

# Assessment of Knowledge, Attitude & Practice of Child Care Givers towards Oral Rehydration Salt for Diarrhea Treatment in under 5 Children in Wolaita Sodo Town, SNNPR/2016

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## Abstract

**Introduction:** Diarrheal disease is the second leading cause of death in children under five years old, and is responsible for killing around 760 000 children every year in Africa. The early use of ORT at home in children with diarrhea decreases the number of outpatient visits and hospitalizations and overall medical costs. **Objective:** To assess knowledge, attitude & practice of child care givers towards oral rehydration salt for diarrhea treatment in under 5 children in Sodo town, SNNPR 2016 **Methodology:** community based cross-sectional study was conducted in Sodo town on child care takers of under five children to assess the current knowledge, attitude & practice of ORS for treatment of diarrhea among 250 samples who were selected with systematic random sampling. 3 kebeles were selected by simple random sampling method, and then systematic simple random technique was used to select the sample size. Data processed manually with scientific calculator. **Result:** In this study 40(16%) children have experienced diarrhea in the two weeks preceding the survey as stated by the mother (mother's recall). From those participants of the study 210(84.6%) of respondents said they have heard about ORT, only 186(74.4%) were knowledgeable. Only 180(72 percent) of the mothers knew the harmful effects of giving too much ORS at a time and 144(57.6 percent) knew the danger of keeping ORS for a longer period. The findings also reveal that 29(11.6 percent) of mothers had misconceptions about the use of ORS. Significant proportion of mothers has a misperception than feeding the child with diarrhea aggravates the disease 28(11.2%). From the total of mothers who involved in the study 186(74.4%) has ever experienced ORS use. **Conclusion & recommendation:** significant proportion of mother lack the knowledge of ORS, have misperception and low practice of it. So that the health care workers should therefore spend more time to emphasize on the need of ORS for the prevention of dehydration due to diarrhea and undertake; IEC activities .for correct preparation of ORS solution.

**Keywords:** diarrhea, ORT, ORS

## BACKGROUND INFORMATION

Diarrhea is defined as the passage of three or more loose or watery stools in 24-hour duration (1). Diarrheal disease is the second leading cause of death in children under five years old, and is responsible for killing around 760 000 children every year in Africa. Diarrhea can last several days, and can leave the body without the water and salts that are necessary for survival. Most people who die from Diarrhea actually die from severe dehydration and fluid loss. Children who are malnourished or have impaired immunity as well as people living with HIV are risky.

Diarrhea 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. Diarrheal disease is a leading cause of child mortality and morbidity in the world, and mostly results from contaminated food and water sources. Worldwide, 780 million individuals lack access to improved drinking-water and 2.5 billion lack improved sanitation. Diarrhea due to infection is widespread throughout developing countries. (2)

In developing countries, children under three years old experience on average three episodes of Diarrhea every year. Each episode deprives the child of the nutrition necessary for growth. As a result, Diarrhea is a major cause of malnutrition, and malnourished children are more likely to fall ill from Diarrhea. The dangers of Diarrhea are related to dehydration and malnutrition while, dysentery is another important causes of death due to the fatal complications associated with it. The main objectives of control of Diarrheal diseases (CDD) in Ethiopia are reduction of morbidity and mortality due to Diarrheal disease in children under 5 years of age. The control and prevention can be achieved through effective curative, preventive, promotive & rehabilitative services. (3)

Interventions to prevent Diarrhea, including safe drinking-water, use of improved sanitation and hand washing with soap can reduce disease risk. Diarrhea can be treated with a solution of clean water, sugar and salt, and with zinc tablets (4). Timely management of the children with ORS has substantially declined the mortality and morbidity from acute infectious diarrhea (5). Therefore mother knowledge about ORT is the main determinant of the management.

## Statement of the problem

Diarrhea is the second killer of under five children worldwide (6). Every year, 2.5 billion cases of Diarrhea likely

to result in death or other service outcomes occur among under five children. More than half of these cases occur in Africa and South Asia. Under five mortality due to Diarrhea is about 1.5 million each year. About 80% of the deaths are still in Africa, including Ethiopia (7).

In developing countries, the average annual incidence rate of diarrhea in under-fives is estimated to be 2.6 episodes. It is also estimated that there are 100 million episodes and 3.3 million deaths occurring each year among children of under-five years of age (8). In Africa, a child experiences five episodes of diarrhea per year, and 800,000 children die each year from diarrhea and dehydration (9). Diarrhea is also responsible for 25% to 75% of all childhood diseases and account for about 14% of outpatient visits, 16% hospital admissions (10). In addition to the excess mortality and morbidity, diarrhea predisposes children to malnutrition, which makes children highly susceptible to other infections (11).

