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Knowledge and Practice of Mothers/Caregivers on Home Management of Diarrhea in Under Five Children in Mareka District, Southern Ethiopia

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Abstract
Back ground: *Diarrhea is the most common pediatric disease.* The vast majority of deaths from diarrhea are among children under 5 years of age living in low and middle income countries. Early and correct identification of diseases and prompt initiation of management plays a key role in reducing diarrhea related mortality. The role of mothers is vital in health promotion, disease prevention and patient care. Objective: The present study is aimed to investigate the knowledge and practice of mothers/caregivers on home management of diarrhea in under-five children in Mareka district, Dawuro zone, SNNPR, Ethiopia. Methods: Community based cross-sectional study was employed from March 1-30, 2015. Multi stage stratified sampling technique was used to select subjects to be included in the study from 11 Kebeles. Data were collected using self-designed and pre-tested structured interviewer administered questionnaire. Demographic information of the mother & child and information on knowledge & practice on pediatric diarrhea management at home were investigated. Overall responses of participants were scored as good and poor for assessment of knowledge and practice. Results: Total of 654 mothers/caregivers were participated in the study. Most (70.3%) of the mothers/ caregivers were in favor of sustained feeding (breast milk, solid and liquid food) during episodes of diarrhea in their children while 194 (29.7%) supported diet withdrawal. The level of knowledge among respondents on home management of diarrhea was found to be good in 438 (67%) respondents and poor in 216 (33%) respondents respectively. But the level of practice on home management of diarrhea among respondents was good in 309 (47.2%) respondents and poor in 345 (52.8%) respondents respectively. Only 50 (37.6%) respondents were aware about the correct amount of ingredients of homemade ORS (salt-sugar solution). A significant relationship was found between mothers educational level secondary and above, mothers of male index child & mothers residence in urban areas and mothers' knowledge. Mothers age and residence in urban areas were significantly associated with mothers' practice. Conclusion: There is a wide gap in the knowledge and practice of mothers regarding home based management of diarrhea. Therefore, strategies to increase awareness and practice of mothers on home management of diarrhea are needed.
Keywords: childhood diarrhea, home management, knowledge and practice of mothers.

Introduction

Diarrhea is defined as the passage of unusually loose or watery stool at least 3 times in a 24-hours period The main problem with acute diarrhea is its ability to cause rapid fluid loss through stools in addition to electrolytes loss. The volume of fluid loss can vary from 5ml/kg body weight/day to ≥ 200 ml/kg body weight/day(1). Diarrhea is a major health problem. There are three clinical types of diarrhea: acute watery diarrhea which lasts several hours or days; acute bloody diarrhea, also called dysentery; and Persistent diarrhea that lasts 14 days or longer. The vast majority of deaths from diarrhea are among children under 5 years of age living in low- and middle income countries. Diarrheal disease due to unsafe water and lack of sanitation is the greatest cause of morbidity and mortality in under-five children in the world, especially in poor countries(1,2).

According to the World Health Organization (WHO) and UNICEF, there are about two billion cases of diarrheal disease worldwide every year, and 1.9 million children younger than 5 years of age perish from diarrhea each year, mostly in developing countries. Globally, acute diarrhea is the second leading cause of death (after pneumonia), and both the incidence and the risk of mortality from diarrheal diseases are greatest among children aged less than 5 years, particularly during infancy- thereafter, rates decline incrementally(3). In African countries including Ethiopia, each child on average suffers from five episodes of diarrhea per year (6).

Ethiopia is one of the top 15 countries in which nearly ¾ of child death occur due to diarrhea**.** Diarrhea is the second leading cause of under-five-year mortality in Ethiopia accounting 73,700 deaths per year(7). The Ethiopian Demographic and Health Survey (EDHS) 2011 reported 13% of children under age 5 had diarrhea, and 3% had had diarrhea with blood in the two weeks before the survey(8). Millennium Development Goal number 4 is a target to reduce under-five mortality rates, at global level, by two-thirds over the years 1990 to 2015. The survival of children in developing countries depends on the family's and community's ability to access basic needs to support life. Integrated Management of Childhood Illness (IMCI) is the main framework within which the current child health interventions are implemented in developing countries. (6,7).

