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Maternal Knowledge and Practice Towards Diarrhoea Management in Under Five Children in Fenote Selam Town, West Gojjam Zone, Amhara Regional State, Northwest Ethiopia, 2014

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Abstract

Introduction: Diarrhoea is one of the major causes of morbidity and mortality in under five Children all over the world, special in developing counters due to lack of Knowledge and practice in Diarrhoeal disease management.

Objective: The main aim of this study was to assess mothers' knowledge and practice among mothers who have under five children, in Fenote Selam Town, West Gojjam zone, Amhara Regional State, Northwest Ethiopia.

Methods: A community based cross-sectional study deign was conducted. The study was done from April- May, 2014. To determine the sample size a single proportional formula was used. According to this formula the sample size of the study was 846. Multi-stage sampling technique was employed in order to select the study areas and study units. Among five kebeles, two kebeles were selected by simple random sampling techniques. Standardized interview questionnaires were adapted and modified from related articles and journals to collect data on the socio-demographic variables and factors associated with it. Pre-test was done in none sampling kebeles. Data were entered into Epi-info (version 3.5.1) statistical software package then exported to SPSS software package version 16.0 for further analysis.

Results: A total of 846 participants were included in the study. Of these, the response rate was 830(98.1%). Five hundred twenty eight 528(63.6%) of them had good knowledge and 381(45.9%) of them had good practice.

Conclusion: The finding of this research indicated that 63.6% of mothers had good knowledge towards Diarrhoea management while 54.1% of mothers had poor practice on Diarrhoea management.

Keywords: Knowledge; Practice; Diarrhoea; ORS; Mother; Under five Children; Management

Introduction

Diarrhoea is the second leading cause of death in children under five years old, and is responsible for killing around 760, 000 children every year [1]. Diarrhoea causes about 1.9 million deaths annually among children <5 years of age, especially in resource-poor countries [2].

Diarrhoea can last several days, and can leave the body without the water and salts that are necessary for survival. Most people who die from Diarrhoea actually die from severe dehydration and fluid loss. Children who are malnourished or have impaired immunity as well as people living with HIV are most at risk of life-threatening Diarrhoea. Diarrhoea is usually a symptom of an infection in the intestinal tract, which can be caused by a variety of bacterial, viral and parasitic organisms. Infection is spread through contaminated food or drinking-water, or from person-to-person as a result of poor hygiene [1].

The Integrated Management of Childhood Illness (IMCI) guidelines advise the use of ORT, along with continued feeding, and zinc for appropriate Diarrhoea case management [3].

In underdeveloped and developing countries, acute gastroenteritis involving Diarrhoea is the leading cause of mortality in infants and children younger than 5 years of age [4].

Diarrhoea is the most prevalent paediatric disease and cause of death in children under five years-of-age in developing -countries [5,6]. Moreover, Diarrhoeal diseases cause serious economic problems for developing countries. The leading cause of death from acute Diarrhoea is the loss of water and essential minerals, which can be compensated in most cases by an oral rehydration solution (ORS) [7-9].

Diarrhoeal disease remains a leading cause of mortality and morbidity of children in Sub- Saharan Africa [10]. In Ethiopia, according to EDHS 2012, Diarrhoeal disease affects about 13.3% of under five children. Of those, 3% had bloody Diarrhoea in the two-week before the survey. Diarrhoea was most common among children age 6–23 months (23-25 percent). Diarrhoea prevalence is highest among children residing in households that drink from unprotected wells 18%, those residing in rural areas (14%) [11].

In Ethiopia, Diarrhoea is the major killer of children and thus is a serious public health problem. An estimated 73,700 children under the age of five die each year due to Diarrhoea. This accounts for an estimated 20% of the deaths among children under- five years of age in the country [12-14].

The role of the family, especially the mother, is vital in health promotion, disease prevention and patient care. In the actions mothers take, the minimum required is a brief and superficial examination of the dehydrated child and the amount and type of liquid fed to him/her in the case of Diarrhoea, however, these actions are vital for pediatric welfare [15].

Oral Rehydration Therapy (ORT) is a primary intervention for the

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management of Diarrhoea. It can be easily administered at home by the mothers/caregivers as soon as a Diarrhoea episode begins [16]. ORT is simple, inexpensive and the most effective way to treat dehydration and reduce Diarrhoea mortality.

Aim

The aim of this study was to assess mothers' Knowledge and practice in the management of Diarrhoea in under five Children, in Fenote Selam Town, Amhara Regional State, Northwest Ethiopia.

Methods

Study setting

The study was conducted in Fenote Selam Town Administration, West Gojjam Zone, Amhara Regional State and Northwest Ethiopia. Fenote Selam Town administration is a capital city of West Gojjam zone which is located 180 km from the capital city of Amhara regional state, Bahir Dar and 378 km from the capital City of Ethiopia, Addis Ababa. In the town, there are one district hospital and one health center which give service an estimated of 2 million peoples. The town has a total of 42,062 populations. Among these, 20776 were females. Of those females, 11,276 were above 15 years old. The study was conducted from April to May, 2014.

Study design

A community based cross- sectional descriptive study was conducted.