In Ethiopia, morbidity reports and community-based studies have shown that diarrheal disease is a major public health problem that causes morbidity and mortality in children (12,13) Morbidity-Mortality-and Treatment (MMT) surveys conducted in Ethiopia in 2000 at different time's revealed five diarrheal episodes per child/year; and the two-week incidence rate to be 16%. The diarrhea associated mortality rate is about 10/1000 under-five population (11, 17). Studies conducted in central rural Ethiopia revealed that diarrhea is one of the common causes of under-five mortality, accounting for about 8.4% to 27% of all deaths (16, 21). Recent estimates indicate that the two-week period prevalence of diarrhea in under-five children in Ethiopia is about 24 percent. (13). According to the 2010 report of the Ministry of Finance and Economic Development's (MOFED), 20% of the childhood death in the country was due to Diarrhea. The 2011 Ethiopian Demographic and Health Survey (EDHS) reported that 13% of the children had Diarrhea in the two weeks preceding the survey at the national level (17, 18). Different community based surveys on childhood morbidity and mortality in Ethiopia at different places disclosed three episodes of Diarrhea per child per year (19). Deaths attributed to Diarrhea were 23 per 1000 live births (24). Studies conducted in south west and central Ethiopia revealed that the mortality attributed to Diarrhea was 30% and 27%, respectively (20,21)

Socio economic, environmental and maternal practices related to hygiene, breastfeeding, sanitary food preparation and appropriate weaning practices are also potentially important determinants in the occurrence of diarrhea in children. (22)

Although the total number of deaths globally from diarrheal diseases remains high, the overall mortality rate has steadily declined over the last few decades (23). This decline especially in developing countries is largely due to the use of early and appropriate oral rehydration therapy (ORT) with oral rehydration solution (ORS) being its main component as well as improved nutrition and water sanitation measures (24). The early use of ORT at home in children with diarrhea decreases the number of outpatient visits and hospitalizations and overall medical costs.

Despite the success of ORT, the full benefit of ORT has not been realized on account of underutilization (25). The use of ORS largely depends on the level of knowledge and attitude of mothers. Misconceptions are prevalent that prevent the use of ORS during diarrhea. Many mothers believed that one needs a prescription from a doctor in order to buy ORS or ORS has a bad taste or no fluids to be given during diarrhea (26). ORS consists of a solution of salts and sugars which is taken by mouth. It is taken around the world but is most important in the developing world where it saves millions of children a year from death due to diarrhea (27). In developing countries, only 39% of children under five with diarrhea receive the recommended treatment (ORT with continued feeding) to prevent dehydration and worsening nutritional status. Africa has the lowest levels of treatment coverage (35%) followed by South Asia (37%) and the Middle East and North Africa (39%), East Asia and Pacific (excluding China) have the highest treatment coverage level at 55% (28).

This study aims to assess the knowledge, attitude and practice (KAP) of mothers towards the use of oral rehydration solution in the treatment of acute diarrhea in children and to assess the compliance of these mothers to its use and the relation of such a compliance to the socio-demographic characteristics of mothers and their children and the outcome of this treatment.

## **OBJECTIVE OF THE STUDY**

To Assess knowledge, attitude & practice of mothers/care givers towards oral rehydration salt for diarrhea treatment in under 5 children in Sodo town, SNNPR 2016

## **METHODOLOGY**

### **Study area and period**

This study was conducted in Sodo town of Wolaita zone SNNPR Ethiopia. W/Sodo was established in 1894 E.C and is located at 390kms south from A.A through shashemene and 329 km through Hosaina & 167 kms from Hawassa. The town is bounded by kambat in the North West, Gamo Gofa in south & west and in east. It is 1,600 to 2100 meter above sea level. The town has 03 sub-cities & 11 kebeles. The total population of the town is 76050 of which 40,140 are males & the rest 35910 are females. Economic activities are local trade and

commerce, plus a small amount of agro processing. The main sources of income for people in the town are trading, micro economic enterprises, flour processing factory and pottery work. In the town there are five governmental and five private banks, three insurance company and eight microfinance enterprise that support the economic development of the people. The town has one referral hospital, three health centre, eight private clinics, six pharmacy/drug stores; clean pipe water supply, one university, two private college, five preparatory and five high schools, 20 elementary and junior schools, postal, hydroelectric power and telecommunication services. The study was conducted from Aug 15 – october30/2016.

#### **Study design**

A community based cross-sectional study was conducted to assess knowledge, attitude and practice of mothers about oral rehydration therapy particularly ORS (oral rehydration solution) in the management of diarrhea.