Drug therapy is unnecessary in most cases, and may even be contraindicated or dangerous because

majority of diarrhea cases in children are viral in origin. Most diarrheas can be managed at home and without drugs. The WHO definition of home case management for diarrhea allows for flexibility: begin early use of available food-based fluids (except heavily salted soups or very sweet drinks) and/or give oral rehydration solution (ORS) if available and affordable, continue breastfeeding if the child is breastfed; give frequent and small amounts of food during diarrhea and continue with catch-up feeding for two weeks following the diarrhea episode, recognize danger signs of diarrhea that require immediate care and seek help from an appropriate provider and give zinc supplements (tablets or syrup) for 10-14 days (5).

Treatment and prevention of diarrhea can be done at home by primary caregivers. The importance of home management of diarrhea lies in the fact that diarrhea starts at home, and continues at home on return from being seen at a health facility. Specific recommendations such as rice water, soup, yogurt, and oral rehydration salt (ORS) agreed on by the UNICEF are important. Feeding of the child should continue, particularly with plenty of nutritious food, to prevent any decline in growth necessarily during and after the episode of diarrhea. Mothers usually prefer traditional methods of managing diarrhea, and only seek medical advice when it fails. Unfortunately, this is usually too late. The child is either already dehydrated or has started to lose weight. Therefore, it is important to notice and identify certain symptoms or signs in order to seek medical advice promptly (5,7).

Diarrhea is among those communicable diseases which is both preventable and curable. The Ethiopian health sector development program IV targets to achieve the Millennium Development Goal 4 of reducing child mortality by two-thirds by 2015. Early and correct identification of diseases and prompt initiation of management plays a key role in reducing diarrhea related mortality. Increased fluid intake and continued feeding by caregivers especially by mothers are vital measures that prevent diarrhea related child mortality. The perception and attitude of caretakers about the severity of diarrheal illness ultimately affects the choice for seeking treatment. Therefore this study was planned to assess the caretakers' existing knowledge and child care practices regarding home-based management of diarrhea in under-five children in one of the rural area of Ethiopia, Mareka district.

Objective of the study: To assess the level of knowledge and practice of mothers /caregivers regarding home management of diarrhea in under-five children.

Methods & Materials: A cross-sectional community based survey was carried out from March 1-30, 2015 in 11 rural Kebeles of Mareka district, southwest Ethiopia. The study was approved by the institutional research and ethics committee of Jimma University, Ethiopia. Sample size was calculated by using single population proportion formula based on the following parameters: 95% confidence level (1.96), margin of error (0.05), 30.5% proportion (9) and design effect of 2. The calculated sample size was 717 households that had at least one under-five child. Multistage sampling technique was used to select household which has under five children. From 37 rural Kebeles, 11 were randomly selected and household which has under five children were selected using systematic random sampling technique after having the list of mother-child pair from monthly updated family folders found in health posts of respective Kebeles. Finally, a total of 717 Sample size was allocated to all randomly selected Kebeles proportionately based on number of under-five children and the study participants were selected by using systematic random sampling technique. Out of 717 households, 654 mothers/caregivers were interviewed by using pre-tested structured questionnaire.

The questionnaire was divided into 3 sections: The first section included socio-demographic information of the mother/caregiver and an index child. The second section included questions regarding maternal knowledge about pediatric diarrheal disease management. The total possible score for knowledge was 16. "Good knowledge" was described by an aggregate score of 14-16, and "poor knowledge" by 13 or below. The last section included questions regarding maternal practice in cases of pediatric diarrhea management.. The total possible score for practice was 14. "Good practice" was described by an aggregate score of 7-14 and "poor practice" by 6 or below. Data analysis was done by using SPSS version 16.0. Statistical significance was declared at p-value <0.05.

Results: A total of 654 mothers of under five children participated in the study. The mean age of respondents was 26.9± 4.6 years. Majority (98.2%) of respondents belong to the Dawuro ethnic group, 74.6% were housewives, 37.5% had at least primary education and 24.2% had acquired secondary and college education (Table 1). Mothers were asked about definition of diarrhea and diarrhea was defined as loose stool, increases in stool frequency and loose stool with blood by 49.2%, 24.2% and 13.3% mothers respectively. Twenty eight (4.3%) of the respondents agreed that diarrhea is a normal process when a child is growing up and due to toothing period. Respondents also listed four danger signs necessitating the treatment of diarrhea outside home namely: passage of bloody/mucoid stool (34.7%), diarrhea with fever (38.7%), diarrhea with vomiting (15.3%) and sunken eyes & fontanel (9.2%). Respondents were asked about preferred oral fluid to be given to their children during diarrhea. The preferred fluids by the mothers were ORS (56.4%), breast milk (33.8%), salt sugar solution (3.1%) and rice water (2.6%) respectively. Concerning ORS, 79.1% of the respondents were aware of ORS. But only 20.3% of the respondents were aware of salt sugar solution (SSS). According to the evaluation of

knowledge related responses, 67% of mothers had good knowledge but the rest 33% had poor knowledge on home management of diarrhea in children (Table 2).