Sample size determination

To determine the number of the mothers to be included in the study, the single population proportion formula was used. Accordingly, the sample size determination, the data were 5% degree precise with confidence interval of 95%.

$$n = \frac{Z^2 * p(1-p)}{d^2} = \frac{(1.96)^2 (0.5)(0.5) = 384}{(0,05)^2}$$

By using design effect it was multiplying by 2

384*2=768 by using none response rate 10%

n=846

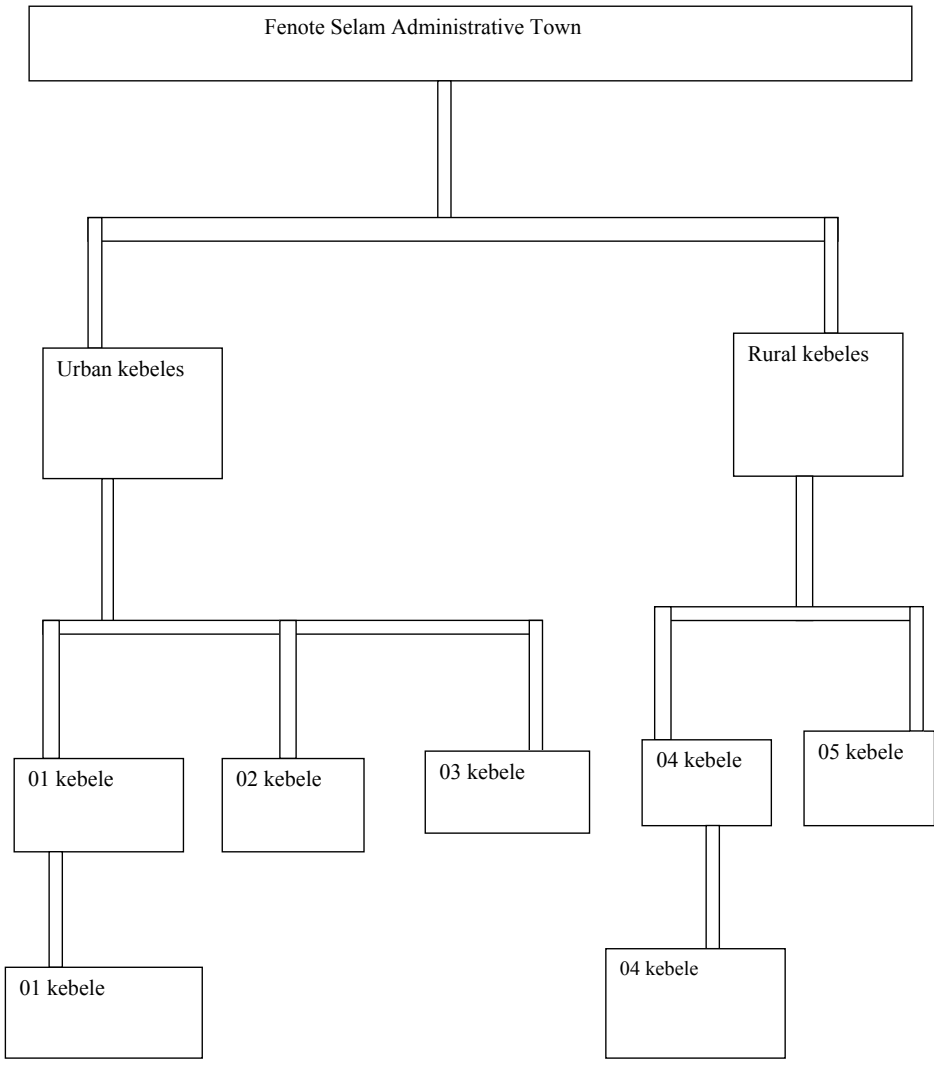

Figure 1: Schematic presentation of multi-stage study design.

Inclusion Criteria

All the mothers above 15 years old were included in the study.

Exclusion Criteria

Mothers who were mentally and seriously ill and those who had hearing and speaking difficulty were excluded from the study.

Sampling technique and procedure

Multi-stage sampling techniques were used in order to select the study areas and study units. There are three urban and two rural kebeles. kebele 01 in urban and 04 in rural were selected randomly. Each house hold was selected by systematic random sampling techniques (Figure1).

Data collection instrument

Standardized interview questionnaires were adapted and modified from related articles and journals to collect data on the socio-demographic variables and associated factors. Data were collected by trained nurse from selected kebeles. The interview questionnaires were translated into the local language Amharic for easy understanding by the respondents.

Variables	Category	Frequency N (%)
Age	15-24	153(18.4)
	25-35	244(29.4)
	36-45	264(31.8)
	>45	169(20.4)
Marital status	Married	461(55.5)
	Single	101(12.2)
	Divorce	119(14.3)
	Widowed	149(18)
Ethnicity	Amhara	827(99.6)
	Oremo	1(0.1)
	Tigraye	2(0.2)
Religion	Orthodox	737(88.8)
	Muslim	68(8.2)
	Protestant	25(3)
Educational status	Illiterate	298(35.9)
	Elementary school	220(26.5)
	High school	150(18.1)
	Collage	126(15.2)
	University	36(4.3)
Occupational status	Government employee	206(24.8)
	Private	145(17.5)
	Housewife	254(30.6)
	Merchant	107(12.9)
	Laborer	118(14.2)
Monthly income	151-651 Birr	222(26.7)
	652-1400 Birr	233(28.1)
	1401-2350 Birr	154(18.6)
	2351-3550 Birr	52(6.3)
	3551-5000 Birr	15(1.8)
	>5000 Birr	5(0.6)
	No source of income	149(18)
Number of children	1-2	388(46.7)
	3-4	274(33)
	>4	168(20.2)
Total		830