#### **Population**

##### **Source population**

All mothers/ care givers living in Sodo town having under 5 children

##### **Study population**

All randomly selected mothers/care givers having under five children in wolaita sodo town

##### **Study unit**

Care givers/mothers having under five children that were selected from the three selected kebeles with systematic random sampling proportional to the study population size.

##### **Eligibility criteria**

##### **Inclusion**

Mothers/ care givers in selected sub kebeles who have under five children and present during data collection time.

##### **Exclusion**

Those, who were unable to give interview in time of data collection due to different medical and psychological problems,

##### **Sampling**

##### **Sample size determination**

The sample size was calculated by using single population proportion formula with the following assumption. Prevalence of mother knowledge about ORT/ORS 82%, based on the finding of a study conducted in Arbaminch town in 2014, margin of error of 5%, and confidence interval of 95%. To compensate for non- response 10% of the sample was added.

$$\begin{aligned} n &= \frac{(Z_{\alpha/2})^2 \cdot P(1-P)}{d^2} \\ &= \frac{(1.96)^2 \times 0.82(1-0.82)}{(0.05)^2} \\ &= 227 \end{aligned}$$

Where, n = the sample size  
Z = Critical value= 1.96  
P= Prevalence= 82%  
d= Margin of error= 5%

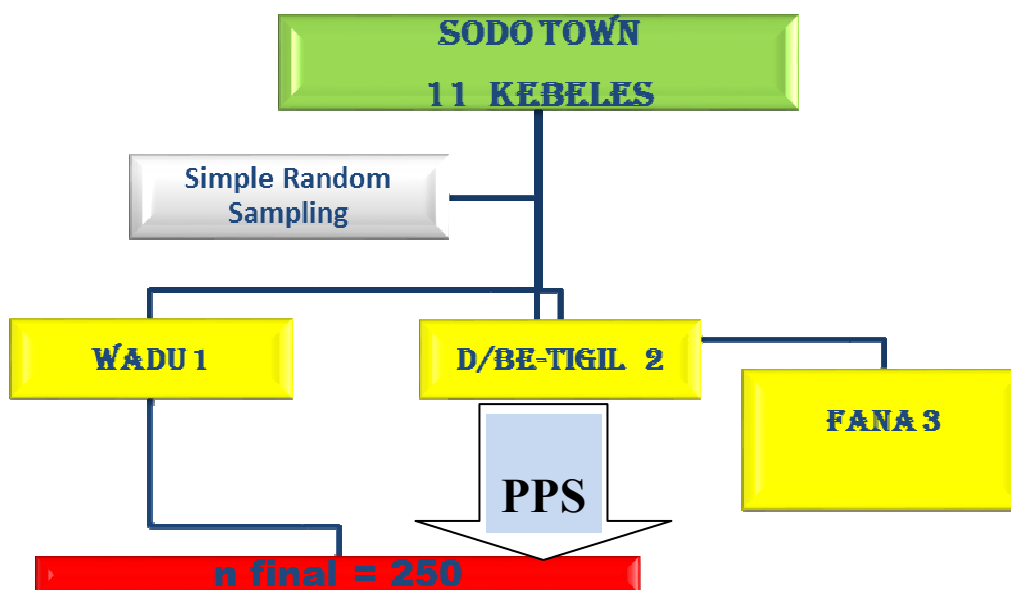
By adding a non response rate of 10 % the final sample size will be **250**.

##### **Sampling technique**

The study population was selected by using systematic random sampling technique. Three kebeles were selected randomly from 11 kebeles of Sodo town. The numbers of mothers who have under five children were selected based on the (PPS) population proportion size of the study population. Study households were selected through systematic random sampling method.

##### **Sampling procedure**

At the first step by using simple random sampling 3 kebeles were selected among 11 kebeles of the town. At the second step households were selected after allocating the total sample to each of the selected kebeles proportionally. Study households were selected through systematic random sampling method.



**Figure 1:** Schematic representation of sampling procedure

in  $\frac{=N_i X n}{N}$  where  $N$  =total number of mothers who have under five child in 11 Kebeles  
 $N_i$  = total number of mothers who have under five child in each Kebele  
 $n$  =total sample size to be selected in  $n_i$  =sample size drawn from each Kebele

#### Data collection methods and procedure

Data was collected by using structured pretested interviewee questionnaire. The questionnaire was developed through a review of related Ethiopian and international literature. The data collection instrument was an anonymous structured questionnaire, which is prepared in English. The English version of the questionnaire translated first to Amharic and back to English by the language experts in order to maintain consistency. The questionnaire sought information on socio-demographic characteristics, educational status and knowledge. Data was collected by 4 female diploma health extension workers of each respective kebeles. The selected data collectors received one day training prior to the data collection.