The management options chosen by mothers to manage their child during diarrhea are giving leftover drugs (28.3%), treatment at health facilities (24.9), herbal medication (19.3%), homemade fluids (15%) and ORS (12.5%) respectively. Thirty one percent of mothers said that diet should be decreased during diarrhea while 16.7% mothers said that diet should be increased and 33.8% were in favor of no change in diet. Majority (70.3%) of the respondents supported sustained feeding during episodes of diarrhea in their children while 29.7% supported diet withdrawal. Liquid diets (fluids) were the commonest type of food withdrawn by majority (81.4%) of mothers. Sustained feeding for two consecutive weeks following diarrheal episode was supported by only 16.7% of mothers (Table 3).

Of the 466 respondents who were aware of ORS preparation, 338 mothers mentioned the correct procedure (i.e. 4 glasses of boiled & cooled water is required to prepare a packet of ORS) while 128 gave incorrect response. More than half (54%) of respondents said that ORS should be used within 24 hours of its preparation. Of the 133 respondents who were aware of homemade ORS also known as salt sugar solution (SSS) preparation, only 50 of them were able to mention the components correctly (that is 1 tea spoonful salt, 8 tea spoonful sugar and 1 liter boiled and cool water) while the rest 83 gave wrong response. According to the evaluation of practice related responses, 47.2% of participants had good practice but 52.8% of had poor practice (Table 4).

Age and educational status of mothers were found to be strongly associated with better knowledge of mothers on home management of diarrhea in children (Table 5). Education and residence were found to influence the practice of mothers. This study also revealed significant difference between sex of an index child and maternal practice (Table 6).

Discussion: Knowledge about danger signs is important because it leads to early referral of very sick children. Failure to refer such children results in major complications or death. In the current study, respondents listed four danger signs necessitating the treatment of diarrhea outside home namely: passage of blood /mucoid stool (34.7%), diarrhea with fever (38.7%), diarrhea with vomiting (15.3%) and sunken eyes & fontanel (9.2%). These danger signs were also highlighted by studies conducted in Iran; Zahedan (16) and Nigeria (18).

Food withdrawal leads to weight loss, growth faltering and aggravates any existing malnutrition. It also delays the repair of the damaged intestinal lining and the return of its ability to produce certain digestive enzymes. In this study, majority (70.3%) of the respondents supported sustained feeding during episodes of diarrhea in children while significant number (29.7%) of respondents supported diet withdrawal. Such withdrawal was based on believing that foods prolong the duration of diarrhea in children (28.9%), culture based reduction (53%) & food induces vomiting (13.4%). Liquid diets (fluids) were the commonest type of food withdrawn by majority (81.4%) of mothers. Similarly, studies carried out in different countries reported withdrawal of liquid diets as an important measure to control diarrhea: Ethiopia; Arbaminch (31%) (9), Nigeria (45.7%) (18), Nigeria (71.2%) (19) and India; Aligarh (49.3%) (22).

According to the Integrated Community Case Management of Childhood Illness (ICCM) strategy, caregivers at home should have adequate knowledge about the causes and treatment of diarrhea using appropriate remedies including home-made fluids such as porridge, fresh fruit juices, milk, salt/water solution and breast milk but not herbs. Meanwhile a child should be closely observed for any signs of dehydration following which urgent referral is made.

In this study, the management options used by mothers to manage their children during diarrhea were giving leftover drugs (28.3%), treatment at health facilities (24.9%), herbal medication (19.3%), homemade fluids 98 (15%) and ORS (12.5%) respectively. Similar study in Nigeria (18) revealed that mothers used treatment at health facility (32.9%), ORS (54.8%) and homemade fluids (6.0%) respectively as an important measure to control diarrhea. In addition, treatment at health facilities (45.3%), herbal medication (7.7%) and homemade fluids (13.4%) were the management options used by mothers as reported by the study conducted in Kenya (25).

ORS (56.4%), breast milk (33.8%), salt sugar solution (3.1%) and rice water (2.6%) were the preferred fluids by the mothers to manage diarrhea. This result is in line with finding from Ethiopia; Arbaminch (9) in which ORS (40%) and salt sugar solution (29.4%) were the preferred fluids.