Table 1: Socio demographic characteristics of study participants in Fenote Selam town, west Gojjam Zone, Amhara Regional State, Northwest Ethiopia, 2014

Data quality Assurance

Pretest was done on 5% of sample out of non-sampling kebeles, and necessary correction was made on the clarity of language, sequencing and work ability of questioners. Based on finding of pretest, the questioners were modified. Orientation was given for supervisors and data collectors. Guidelines were given for data collectors and supervisors. The supervisor were monitoring the data collection process.

Data processing and analysis

Each completed questionnaire had been coded on pre-arranged coding sheet by the principal investigators to minimize errors. Data were checked again for its completeness before data entry. Data were entered into Epi-info version 3.5.1 statistical software package, and then exported to SPSS software package version 16.0 for further analysis. Ten percent of the respondents were randomly selected and checked for its consistency. Data were cleaned by running simple frequency after data entry for its consistency then printed frequencies were used to check for outlier and clean data. Tables and bar graphs had been used to present data frequencies and percentage.

Ethical consideration

Ethical clearance and approval was obtained from Debre Markos University Medicine and Health Science College Ethical Review board (IRB). The college ethical review board was communicated official letter to Fenote Selam town administration then town administration was communicated official letter at each level of kebeles. Verbal consent was obtained from participant mothers. We assured that they had right to refused the participation at any stage of data collection. The mother had been told that the information obtained from them was treated with complete confidentiality.

Operational Definitions

Good knowledge: Those mothers who answered above the mean of the knowledge questions were considered as good knowledge.

Poor knowledge: Those mothers who answered below the mean of the knowledge questions were considered as poor knowledge.

Good practice: Those mothers who abele to answer above the mean of the practice questions were measured as good practice.

Poor Practice: Those mothers who answer below the mean of the practice questions were measured as poor knowledge.

Results

Socio demographic characteristics of study participants

A total of 846 participants were included in the study. The response rate was 830(98.1%). Of the total participants, 264(31.8%) were in the age range of 36-45 years old. Almost half of the study participants, 461(55.5%) were married. Almost all, 827(99.6%) of the study participants were Amhara in ethnicity. About 736(88.7%) of the study participants were Orthodox Christian (Table 1).

Mothers' knowledge on diarrhoeal disease management

Of the total mothers, 720(86.7%) had knowledge about Diarrhoea. However, only 547(65.9%) of them had knowledge on Diarrhoea management. Of these, 457(55.1%) had good knowledge about home fluid management (Figure 2).

Five hundred seventy six (69.4%) of the mothers were received information about Diarrhoea by health professionals. Five hundred

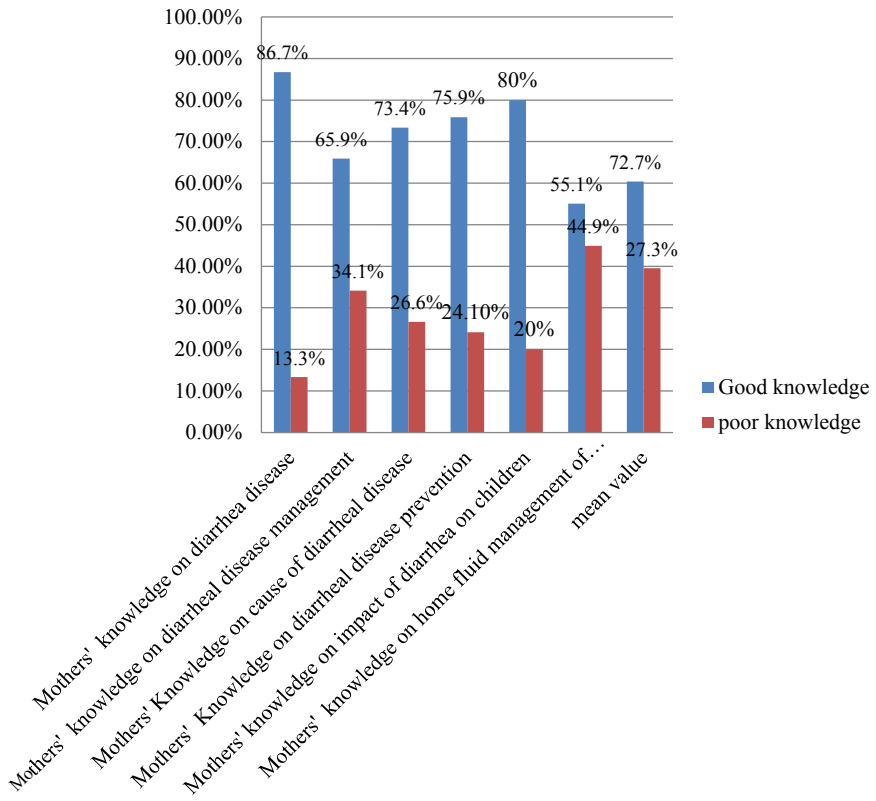

Figure 2: Knowledge of mothers on diarrhea management in under five children in Fenote Selam Town, Amhara Regional State, Northwest Ethiopia, 2014.