During the data collection, respondents from the randomly selected mothers who had under five children that are eligible, sampled and willing to participate in the study were made to take part in the study. Respondents from randomly selected households that were unwilling to participate in the study; housing units that were empty (no person in the house), dwelling unit not found or where no eligible person present for interview in at least three times visits or where the households no longer lived at the original location after optional household to the right or left of the selected HH were visited and unsuccessful on that visit recorded as *non-responses*.

#### Study variables

The analysis focused on the following variables.

#### Dependent variables

- ☛ Knowledge, Attitude and Practice of the child care givers.

#### Independent variables

- ☛ **Socio-demographic variables:** Age, Religion, Educational status, occupation, Ethnicity and Income
- ☛ **Health care related:** availability of health institution, health education

#### Data quality management

To ensure the quality of the data the following activities were undertaken:-

- ☛ Proper training of the data collectors and supervisors
- ☛ Careful design, translation and retranslation of the questionnaire
- ☛ Conducting pre test among households in non selected kebeles, close supervision of the data collection procedures
- ☛ Proper categorization and coding of the data
- ☛ Reviewing the collected data for accuracy and completeness by data collectors and supervisors.
- ☛ Checking the recorded data

#### Data analysis

After data collection, each questionnaire was checked for completeness and consistency by data collectors. The data was analyzed by scientific calculator. Descriptive statistics such as, frequencies, proportions and summary statistics were used to describe the study population in relation to relevant variables.

## ETHICAL CONSIDERATIONS

Ethical clearance for the study was obtained from Wolaita Sodo University. Official letter was obtained from Sodo town city administration to get permission and the first page of the questionnaire provided full information to the study participants regarding the purpose and nature of the research. Verbal consent obtained from each participant. Participation to the study was on voluntary basis, and participants were informed their right not to participate in the study if they do not want to participate and the right to withdraw from the study at any point of the interview. Moreover, confidentiality of the information assured through using anonymous questionnaire and keeping the data in secured place.

### Dissemination of result

The final report of the study was presented and submitted to Wolaita Sodo University, college of health science and medicine, school of public health.

## RESULT AND DISCUSSION

### SOCIODEMOGRAPHIC CHARACTERISTICS OF THE STUDY PARTICIPANTS

Two hundred fifty accompanying mother/care takers who followed the child were interviewed with a response rate of 100%. From the total 237(94.8%) of the respondents were mothers of the children. Most of the respondents 163(65.2%) were within the age range of 21-30yrs. About 61(24.4%) were elementary school. About 250(100%) were married. Concerning the religion 145(58%) were protestants, 65(26%) were orthodox, 16(6.4 percent) were Muslims and 24(9.6 percents) were catholic. 90(36%) of the respondents were housewife. Of the total respondents, 48(19.2 %) were getting 501 up to 1000birr per month.

**Table 1: Socio-demographic characteristics of under five children and their care taker in Sodo town September/ 2016**

Characteristics		N	(%)
Age of respondents	<26	76	30.4
	26-35	154	61.6
	Above 35	20	8
Respondent education	Illiterate	3	1.2
	Primary school	61	24.4
	Secondary	186	74.4
Religion	protestant	145	58
	orthodox	65	26
	Muslim	16	6.4
	catholic	24	9.6
Ethnicity	woliata	184	74.4
	Oromo	10	1.6
	Amara	34	13.6
	others	25	10
The nearest health facility	Health Post	166	66.4
	Health Center	64	25.8
	Hospital	7	2.7
	Private clinic	10	4.0
	Others	3	1.1
Occupation	Housewife	90	36
	Employee	111	44.4
	Others	49	19.6