Integrated Community case Management of Childhood Illness (ICCM) strategy recommends that uncomplicated diarrhea could be managed successfully at home by continuing to feed the child, offering more fluids and administering Oral Rehydration Solution (ORS) correctly. These interventions could reduce child deaths by up to 40%. It is therefore required that a child's feeds are increased during illness in order to help the body fight the offending organisms (34). In the current study, 31% mothers supported that diet should be decreased during diarrhea. This is much lower when compared to reports from India (42.4%) (10), Pakistan (43%) (20) and Nigeria (64.5%) (18) but higher when compared to the report from Kenya (10%) (25).This difference might be attributed to culture differences between countries and differences in knowledge level

among mothers in these countries.

It is also recommended that during convalescence period, the feeds should be increased to help the body develop new cells to replace the ones worn out during illness. Sustained feeding for two consecutive weeks following diarrheal episode was supported by only 16.7% of mothers in this study. Similarly, the study carried out in Kenya demonstrated that 22.4% of mothers supported feeding during convalescence period (25).

The knowledge of mothers was also assessed about the recognition, use and preparation of ORS. Majority (79.1%) of mothers were aware of ORS. Similar findings were observed in studies from Iran (79%) (17), Nigeria (85%) (18), Pakistan (90%) (20) and India (72%) (22).This finding is high when compared to report from Kenya (17.25%) (4). This difference might be due to the time gap between the two studies conducted (2007 and 2015) in which more information about ORS could be shared in current study area.

Out of the 466 respondents who were aware of ORS solution preparation, 72.5% mothers were able to explain the correct method of its preparation (i.e. 4 glasses of boiled and cooled water is required to prepare a packet of ORS). Similar findings were observed in studies from India (76.7%) (13), Nigeria (60.3%) (18) and Pakistan (74.5%) (20).

The length of time that once prepared ORS solution should be used is also important and a significant proportion (54%) of respondents explained that ORS solution should be used within 24 hours of preparation. This is low when compared to reports from studies conducted in India (77.5%) (13) and Pakistan (87.4%) (20).This difference might be due to lack of adequate information provision while prescribing and selling ORS.

Of the 133 respondents who were aware of homemade ORS also known as salt sugar solution (SSS) preparation, 0nly 50 (37.6%) of them were able to mention all the components correctly (that is 1 tea spoonful salt, 8 tea spoonful sugar and 1 liter clean water). This result is higher when compared with findings from studies carried out in India (4.1%) (13), Pakistan (14.5%) (20) and South Africa (12.5%) (24) but lower when compared with result from Nigeria (67.2%).This difference might be due to lack of prior experience and lack of awareness about the concerned materials needed for its preparation.

Mothers with secondary and above education had better knowledge on home management of under five diarrhea when compared to mothers with lower education. Similar finding was observed from studies conducted in different countries in which better educated mothers had good knowledge [10,18,21]. This might be due to the role of education of mothers to care for the health of their children. Similarly, in this study, being aged 25 years and above was found to be strongly associated with better knowledge of mothers on home management of diarrhea in children. This finding is consistent with the study carried out in India (10).

Also education was found to influence the practice of mothers. Mothers educated secondary and above had better practice when compared to mothers with lower education. Similar finding was observed in studies conducted in Iran (16) and Nigeria (18). This study revealed significant difference between sex of an index child and maternal practice. Mothers of female children practice 35% less likely when compared to mothers of male children. This finding is in line with finding from Arbaminch (9) where mothers of female children practice poor when compared to those with male children. This might be due to preferences to sex in different cultures and social values to male.

Mothers living in urban area had 13 times better practice on home management of diarrhea when compared to mothers living in rural areas. Similar finding was observed in Nigeria (15) in which urban mothers practice better than their counterparts. This might be due to the fact that women in rural area might not have access to information on ORS and differences in their life styles.

Limitation of the study: Mothers might have over reported recent diarrhea occurrence because they were unsure if it has stopped or because they might think their children could receive medical attention through the survey.

Conclusion: The present study revealed that there is a wide gap in the knowledge and practice of mothers regarding home based management of under five diarrhea. Socio-demographic factors such as educational status of the mother, residence and sex of an index child were found to be significantly associated with knowledge of mothers/caregivers on home management of under five diarrhea where as maternal age, educational status, residence and sex of an index child were found to be significantly associated with practice of mothers/caregivers on home management of under five diarrhea. Therefore, Information, education, communication and empowering mothers is essential and could help them in increasing knowledge and practice on skilled management of under five diarrhea at home and decision making regarding the health of their children.