Variables	N (%)
Mothers' source of knowledge about diarrheal disease	
Health professionals	576 (69.4)
Newspaper	38 (4.6)
Television and radio	70 (8.4)
Friends	36 (4.3)
Have no information	110 (13.3)
Knowledge of mothers on the causes of diarrhea	
Poor hygiene	553 (66.6)
Bacteria	32 (3.9)
Virus	5 (0.6)
Intestinal parasite	19 (2.3)
Have no knowledge	221(26.6)
Knowledge of mothers' on impact of diarrhea disease on under five children	
Mortality and morbidity	585(70.5)
Growth and retardation	79(9.5)
Have no knowledge	166(20)
Knowledge of mothers' on home fluid management of diarrhea disease	
Salt with water	22 (2.7)
Sugar with water	13 (1.6)
Soup	415 (50)
Juice	7 (0.8)

Table 2: Knowledge of mothers on diarrheal disease in under five children children in Fenote Selam town, West Gojjam Zone, AmharaRregional State, Northwest Ethiopia, 2014.

Variables	yes N (%)	No N (%)
Did mothers take any measure to manage diarrhea?	384 (46.3)	446 (53.7)
Did mothers prepare any fluid to manage diarrhea at home?	373 (44.9)	457 (55.1)
Have mothers ever given home prepared fluid at home?	355 (42.8)	475 (57.2)
Mean value	370.7 (44.7%)	459.3 (55.3%)

Table 3: Mothers' practice on diarrheal disease management in under five children in Fenote Selam town, West Gojjam zone, Amhara Regional State, Northwest Ethiopia, 2014.

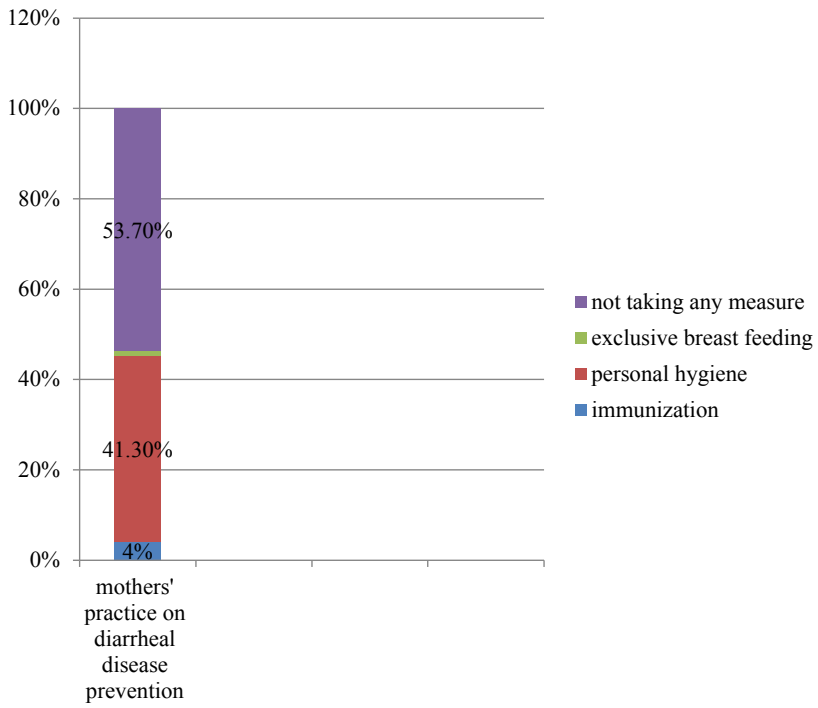

Figure 3: Mothers practice on prevention of diarrhea in under five children in Fenote Selam Town, Amhara Regional State, Northwest Ethiopia, 2014.

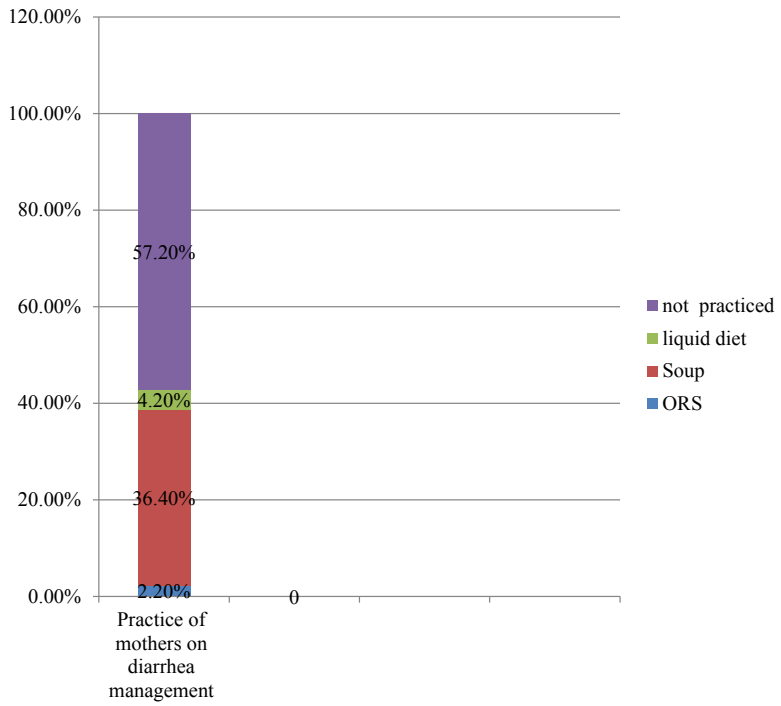

Figure 4: Mothers practice on fluid management of diarrhea in under five children in Fenote Selam Town, Amhara Regional State, Northwest Ethiopia, 2014.

