22	56.4	27	49.1	65	57	26	54.2	118	99
Christian	12	38.7	84	57.1	22	56.4	27	49.1	65	57	26	54.2	118	99
Muslim	19	61.3	63	42.9	17	43.6	28	50.9	49	43	22	45.8	99	99
Total	31	100	147	100	39	100	55	100	114	100	48	100	217	217

(1) P = 0.030 for mothers'/caretakers' age and their nutritional knowledge

Table 2: Socio-Economic Characteristics of Mothers/Caretakers' by Level of knowledge and practice in Child Nutrition, Higher 2 Kebele 04, Jimma Town, 1999

Social-economic Characteristics -	Mothers'/Caretakers' practices on child nutrition						Mothers'/Caretakers' practices on child nutrition					
	Poor		Fair		Good		Poor		Fair		Good	
	n	%	n	%	n	%	n	%	n	%	n	%
Educational Level	11	35.5	33	22.4	4	10.3	14	25.5	25	21.9	9	18.8
Illiterate	4	12.9	40	27.2	9	23.1	16	29.1	26	22.8	11	22.9
Read and write	8	25.8	52	35.4	16	41.0	17	30.9	43	27.7	16	33.3
Elementary	8	25.8	22	15	10	25.6	8	14.5	20	17.5	12	25
Secondary	25	80.6	113	76.9	34	87.2	42	76.4	93	81.6	37	77.1
Married	6	19.4	34	23.1	5	12.8	13	23.6	21	18.4	11	22.9
Unmarried	15	48.4	61	41.5	21	53.8	17	30.9	61	53.5	19	39.5
Housewife	12	38.7	58	39.5	12	30.8	28	50.9	34	29.8	20	41.7
Daily laborer	3	9.7	14	9.5	5	12.8	8	14.5	8	7	6	12.5
Self employed	1	3.2	14	9.5	1	2.6	2	3.6	11	9.6	3	6.25
Others	10	32.2	42	28.6	8	20.5	16	29.1	30	26.3	14	29.2
< 100	6	19.4	54	36.7	13	33.3	20	36.4	36	31.6	17	35.4
100-199	8	25.8	26	17.7	8	20.5	10	18.1	23	20.2	9	18.8
200-299	7	22.6	25	17	10	25.6	9	16.4	25	21.9	8	16.7
300+	31	100	147	100	39	99.9	55	100	114	100	48	100
Total	48	35.5	33	22.4	4	10.3	14	25.5	25	21.9	9	18.8
Illiterate	53	35.5	40	27.2	9	23.1	16	29.1	26	22.8	11	22.9
Read and write	76	35.5	52	35.4	16	41.0	17	30.9	43	27.7	16	33.3
Elementary	40	35.5	22	15	10	25.6	8	14.5	20	17.5	12	25
Secondary	172	35.5	113	76.9	34	87.2	42	76.4	93	81.6	37	77.1
Married	97	35.5	61	41.5	21	53.8	17	30.9	61	53.5	19	39.5
Housewife	23	35.5	58	39.5	12	30.8	28	50.9	34	29.8	20	41.7
Daily laborer	82	35.5	14	9.5	5	12.8	8	14.5	8	7	6	12.5
Self employed	15	35.5	14	9.5	1	2.6	2	3.6	11	9.6	3	6.25
Others	60	35.5	42	28.6	8	20.5	16	29.1	30	26.3	14	29.2
< 100	73	35.5	54	36.7	13	33.3	20	36.4	36	31.6	17	35.4
100-199	42	35.5	26	17.7	8	20.5	10	18.1	23	20.2	9	18.8
200-299	42	35.5	25	17	10	25.6	9	16.4	25	21.9	8	16.7
300+	217	35.5	147	100	39	99.9	55	100	114	100	48	100

Mean and standard deviation of scores on mothers'/caretakers' knowledge on child nutrition was 3.53 and 1.13 while that of nutritional practice was 4.46 and 1.37.

Table 3: Socio-demographic Characteristics of Mothers/Caretakers by Time of Addition Feeding and Knowledge of Identifying Signs of malnutrition, Higher 2 Kebele 04, Jimma Town, 1999