Tables

Table 3 Socio-demographic characteristics of mothers/caregivers, Mareka Woreda, 2015

Variable		Frequency (%)
Relationship of respondent to an index child	Mother	604(92.4)
	Caregiver	50(7.6)
Age of the mother/caregiver	Below 25 years	329(50.3)
	25 years & above	325(49.7)
Religion of mother/caregiver	Orthodox	266(40.7)
	Protestant	262(40.1)
	Catholic	111(17.0)
	Others	15(2.3)
Ethnicity of mother/caregiver	Dawuro	642(98.2)
	Amhara	11(1.7)
	Tigre	1(0.2)
Occupation	Housewife	488(74.6)
	Civil servant	77(11.8)
	Merchant	61(9.3)
	Student	28(4.3)
Educational status	No formal education	251(38.4)
	Primary education(1-8)	245(37.5)
	Secondary education(9-12)	64(9.8)
	College and above	94(14.4)
Residence	Rural	553(84.5)
	Urban	101(15.5)
Number of family members in HH	<=4	240(37)
	5-8	273(41.7)
	>8	141(21.6)
Number of living children in HH	<=2	381(58.3)
	3-4	246(37.6)
	>=5	27(4.1)
Monthly income of the HH	<750 ETB	387(59.2)
	>=750ETB	267(40.8)

Table 2 Respondents' knowledge on types of diarrhea and preferred foods/fluids by mothers, Mareka Woreda, 2015

Variable	Frequency	Percent (%)
How many times per day does he/she pass stool in the last episode? N=265		
Three or more times	231	87.2
Twice	28	10.5
Ones	6	0.2
Type of diarrhea N=265		
Mucoid	125	47.2
Watery	86	32.5
Bloody	54	20.4
For how long did the diarrhea persist?		
< 14 days	169	63.8
>14 days	96	36.2
Is diarrhea in children curable? N=654		
Yes	641	98
No	13	2
Type of diarrhea management mothers know N=654		
Drug therapy	342	52.3
ORT	249	38.1
Herbal medicine	56	8.6
Do not know	7	1.1
Oral fluids preferred to be given to children during diarrhea N=654		
ORS	369	56.4
Breast milk	221	33.8
Salt sugar solution	20	3.1
Rice water	17	2.6
Others	27	4.1
Do you know ORS? N=654		
Yes	517	79.1
No	137	20.9
Place from where ORS can be purchased N=517		
Public health facilities	492	75.2
Private clinic/pharmacy	19	2.9
Quacks	6	0.9
Do you know salt sugar solution? N=654		
Yes	133	20.3
No	521	79.7
Knowledge related correct response		
Good	438	67
Poor	216	33

Table 3 Respondents' practice on home management of diarrhea in children, Mareka Woreda, March, 2015

Variable	Frequency	Percent (%)
Action taken to treat diarrhea by mothers N=654		
Used left over drugs	185	28.3
Took to health facility	163	24.9
Used herbal medicine	126	19.3
Used homemade fluids	98	15.0
Used ORS	82	12.5
Amount of fluids/foods given during diarrhea N=654		
The same as usual	221	33.8
Less than usual	205	31.3
More than usual	203	31.0
Did not give any fluid/food at all	25	3.8
Amount of fluids/foods given during convalescent period N=654		
The same as usual	366	56.0
Less than usual	143	21.9
More than usual	109	16.7
Did not give any fluid/food at all	36	5.5
Withdrawal of fluid/food improves diarrhea N=654		
Yes	194	29.7
No	460	70.3
Reason for withdrawal N=194		
Culture based	103	53.0
It reduces the duration of diarrhea	56	28.9
It stops vomiting	26	13.4
It increases appetite	8	4.1
Other	1	0.5
Type of fluid/food withdrawn N=194		
Liquids (fluids)	158	81.4
Breast milk	19	9.8
Solid foods	12	6.2
Others	5	2.6

Table 4 Respondents' practice on home management of diarrhea in children using ORS & SSS, Mareka Woreda, March, 2015