### The Characteristics of Child's Living Environment

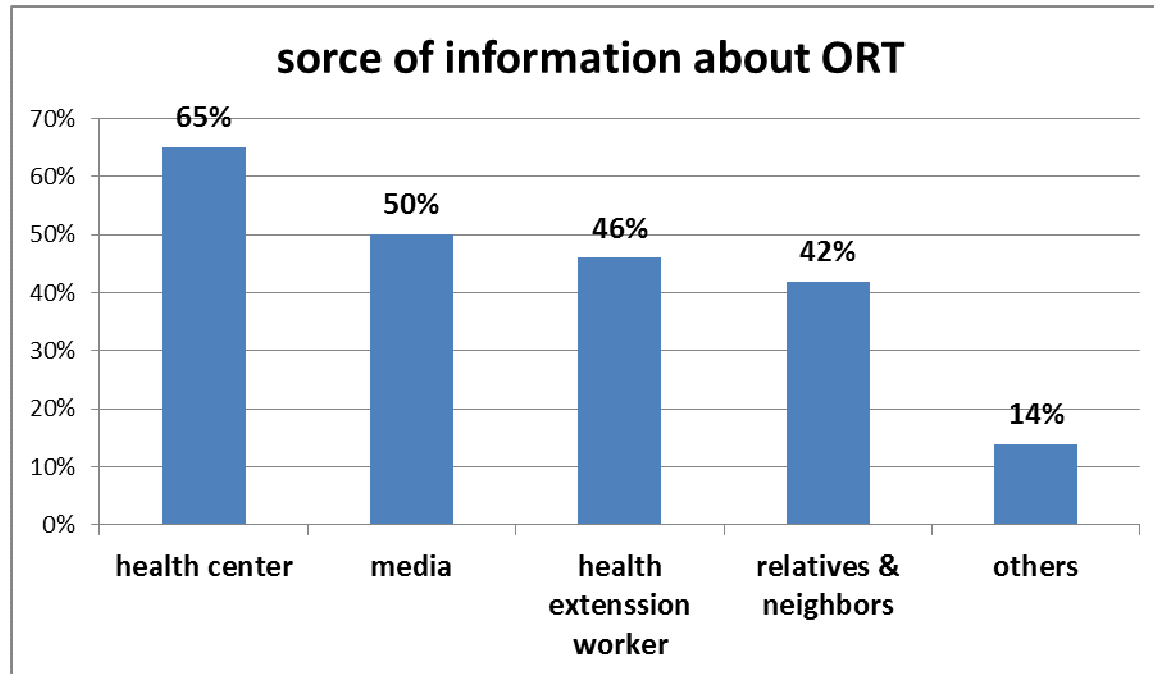
From the total of 250 households, 40 (16%) had dwelling with mud floor. Majority of dwelling houses 30 (12%) had no partition room. twenty (1%) of the households had no latrine. The mean per capita per day water consumption of the households was 2.5 (SD } 1.1) liters. 220(88%) mothers have a comprehensive knowledge about the cause of diarrhea and its transmission methods. In this study 40(16%) children have experienced diarrhea in the two weeks preceding the survey as stated by the mother (mother's recall)

### Respondents' Knowledge of ORT

From those participants of the study 210(84%) of respondents said they have heard about ORT packet, only 186(74.4%) were knowledgeable about the therapy as indicated by describing the treatment correctly, recognizing the packet or reciting the home recipe. The most frequent answer to the question about the perceived

mode of action of ORT was the replacement of water loss and prevention of dehydration 162 (64.8%). Almost a third of respondents said that ORT stops diarrhea. While, the same of respondents 30(12%) were not sure if ORT is an effective treatment for diarrhea

Respondents' knowledge about ORT was derived from health centers (65%), followed by the media (50%), health extension workers (46%), relatives and neighbors (42%). Only a few respondents (14%) mentioned other sources.



**FIGURE2.** Source of information about ORT among participants in Sodo town September 2016

Most of the ORS users and literate mothers could tell the role of ORS properly for preventing or controlling Diarrheal diseases. Correct method of preparation of ORS was also stated by 186(74.4percent) of mothers and the quantity of ORS to be given during Diarrhea was replied correctly by 41.6 percent. 180(72 percent) of the mothers knew the harmful effects of giving too much ORS at a time and 28.4 percent knew the danger of keeping ORS for a longer period

The findings also reveal that 29(11.6 percent) of mothers had misconceptions about the use of ORS. Common misconceptions observed among the mothers were; ORS has a bad taste and, no fluid is to be given during Diarrhea etc. Approximately, greeter than half of the mothers (76.4%) had the knowledge of starting ORS at the onset of Diarrhea. 76.4 percent of mothers expressed that ORS need to be given when the child looks weak and 2.8 percent viewed that ORS should be given to the child in case of vomiting.

**Table2.** Knowledge of mothers and care taker of under five children in Sodo town September 2016

Character		Frequency	percent
Do you know ORS?	Yes	210	84.6
	No	40	16
For what purpose one can use it?	To stop diarrhea	128	51.2
	To reap lace fluid lost by diarrhea	162	64.8
	To stop vomiting and reduce fever	7	2.8
	I do not know	36	14.4
	Other	0	0
Where do you take your child whenever he/they gets diarrhea?	To health institution	248	99.2
	Anywhere	0	0
	Traditional healer	2	0.8
	Other	0	0

**Attitude of mothers towards ORS**

Concerning attitude of mothers towards ORT, this study for the question ORS can be used in the treatment of diarrhea 88% were agreed, 11.6% were neutral and the rest 1% were disagreed. Significant proportion of mothers have a misperception than Feeding the child with diarrhea aggravate the disease (11.2%) but have a positive attitude towards home management of diarrhea.