fifty three (66.6%) of the mothers said that poor hygiene is the cause for Diarrhoea, and 5(0.6%) of the mothers said that virus is the case for Diarrhoea. One hundred ten (13.3%) of the mothers had no information about Diarrhoea. Five hundred eighty five (70.5%) of the mothers said that Diarrhoea can cause mortality, and 67(9.5) of the mothers said that Diarrhoea can cause all mortality, morbidity and growth and retardation in under five children. four hundred fifteen (50%) of the mothers knew that soup is the fluid used to manage Diarrhoea in under five children (Table 2).

Dependent variables	Mean value		Level of knowledge and practice	Frequency (N)
	mothers answer correctly	mothers answer incorrectly		
Knowledge	604.7(72.7%)	225.3(27.3%)	Good knowledge	528(63.6%)
			Poor knowledge	302(36.4%)
Practice	370.7(44.7%)	459.3(55.3%)	Good practice	381(45.9%)
			Poor practice	449(54.1%)

Table 4: The mean value and level of knowledge practice of the mothers towards diarrhea management in under five children in Fenote Selam town, West Gojjam zone, Amhara Regional State, Northwest Ethiopia, 2014.

Variables	Level of knowledge		COR(95%CI)	P-value	AOR(95% CI)	P-value
	Good knowledge	Poor knowledge				
Age						
15-24	109(71.2%)	44(28.8%)	1.00	--------	1.00	-----
25-35	174(71.3%)	70(28.7%)	0.997(0.638, 0.1558)	0.988	0.896(0.542, 1.482)	0.669
36-45	183(69.3%)	81(30.7%)	1.096(0.708,1.697)	0.679	0.769(0.443, 1.334)	0.350
>45	62(36.7%)	107(63.3%)	4.275(2.673,6.837)	**0.000**	**2.402(1.280, 4.508)**	**0.006**
Marital status						
Married	322(69.8%)	139(30.2%)	1.00	--------	1.00	---
Single	80(79.2%)	21(20.8%)	0.608(0.361,1.023)	0.061	0.609(0.336, 1.105)	0.103
Divorce	66(55.5%)	53(44.5%)	1.860(1.231,2.810)	**0.003**	1.125(0.692, 1.828)	0.636
Widow	60(40.3%)	89(59.7%)	3.436(2.343,5.040)	**0.000**	**1.685(1.054, 2.693)**	**0.029**
Educational status						
Illiterate	126(42.3%)	172(57.7%)	6.825(2.758,16.891)	**0.000**	**4.313(1.408,13.214)**	**0.010**
Elementary school	151(68.6%)	69(31.4%)	2.285(0.909, 5.743)	0.079	1.670(0.540,5.165)	0.373
High school	122(81.3%)	28(18.7%)	1.148(0.436,3.021)	0.781	1.082(0.342,3.425)	0.893
College	99(78.6%)	27(21.4%)	1.364(0.515,3.613)	0.533	1.525(0.547, 4.249)	0.419
University	30(83.3%)	6(16.7%)	1.00	-----	1.00	----
Occupational status						
Government employee	163(79.1%)	43(20.9%)	1.00	------	1.00	-----
Private employee	75(51.7%)	70(48.3%)	3.538(2.216, 5.649)	**0.000**	**2.102(1.053, 4.196)**	**0.035**
Housewife	159(62.6%)	95(37.4%)	2.265(1.486, 3.452)	**0.000**	1.032(0.528, 2.019)	0.927
Merchant	73(68.2%)	34(31.8%)	1.766(1.042, 2.993)	**0.035**	1.551(0.745,3.229)	0.241
Daily worker	58(49.2%)	60(50.8%)	3.921(2.395, 6.421)	**0.000**	**3.688(1.762, 7.720)**	**0.010**
	237(57.2%)	177(42.8%)	1.739(1.306,2.314)	0.000	1.279(0.909,1.799)	0.157

Table 5: Bivarate and multivariate regression table on mothers' knowledge on diarrheal disease management in under five children in Fenote Selam town, West Gojjam zone, Amhara Regional State, Northwest Ethiopia, 2014.

Mothers' practice on diarrhoeal disease management

Regarding to the mothers' practice, 384(46.3%) of the mothers had been taken measures to treat Diarrhoea; however, 444(53.7%) of the mothers had not been taken any intervention of Diarrhoea. Of the study participants, 373(44.9%) were able to prepare home fluids to manage Diarrhoea, while 446(53.1%) of the mothers were unable to prepare home fluid for Diarrhoea management (Table 3).