Variable	Frequency	Percent (%)
Do you know ORS preparation? N=517		
Yes	466	90.1
No	51	9.9
How ORS is prepared? N=466		
Correct ingredients	338	72.5
Less than correct ingredients	116	25.0
Greater than correct ingredients	12	2.6
For how long should the prepared ORS be used? N=466		
<24 hours	252	54.0
>24 hours	201	43.1
Do not know	13	2.8
Is ORS packet available at your home? N=466		
Yes	325	69.7
No	141	30.3
Fluid used for treatment of diarrhea other than ORS N=466		
Herbal medication	247	53.0
Gruel made of cereals	151	32.4
Cow milk	48	10.3
Salt sugar solution (SSS)	20	4.3
Do you know the preparation of SSS? N=654		
Yes	133	20.3
No	521	79.7
How SSS is prepared? N=133		
Correct ingredients	50	37.6
Less than correct ingredients	82	61.6
Greater than correct ingredients	1	0.8
Do you think that SSS treats diarrhea? N=654		
Yes	133	20.3
No	521	79.7
Practice related correct responses		
Good practice	309	47.2
Poor Practice	345	52.8

Table 5 Multivariate logistic regression analysis showing factors associated with mothers' knowledge, Mareka Woreda, 2015

Variable	Knowledge of mothers		Significance test		
Education of the mother	**Good**	**Poor**	**COR**	**AOR (95% CI)**	**p-value**
Secondary and above (>= 9)	123 (18.8)	35 (5.4)	4.760	3.280(1.281,8.390)	0.001*
Primary education or less(<=8)	250 (38.2)	246 (37.6)	1.0	1.0	
Residence of the mother					
urban	96 (14.7)	5 (0.8)	19.131	21.282(5.937,36.279)	0.001*
rural	277 (42.3)	276 (42.2)	1.0	1.0	
Occupation of the mother					
House wife	246 (37.6)	242 (37.0)	0.912	2.020(0.550,7.419)	0.289
Others (merchant, student,..)	127 (19.4)	39 (6.0)	1.0	1.0	
Age of an index child					
Age < 12 months	252 (38.5)	147 (22.5)	1.762	1.498(0.817,2.747)	0.191
Age >=12 months	121 (18.5)	134 (20.5)	1.0	1.0	
Birth order of an index child					
>=3	192 (29.4)	194 (30.0)	2.131	1.304(0.604,2.814)	0.499
<3	181 (27.7)	87 (13.3)	1.0	1.0	
Sex of an index child					
Male	163 (24.9)	160 (24.5)	1.704	2.508(1.721,3.656)	0.001*
Female	210 (32.1)	121 (18.5)	1.0	1.0	
Family number in the household					
<=4	155 (23.7)	85 (13.0)	1.658	1.236(0.573,2.665)	0.589
>4	218 (33.3)	196 (30.0)	1.0	1.0	
Average monthly income of household					
<=750 ETB	188 (28.7)	199 (30.4)	0.419	0.633(0.408,1.284)	0.142
>750 ETB	185 (28.3)	82 (12.5)	1.0	1.0	

*p-value <0.05 was considered as statistically significant.

Table 6 Multivariate logistic regression analysis showing factors associated with maternal practice, Mareka Woreda, 2015

Variable	Practice of mothers		Significance test		
Age of the mother	**Good**	**Poor**	**COR**	**AOR(95%CI)**	**p-value**
>= 25 years	259 (39.6)	249 (38.1)	6.535	4.768(2.281,9.966)	0.000*
< 25 years	50 (7.6)	96 (14.5)	1.0	1.0	
Residence of the mother					
Urban	218 (33.3)	335 (51.2)	13.984	13.048(4.525,17.627)	0.000*
Rural	91 (13.9)	10 (1.5)	1.0	1.0	
Occupation of the mother					
House wife	199 (30.4)	289 (44.2)	0.122	1.196(0.323,4.422)	0.788
Others (merchant, student,..)	110 (16.8)	56 (8.6)	1.0	1.0	
Educational status of the mother					
Secondary and above (>= 9)	107 (16.4)	51 (7.8)	8.451	6.791(2.376,19.413)	0.000*
Primary education or less	202 (30.9)	294 (45.0)	1.0	1.0	
Income of the family					
<=750 ETB	128 (19.6)	259 (39.6)	0.235	0.477(0.322,0.708)	0.000*
>750 ETB	181 (27.7)	86 (13.1)	1.0	1.0	
Sex of an index child					
Female	169 (25.8)	154 (23.5)	0.668	0.653(0.453,0.942)	0.023*
Male	140 (21.4)	191 (29.2)	1.0	1.0	
Number of living children in the household					
<=2	185 (28.3)	196 (30.0)	1.888	1.304(0.604,2.814)	0.499
>2	124 (19.0)	149 (22.8)	1.0	1.0	

*p-value <0.05 was considered as statistically significant

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