**Table3. Attitude of mothers and care taker of under five children in Sodo town September 2016**

Characteristics	Agree	Disagree	Neutral
ORS can be used in the treatment of diarrhea	220	1	29
ORS and other homemade fluid can help in treatment of diarrhea	223	0	27
Feeding the child with diarrhea aggravate the disease	28	172	45
Diarrhea can be used treated at home using salt and sugar solution	212	8	30

**The Practice of mothers on diarrhea management/ORS use**

From the total of mothers who involved in the study 186(74.4%) has ever experienced ORS use but the rest have no experience. Lack of knowledge regarding ORS was the main reason for not using ORS others being lack of skill about its preparation and unavailability of ORS. 86.8 % of mothers have the practice of give usual amount of food and increased amount of fluid while their child have episodes of diarrhea but significant proportion (1.6%) of mothers have a practice to restrict their child from food. In the same way while their child have diarrhea 15.6% of mothers prefer to give dry food. Among those who ever used ORS 57.6% have a practice to use ORS only for 24 hours once as it is reconstituted.

**Table4. Practice of mothers and care taker of under five children in Sodo town September 2016**

Characteristics		Count	Percent
Have you ever experienced ORS use	Yes	186	74.4
	No	64	25.6
If No, what is your reason?	I do not know its importance	46	18.4
	I do not know its preparation	16	
	It is not available	2	
	Other	0	0
For how long do you preserve the ORS solution after you prepared?	For 24 hrs.	144	57.6
	until it was finished	44	17.6
	I do not know	16	
	Other	1	
How do you help your child during diarrhea episodes?	Stop giving food	4	
	usual foods and by adding fluids	217	86.8
	Nothing	41	16
	Other	1	
What are good foods / fluid that you give to your child when he /she gets diarrhea?	Dry food	39	15.6
	Soft food	208	83.2
	I don't know	33	13.2

**DISCUSSION**

In this study 40(16%) children have experienced diarrhea in the two weeks preceding the survey as stated by the mother (mother's recall) which is consistent with findings of studies conducted in Jimma and Agaro; A study done in Agaro on diarrheal disease among under-five children found a two-week prevalence of 33.7 percent (34) and Another study from Jimma town, southwest Ethiopia, showed a prevalence of 36.5 percent (31). But it is higher than the finding of a study conducted in keffa-theyka which found a two-week childhood diarrhea prevalence of 15 percent (30). This difference might be due to the difference in study methodology, nature of population, geographic, seasonal variation and socio-economic condition of the community selected for the study. From those participants of the study 210(84%) of respondents said they have heard about ORT packet, only 186(74.4%) were knowledgeable. But this finding was higher than studies conducted in rural Ethiopia (29); a survey conducted on mothers of under 5 children in rural Ethiopia, on determinant of mother's treatment of diarrhea showed that over 50% of mothers restricted the Childs fluid intake and 70% stopped or decrease food intake, only 20% used ORS or cereal based ORT. Only 26.8% of mothers had sufficient knowledge about the cause of diarrhea, whereas many of the mothers believed that thinking accidental falls caused diarrhea and that diarrhea helped to clean out the bowels. They also believed that only water should be given to the child, but that too much fluid worsened diarrhea. (29)

Respondents' knowledge about ORT was derived from health centers (65%), followed by the media (50%), health extension workers (46%), relatives and neighbors (42%). Correct method of preparation of ORS was also stated by 186(74.4percent) of mothers. Only 180(72 percent) of the mothers knew the harmful effects of giving too much ORS at a time and 72 percent knew the danger of keeping ORS for a longer period. The findings also reveal that 28(11.6 percent) of mothers had misconceptions about the use of ORS. Approximately, half of the mothers (74.4%) had the knowledge of starting ORS at the onset of Diarrhea while 2.8 percent viewed that ORS should be given to the child in case of vomiting. A survey conducted at Shashemen town in April 2004 to assess the knowledge, attitude and practice of mothers showed that one third of mothers knew ORS

and 17.7% knew the preparation as well., only 5.4% of mothers have had prepared ORS regularly (45)

Concerning attitude of mothers towards ORT, this study shows that 192 mothers (76.8%) believe it is not enough as a treatment and 58 (23.2%) mothers agreed using it alone without antibiotics while 247 mothers (98.8%) agree there are no side effects behind its use. For the question ORS can be used in the treatment of diarrhea 85% were agreed, 14% were neutral and the rest 1% were disagreed. Significant proportion of mothers have a misperception than feeding the child with diarrhea aggravate the disease (57%) but have a positive attitude towards home management of diarrhea.