Regarding to mothers' practice on prevention of Diarrhoea, 41.3% were prevent by keeping personal hygiene, while 53.7% of the mothers were not taking any measure during Diarrhoeal episodes (Figure 3).

About 36.4% of the mothers had been given soup to treat Diarrhoea as 57.2% of the mothers had not been taken any fluid at home (Figure 4).

The mean value of knowledge questions was 604.7(72.7%), while mean value of practice questions were 370.7(44.7%). Based on the mean value, 528(63.6%) and 381(45.9%) of the mothers had good knowledge and good practice respectively (Table 4).

Associated factors of maternal knowledge

Mothers who were above 45 years old were 2.4 times likely to have risk of poor knowledge as compared to in the age range of 15-24 years old. Widowed were 1.7 times likely to have poor knowledge on Diarrhoea management as compared to mothers who had married. Illiterate mothers were 4.3 times likely to have more risk of poor knowledge towards Diarrhoea management in under five children as compared to mothers who had university degree.

Mothers who were private employees and daily workers were 2.1 and 3.7 times likely to have poor knowledge, respectively, as compared to government employees.

In bivarate analysis, mothers above 45 years old (COR: 4.275, 95% CI: 2.673, 6.837), divorce (COR:1.860, 95% CI:1.231,2.810) and widowed (COR: 3.436, CI:2.343,5.040), marital status, illiterate mothers (COR:6.825, CI: 2.758,16.89) and all maternal occupational levels were independently associated.

In multivariate logistic analysis, above 45 years old mothers had AOR: 2.402, CI: 1.280, 4.508. Widowed mothers (AOR: 1.685, CI: 1.054, 2.693), illiterate mothers (AOR: 4.313, CI: 1.408, 13.214). Private employees (AOR: 2.102, 95% CI: 1.053, 4.196) and daily worker mothers (AOR: 3.688, CI: 1.762, 7.720) were significantly associated with outcome variable (Table 5).

Associated factors of maternal practice

In bivarate analysis, mothers who had poor knowledge were 25.5

Variables	Level of practice		COR(95% CI)	P- value	AOR(95% CI)	p-value
	Good practice	Poor practice				
Knowledge Good knowledge Poor knowledge	362(68.6%)	166(31.4%)	1.00	----	1.00	---
	19(6.3%)	283(93.7%)	32.481(19.711, 53.526)	0.000	**25.462(15.203, 42.643)**	**0.000**
Age						
15-24 25-35 36-45 >45	70(45.8%)	83(54.2%)	1.00	---	1.00	-----
	130(53.3%)	114(46.7%)	0.740(0.493, 1.109)	0.145	0.621(0.376, 1.024)	0.062
	146(55.3%)	118(44.7%)	0.682(0.457, 1.017)	0.060	**0.398(0.236,0.671)**	**0.001**
	35(20.7%)	134(79.3%)	3.229(1.979, 5.268)	0.000	1.029(0.547, 1.934)	0.930
Marital status						
Married Single Divorce Widow	231(50.1%)	230(49.9%)	1.00	--		
	55(54.5%)	46(45.5%)	0.840(0.545, 1.294)	0.429	1.787(0.947, 3.371)	0.073
	49(41.2%)	70(58.8%)	1.435(0.954, 2.158)	0.083	1.973(0.855, 4.554)	0.111
	46(30.9%)	103(69.1%	2.249(1.519, 3.330)	0.000	1.650(0.773, 3.522)	0.196
Educational status						
Illiterate Elementary school High school College University	75(25.2%)	223(74.8%)	5.261(2.538, 10.901)	0.000	4.761 (1.638, 13.839)	0. 004
	96(43.6%)	124(56.4%)	2.285(1.101, 4.744)	0.027	3.334 (1.154, 9.636)	0.026
	102(68.0%)	48(32%)	0.833(0.389, 1.783)	0.637	1.057 (0.369, 3.024)	0. 918
	85(67.5%)	41(32.5%)	0.853(0.389, 1.783	0.689	0. 604 (0.234, 1.559)	0.298
	23(63.9%)	13(36.1%)	1.00	---	1.00	---
Occupational status						
Government employee Private employee Housewife Merchant Daily worker	125(60.7%)	81(39.3%)	1.00	---		
	49(33.8%)	96(66.2%)	3.023(1.941, 4.710)	0.000	2.468(1.095, 5.618)	0.029
	110(43.3%)	144(56.7%)	2.020(1.390, 2.936)	0.000	1.415(0.698, 2.865)	0.335
	54(50.5%)	53(49.5%)	1.515(0.946, 2.426)	0.084	1.117(0.587, 2.123)	0.736
	43(36.4%)	75(65.6%)	2.692(1.686, 4.297)	0.000	1.226(0.598, 2.516)	0.578

Table 6: Bivarate and multivariate regression table of mothers' practice on diarrheal disease management in under five children in Fenote Selam town, West Gojjam zone, Amhara Regional State, Northwest Ethiopia, 2014.

times likely to have poor practice toward Diarrhoea management as compared to mothers who had good knowledge. Illiterate mothers were about 4.7 times to have poor practice as compare to mothers who have university degree. Private employees were about 2.5 times likely to have poor practice on Diarrhoeal disease management.