	Time of additional feeding					Knowledge to identify signs of malnutrition				
	Early	On time	Late	Poor	Fair	Good	Total			
	n	%	n	%	n	%	n	%	n	%
Age group	12	22.6	17	17.5	10	14.9	6	15.4	13	33.3
15 - 24	13	24.5	39	40.2	26	38.8	6	7.7	24	30.8
25 - 34	23	43.4	29	29.9	24	35.8	5	6.6	21	27.6
35 - 49	5	9.4	12	12.4	7	10.4	3	12.5	18	75.0
50+	19	35.8	25	25.8	23	34.3	5	7.5	39	58.2
Ethnic group	19	35.8	25	25.8	23	34.3	5	7.5	39	58.2
Oromo	5	9.4	12	12.4	3	4.5	1	5.0	12	60.0
Amara	17	32.1	26	26.8	20	29.9	10	15.9	40	63.5
Gurage	11	20.8	22	22.7	14	20.9	4	8.5	31	66.0
Dawaro	1	1.9	12	12.4	7	10.4	0	0.0	14	70.0
Others	29	54.7	53	54.6	36	53.7	9	7.6	79	66.9
Christian	24	45.3	44	45.4	31	46.3	11	11.1	57	57.6
Muslim	53	100.0	97	100.0	67	100.0	20	9.2	136	62.7
Religion	29	54.7	53	54.6	36	53.7	9	7.6	79	66.9
Christian	24	45.3	44	45.4	31	46.3	11	11.1	57	57.6
Muslim	53	100.0	97	100.0	67	100.0	20	9.2	136	62.7
Total	12	22.6	17	17.5	10	14.9	6	15.4	20	51.3
15 - 24	13	24.5	39	40.2	26	38.8	6	7.7	48	61.5
25 - 34	23	43.4	29	29.9	24	35.8	5	6.6	50	65.8
35 - 49	5	9.4	12	12.4	7	10.4	3	12.5	18	75.0
50+	19	35.8	25	25.8	23	34.3	5	7.5	39	58.2
Oromo	5	9.4	12	12.4	3	4.5	1	5.0	12	60.0
Amara	17	32.1	26	26.8	20	29.9	10	15.9	40	63.5
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Gurage	11	20.8	22	22.7	14	20.9	4	8.5	31	66.0
Dawaro	1	1.9	12	12.4	7	10.4	0	0.0	1	

Table 5: Nutritional practice, knowledge on identification of the signs of malnutrition, supplementary food starting time of mothers/caretakers / their knowledge on child nutrition, higher 2 Kebele 04, Jimma Town, 1999.

P-value	Level of Mothers' Care Takers knowledge on child Nutrition			Total	P-value		
	Poor	Fair	Good				
	n	n	n				
0.021	11	37	67.3	7	12.7	55	25.3
	16	82	71.9	16	14.0	114	52.5
	4	28	58.3	16	33.3	48	22.1
	9	10	50.0	1	5.0	20	9.2
	13	92	67.6	31	22.8	136	62.7
	9	45	73.8	7	11.5	61	28.1
< 0.001	9	17.0	64.2	10	18.9	53	24.4
	15	64	66.0	18	18.6	97	44.7
	7	49	73.1	11	16.4	67	30.9
	31	147	67.7	39	18.0	217	100.0
	9	45	73.8	7	11.5	61	28.1
	13	92	67.6	31	22.8	136	62.7
< 0.001	9	17.0	64.2	10	18.9	53	24.4
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	7	49	73.1	11	16.4	67	30.9
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< 0.001	9	17.0	64.2	10	18.9	53	24.4
	15	64	66.0	18	18.6	97	44.7
	7	49	73.1	11	16.4	67	30.9
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	9	45	73.8	7	11.5	61	28.1
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< 0.001	9	17.0	64.2	10	18.9	53	24.4
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< 0.001	9	17.0	64.2	10	18.9	53	24.4
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	9	45	73.8	7	11.5	61	28.1
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	9	45	73.8	7	11.5	61	28.1
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	9	45	73.8	7	11.5	61	28.1
	13	92	67.6	31	22.8	136	62.7
< 0.001	9	17.0	64.2	10	18.9	53	24.4
	15	64	66.0	18	18.6	97	44.7
	7	49	73.1	11	16.4	67	30.9
	31	147	67.7	39	18.0	217	100.0
	9	45	73.8	7	11.5	61	28.1
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	15	64	66.0	18	18.6	97	44.7
	7	49	73.1	11	16.4	67	30.9
	31	147	67.7	39	18.0	217	100.0
	9	45	73.8	7	11.5	61	28.1
	13	92	67.6	31	22.8	136	62.7
< 0.001	9	17.0	64.2	10	18.9	53	24.4
	15	64	66.0	18	18.6	97	44.7
	7	49	73.1	11	16.4	67	30.9
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	9	45	73.8	7	11.5	61	28.1
	13	92	67.6	31	22.8	136	62.7
< 0.001	9	17.0	64.2	10	18.9	53	24.4
	15	64	66.0	18	18.6	97	44.7
	7	49	73.1	11	16.4	67	30.9
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	9	45	73.8	7	11.5	61	28.1
	13	92	67.6	31	22.8	136	62.7
< 0.001	9	17.0	64.2	10	18.9	53	24.4
	15	64	66.0	18	18.6	97	44.7
	7	49	73.1	11	16.4	67	30.9
	31	147	67.7	39	18.0	217	100.0
	9	45	73.8	7	11.5		