A cross sectional community based survey conducted on usage of ORS in diarrheal disease in Adamitulu woreda found that parents of under five children attitude towards ORS use was 72.8%. The treatment practice of parents among under five children with diarrhea were 183(71.6%) where in breast milk alone or along with other weaning foods and breast feeding was discontinued on only 3.6% of these children. More fluid and food was offered to 8.2% of children with diarrhea that were already on weaning diet, food and fluid were withheld in 3.4% and 5.7% of these children respectively. (44)

From the total of mothers who involved in the study 186(74.4%) has ever experienced ORS use but the rest have no experience. It is higher than a survey conducted on mothers of under 5 children in rural Ethiopia, over 50% of mothers restricted the Childs fluid intake and 70% stopped or decrease food intake, only 20% used ORS or cereal based ORT (29). Also in a study conducted in Adamitulu woreda found that the treatment practice of parents among under five children with diarrhea were 183(71.6%) where in breast milk alone or along with other weaning foods and breast feeding was discontinued on only 3.6% of these children. More fluid and food was offered to 8.2% of children with diarrhea that were already on weaning diet, food and fluid were withheld in 3.4% and 5.7% of these children respectively. (44)

Lack of knowledge regarding ORS was the main reason for not using ORS others being lack of skill about its preparation and unavailability of ORS. 86.8 % of mothers have the practice of Give usual amount of food and increased amount of fluid while their child have episodes of diarrhea but also significant proportion (1.6%) of mothers have a practice to restrict their child from food. In the same way while their child have diarrhea 15.6% of mothers prefer to give dry food. Among those who ever used ORS 57.6% have a practice to use ORS only for 24 hours once it is reconstituted and 17.6% of mothers use ORS up to finished.

#### **Strength and limitation of the study**

##### **Strength**

This study was conducted in a community based study with probability sampling technique having advantage than institution based studies. The study get 100% response rate. well defined inclusion and exclusion criteria were made, the reliability of the data was maintained by prior training of the interviewers and the supervisors, questionnaires were tested and necessary corrections made, and most of the questions of the quantitative study were closed ended, regular supervision was made by Principal Investigator and data was entered, and cleaned thoroughly by the principal investigator and findings were compared with other related observations locally and internationally.

##### **Limitation**

The main limitations of this study are it is limited to cross-sectional descriptive approach, thus unable to formulate a causal association as to how and when the associations are established. Another limitation of this study is that practice of mothers was assessed alone by asking practice question rather than observing while mothers were demonstrating. Association was not done at all.

#### **CONCLUSION AND RECOMENDATIONS**

##### **Conclusion**

- ❖ The prevalence of diarrhea in the study area was not that much height.
- ❖ Even though mothers have relatively better knowledge than early studies in current instance there is higher knowledge gap among mothers.
- ❖ There is knowledge gap at Correct method of preparation of ORS, the quantity of ORS to be given during diarrhea and the harmful effects of giving too much ORS at a time.
- ❖ The findings also reveal that a significant proportion of mothers had misconceptions about the use of ORS.
- ❖ Respondents' knowledge about ORT was derived from health centers (65%), followed by the media (50%), health extension workers (46%), relatives and neighbors (42%).
- ❖ Significant proportion of mothers have a misperception than Feeding the child with diarrhea aggravate the disease
- ❖ Majority of mothers has practiced ORS for management of under five children diarrhea

##### **Recommendations**

The health care workers should therefore spend more time to emphasize on the need of ORS for the prevention of dehydration due to diarrhea and undertake; IEC activities .for correct preparation of ORS solution. Activities should also focus as to why and when it is to be used and how correctly it can be used. These activities need to



be regular and continuous so that morbidity and mortality due to Diarrheal disease are effectively prevented.