In multivariate analysis, poor maternal knowledge (AOR: 25.462, 95% CI (15.203, 42.643)), age groups 36-45 years old (AOR: 0.398, 95% (0.236, 0.671)), illiterate mothers (AOR: 4.761, 95% (1.638, 13.839)) and private employees mothers (AOR: 2.468, 95% (1.095, 5.618)) were significantly associated with practice of mothers on Diarrhoeal disease management (Table 6).

Discussion

Socio-demographic factors such as mothers' education, occupation, employment, age of the mothers are allied with mothers' knowledge about Diarrhoea and its management. Although mothers were aware of Diarrhoea and its home management, the level of awareness was insufficient. According to this study, 63.6% of mothers had good knowledge towards Diarrhoea and its management in under five children. This is in line with studies conducted in Iran 64.3% and Pakistan 75% [17,18].

This study demonstrates that 66.6% of mothers were aware that poor hygiene is the cause of Diarrhoeal disease, while 13.3% of the mothers had no information about Diarrhoeal disease. The study done by Saha et al. indicated that <20% of mothers were aware of preventive measures of Diarrhoeal disease; like nutrition, medication, breastfeeding, proper disposal of human waste, and vaccines [19]. The difference in awareness of the mothers may be due to difference in Socio-cultural and difference in educational levels.

This study indicated that 44.9% of the mothers were able to prepare home fluids to manage Diarrhoea, although 53.1% of mothers were unable to prepare home fluid of Diarrhoea management. On the Contrary, other study in Nepal showed that mothers had no knowledge on preparation of ORS [20]. This might be due to mothers' lack of prior experience, a lack of proper education about the concerned matters.

Regarding to practice, 57.2% of the mothers were not taken any measure, while 36.4% of mothers were used soup to manage Diarrhoea and 2.2% of the mothers were used salt-sugar-water solution (SSW). However, they had poor knowledge on the ratio of SSW preparation. This is similar the studies conducted in Nepal [20] and Hilly region of Uttarakhand 16.5% knew the correct method of sugar salt solution preparation [21]. This might be due to its use being uncommon and mothers might not have any prior exposure to it. Furthermore, its ingredients were not available in ready-made form unlike an ORS sachet and thus there may be more chances of errors during its preparation.

This study indicated that 66.6% of the mothers knew that Diarrhoea is caused by poor hygiene, and 2.3% of the mothers knew that Diarrhoea can cause by bacteria, and o.6% of the mothers knew that Diarrhoea can cause by virus. However, 26.6% of the mothers had no any knowledge about the cause of Diarrhoea. Similarly the study done by Usfar et al. showed that the major cause of Diarrhoea cited by the mothers were teething (44.3%), evil eye (66%),eating mud (18.6%), dirty water

(25.3%) and hot or cold foods (15%) [22].

This study showed that mothers' diet preference for their child during Diarrhoea, they were prepared local diet: 36.4% soup, 4.2% liquid diet and 2.2% ORS. Similarly the study conducted in Karachi, Pakistan showed that mothers' diet preference for their child were 12.5% Khichdi, 10% ORS, 6% both Khichdi and ORS and 71.5% other diet like banana, porridge [18].

In this study, mothers above 45 years old were the most vulnerable groups for poor knowledge (2.402 and CI: 1.280, 4.508) as compared to age range of 15-24 years. The reason may be due to the current educational accessibility for the young mothers, but elder mothers had not more access for formal education.

This finding showed that the widowed mothers had poor knowledge with OR: 1.685 and CI: 1.054, 2.693 towards Diarrhoea management in under five children as compared to those mothers who were married. The reason may be due to mothers who were married may have the opportunity to share information from their husband.

This study revealed that illiterate mothers had poor knowledge towards Diarrhoea management as compared to educated mothers. The fact is that as the educational level of the mothers increased the level of awareness and knowledge becomes increase. Regarding to occupational status, private employees were significantly associated with poor knowledge towards Diarrhoea management. However, mothers who were governmental employees had good knowledge on Diarrhoea management. With the scope of this study, there is no empirical evidence available to confirm why this happened. Moreover, daily workers of the mothers also had poor knowledge towards Diarrhoea management as compared to mothers who had government employees. The possible explanation is that mothers who were daily workers could not have the opportunity to get information on newspaper, television, radio etc. In addition to this, most of daily workers were can not read and write.

This study explored that two mothers were practicing by give hard and dry food during Diarrhoea episodes. Moreover, other four mothers told their practice as they limit the amount of fluid intake during Diarrhoeal episodes. The reason is that the mothers thought that hard and dry food and little fluid can decrease the Diarrhoeal episodes.

Conclusion

The finding of this research indicated that 63.6% of mothers had good knowledge towards Diarrhoea management while 45.9% of mothers had good practice on Diarrhoea management. Maternal age above 45 years old, illiterate mothers, private employees and merchant marital and widowed mothers were independently associated towards knowledge of Diarrhoea and its management.

Poor maternal knowledge, age ranges of 36-45 years, illiterate and private employees were significantly associated towards practice of Diarrhoea management.

In general, most mothers have lack of experience, knowledge and awareness for practice of ORS preparation. Almost half of the mothers were no taken any treatment action during Diarrhoea episodes.

Recommendation

Health education should provide for the mothers on preparation of ORS, home fluid preparation, prevention of Diarrhoea and sign of dehydration.