Table 6: Level of mothers'/caretakers' knowledge in identifying signs of malnutrition and nutritional practice, higher 2 Kebele 04, Jimma Town, 1999

Level of knowledge in identifying signs of malnutrition	Level of mothers'/caretakers' nutritional practice						Total	p-value
	Poor		Fair		Good			
	n	%	n	%	n	%		
Poor	11	20.0	6	5.3	3	6.3	20	9.2
Fair	32	55.2	68	59.6	36	75.0	136	62.7
Good	12	21.8	40	35.1	9	18.7	61	28.1
Total	55	100.0	114	100.0	48	100.0	217	100.0

DISCUSSION

The study was designed to explore maternal/caretaker perception and practice on nutrition in children under 5 years of age. The mother/caretaker can influence others to accept new ideas that will lead to better conditions for children. However the contribution of maternal/caretaker knowledge and practice on child nutrition has been unclear and remains insufficiently studied (3).

Malnutrition in under 5 children is a widespread problem in developing countries, particularly Sub-Saharan Africa where on average over one third of them are malnourished. The types of nutritional disorders existing in Ethiopia do not differ greatly from those found in other developing countries in tropical and subtropical regions, but in general their prevalence is much higher. Ethiopian children suffer greatly from communicable diseases and malnutrition (1, 3).

The findings of this study revealed that maternal/caretaker age and knowledge on child nutrition were significantly associated ($p=0.030$) and younger mothers/caretakers, < 35 years of age, were more than twice as likely to have good knowledge on child nutrition than older mothers/caretakers, ≥ 35 years of age. Surprisingly the nutritional practice of mothers/caretakers was not significantly associated with

occupation ($p = 0.054$), which contradicts other study finding (13). However, although better socio-economic status indeed improves child nutrition, this study showed that housewife mothers/caretakers were more likely to have fair to good practice on child nutrition than those who are self employed or daily laborer. This can be explained by the fact that housewives have more time to meet and observe their children's nutritional needs.

Though most mothers practiced breastfeeding, those who feed cow's milk and formula milk should be encouraged to feed breast milk only in the first 4 months of life unless they have apparent health reasons.

Supplementary food starting time between 4-6 months after birth is the recommended time to start supplementation to children (14). The findings of this study revealed that less than half of the mothers started supplementary feeding within the recommended time that is in agreement with a study done in the UK (15) where mothers' experienced the difficulties of applying general dietary guidelines to practice. In addition there was a statistically significant association ($p < 0.001$) between mothers' knowledge and supplementary food starting time for children. Also, misconceptions on food types need to be addressed.

Most of the mothers/caretakers had inadequate knowledge in identifying signs

of malnutrition and this was significantly associated ($p < 0.05$) with mothers'/caretakers' nutritional knowledge and practice. One tenth of mothers'/caretakers did not know what malnutrition is and one fifth do not have any information about malnutrition respectively. Therefore improving maternal/caretaker knowledge on malnutrition is important issue.

Mothers'/caretakers were asked why they give additional foods to their child after 4 months of life? Only about one third of mothers'/ caretakers responded correctly as "to prevent malnutrition" while over all mothers'/caretakers did not know the proper reason why they give supplementary foods.

One important finding that this study revealed that mothers' nutritional knowledge and practice were associated ($p=0.021$) which contradicted the finding in Kenya that there is a gap between having knowledge on child nutrition and its application (13).

From the findings of this study we conclude that mothers'/caretakers' nutritional knowledge and practice were not at a satisfactory level. Also for most of the mothers'/caretakers the starting time for supplementary feeding was not according to the recommended age of the children. In addition most mothers'/caretakers' had poor knowledge in the identification of signs of malnutrition. Mothers'/caretakers nutritional knowledge was significantly associated with their' age, nutritional practices, starting time of supplementary food and knowledge on the identification of signs of malnutrition. These maternal/caretakers characteristics indicated that improving their' knowledge would have a direct impact in changing the nutritional situation of children that in turn will improve rates of malnutrition and infections during child rearing. Therefore, there should be a coordinated effort to

increase mothers'/caretakers awareness through health education by concerned parties on child nutrition that could bring good nutritional practice. Key messages are introducing supplementary food at 4-6 months of age, the identification of signs of malnutrition so that children can be prevented from malnutrition and infections, and the amount and type of food needed at each age for healthy child development.

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