Providing health information through mass media and clarifying public view about the significance of nutrition during Diarrhoeal episodes. In addition, this health information is important for physical growth, intellectual growth and development of children. As a result, enhanced maternal knowledge would have a positive effect on their treatment of Diarrhoea in children. It bears repeating that we need to further education efforts in order to improve the health of children and reduce medical expenses related to Diarrhoea which are imposed on health system. This education should be focused on subject matter like symptoms of dehydration, knowledge about ORS and SSW, and how to prepare SSW and ORS solution.

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Authors' contributions

DA design and wrote the proposal, participated in the data collection process, analysis, interpretation and write up the manuscript. BD, BK, MT, GM, BA & AA participated in data collection, analysis and interpretation. All authors read and approved the manuscript.

References

1. World Health Organization. Diarrheal disease fact sheet. 2013; No.330.
2. Boschi-Pinto C, Velebit L, Shibuya K (2008) Estimating child mortality due to diarrhoea in developing countries. Bull World Health Organ 86: 710-717.
3. WHO. Handbook: IMCI Integrated Management of Childhood Illness. Geneva: WHO; 2005.
4. Marie AC, Mark WJ. Evaluation of the Gastrointestinal Tract. Pharmacotherapy Handbook, 6th Edition. Wells, Barbara G.; DiPiro, Joseph T; Schwinghammer, Terry L.; Hamilton, Cindy W. (Eds). McGraw-hill medical Publishing Division. 2005: 605-760
5. Motlagh ME, Heidarzadeh A, Hashemian H, Dosstdar M (2012) Patterns of Care Seeking During Episodes of Childhood Diarrhea and its Relation to Preventive Care Patterns: National Integrated Monitoring and Evaluation Survey (IMES) of Family Health. Islamic Republic of Iran. Int J Prev Med. 3: 60-67.
6. King CK, Glass R, Bresee JS, Duggan C (2003) Centers for Disease Control and Prevention. Managing acute gastroenteritis among children: oral rehydration, maintenance, and nutritional therapy. MMWR Recomm Rep 52: 1-16.
7. Parker L, Lamont DW, Wright CM, Cohen MA, Alberti KG, et al. (1999) Mothering skills and health in infancy: the Thousand Families study revisited. Lancet 353: 1151-1152.
8. World Health Organization (1992) Treatment of dehydrated patients. Readings on diarrhoea, student manual. Geneva: World Health Organization. 65-78.
9. Ahmed F, Ansaruzzaman M, Haque E, Rao MR, Clemens JD (2001) Epidemiology of postshigellosis persistent diarrhea in young children. Pediatr Infect Dis J 20: 525-530.
10. World Health Organization (WHO). Global water supply and sanitation assessment report. Health hazards of poor water supply and sanitation. WHO. 2000.
11. Central Statistical Agency Addis Ababa, Ethiopia ICF International Calverton, Maryland, USA March 2012.
12. United Nations Children's Fund/World Health Organization: diarrhea: Why Children are Still Dying and what can be done. New York: UNICEF/WHO; 2009.
13. Ministry of health: National Strategy for Child Survival in Ethiopia. Addis Ababa: MOH; 2005.
14. Fischer Walker CL, Perin J, Aryee MJ, Boschi-Pinto C, Black RE (2012) Diarrhea incidence in low- and middle-income countries in 1990 and 2010: a systematic review. BMC Public Health 12: 220.
15. Ene-Obong HN, Iroegbu CU, Uwaegbute AC (2000) Perceived causes and management of diarrhoea in young children by market women in Enugu State, Nigeria. J Health Popul Nutr 18: 97-102.
16. World Health Organization/United Nations Children's Fund: Clinical Management of Acute diarrhea. New York: WHO/UNICEF; 2004.

17. Khalili M, Mirshahi M, Zarghami A, Rajabnia M, Farahmand F (2013) Maternal Knowledge and Practice Regarding Childhood Diarrhea and Diet in Zahedan, Iran. Health scope international quarterly journal.

18. Zafar M (2013) Knowledge and Attitude towards and Preventive Practices Relating to Diarrhea among Mothers Under Five Years of Children: Findings of a Cross-Sectional Study in Karachi. Pakistan J Infect Dis Ther 2:1

19. Saha D, Akinsola A, Sharples K, Adeyemi MO, Antonio M, et al. (2013) Health Care Utilization and Attitudes Survey: Understanding Diarrheal Disease in Rural Gambia. Am. J. Trop. Med. Hyg 89:13-20.

20. Ansari M, Ibrahim MIM, Shankar PR (2011) Mothers' knowledge about childhood diarrhea and its management among a marginalised community of Morang, Nepal; Australasian Medical Journal AMJ 4: 474-479

21. Singh AK, Dixit S, Gupta S, Bhatt N. Knowledge, attitude and practice of Hilly regarding acute diarrheal management in the urban population of Hilly region of Uttarakhand. Community Medicine – VCSGGMSRI – Srinagar (Garhwal).

22. Usfar AA, Iswarawanti DN, Davelyna D, Dillon D (2010) Food and personal hygiene perceptions and practices among caregivers whose children have diarrhea: a qualitative study of urban mothers in Tangerang, Indonesia. J Nutr Educ Behav 42: 33-40.