## REFERANCE

1. Haroun HM, Mahfouz MS, El Mukhtar M, Salah A. Assessment of the effect of health education on mothers in Al Maki area, Gezira state, to improve homecare for children under five with diarrhea. *J Family Community Med.* 2010;
2. UNICEF: *Pneumonia and Diarrhea: tackling the deadliest diseases in the world.* New York: UNICEF; 2012.
3. FMOH guide line to prevent diarrheal disease 2007.
4. World Health Organization. Diarrheal disease fact theyet. N° 330 April 2013.
5. Cezard JP, Bellaiche M, Viala J, Hugot JP. Medication in infectious acute diarrhea in children. *Arch Pediatr* 2007
6. Christa L, Walker L, Perin J, Martin J, Bochi-Pinto C, Robert E: Diarrhea incidence in low- and middle-income countries in 1990 and 2010: a systematic review. *BMC PubliHealth* 2012, 12:220
7. UNICEF/WHO: *Diarrhea: Why Children are Still Dying and What can be Done.*; 2009
8. Bern, C., Martines, J., de Zoysa, I. and Glass, R.I. The Magnitude of the Global Problem of Diarrheal Disease: A Ten-Year Update. WHO, 2009
9. Woldemichael, G. Diarrheal Morbidity among Young Children in Eritrea: Environmental and Socioeconomic Determinants. *JHP and Nutrition*, (2001) .
10. Child Health Research Project Childhood Diarrhea in Sub-Saharan Africa. 2008.
11. Ketsela, T. Knowledge, and Practice of Mothers/Caretakers towards Diarrhea and Its Treatment in Rural Communities in Ethiopia, 2009
12. Larson, C.P. and Ketsela, T. Acute Childhood Diarrhea. In: Kloos, H. and Zein, Z. A., Eds., *the Ecology of Health and Disease in Ethiopia*, 2010.
13. Central Statistics Authority & ORC Macro Ethiopia Demographic and Health Survey 2000. The Authority, ORC Macro in Addis Ababa, Calverton, Maryland, USA.
14. Mekasha, A., Lemma, F. and Shiferaw, T. Child Health Problems in Ethiopia. EPHA Expert Group Report. *Ethiopian Journal of Health Development*, 1995.
15. Shamebo, D., Muhe, L., Sandstrom, A. and Wall, S. The Butajira Rural Health Project in Ethiopia: Mortality Pattern of the Under-Fives, 2007
16. Shamebo, D., Muhe, L., Sandstrom, A., Freij, L., Krantz, I. and Wall, S. The Butajira Rural Health Project in Ethiopia: A Nested Case-Referent (Control) Study of Under-Five Mortality and Its Health and Behavior Determinants. 1999
17. MOFED: *Ethiopia: MDGs report: trends and Prospects in meeting MDGs in 2015.* Addis Ababa: Federal Ministry of Finance and Economic Development; 2010.
18. CSA: Ethiopia Demographic and Health Survey. Addis Ababa, Ethiopia and Calverton: Maryland USA Central Statistical Authority; 2011.
19. CSA: *Ethiopia Demographic and Health Survey.* Addis Ababa, Ethiopia and Calverton: Maryland USA Central Statistical Authority; 2005.
20. Deribew A, Tessema F, Girma B: Determinants of under five mortality in Gilgel Gibie Field research center South west Ethiopia, Ethiop. *J Health Dev* 2007,
21. Ali M, Asfaw T, Beyene H, Byass P, and Shishay M, Karup F: A community based study of childhood morbidity in Tigray, North Ethiopia. *Ethiop J Health Dev* 2001,
22. Van Derslice, J., Popkin, B. and Briscoe, J. Drinking Water Quality, Sanitation and Breastfeeding: Their Interactive Effects on Infant Health. *WHO*, 2005
23. Bryce J, Boschi C, Shibuya K, Black RE. WHO Child Health Epidemiological Reference Group. WHO estimates of the causes of death in children? *Lancet* 2005
24. Victoria CG, Bryce J, Fontaine O, Monasch R. Reducing deaths from diarrhea through oral rehydration therapy. *Bull World health Organ* 2000; 78:1246.
25. King CK, Glass R, Bresee JS *et al.* managing acute gastroenteritis among children: oral rehydration, maintenance and nutritional therapy. *MMWR* 2003; 52:1.
26. Rasania S.K, Singh D, Pathi S, Matta S, Singh S. Knowledge and attitude of mothers about oral rehydration solution in few urban slum of Delhi. *Health and Population- Perspectives and issues* 2005; 28(2):100-107.
27. UNICEF Progress for Children: Diarrheal Diseases 2007
28. UNICEF, WHO the State of World's Children. New York: UNICEF (2010).
29. Muhe, L., Freij, L., Byass, P., Sandstrom, A. and Wall, S. A One-Year Community Study of Under-Fives in Rural Ethiopia: Patterns of Morbidity. *Ethiopian Journal of Health Development*, (2003).
30. Teklemariam, S., Getaneh, T. and Bekele, F. Environmental Determinants of Diarrhea Morbidity in Under-Five Children. Keffa-Theyka Zone. Southwest Ethiopia. *EMJ* 2008

31. Getaneh, T., *et al.* Diarrhea Morbidity in Urban Area of Southwest Ethiopia. *East African Medical Journal*, (1997).
32. Ali, M., Asfaw, T., Beyene, H., Byass, P., Hisabu, M.S. and Pedersen, F.K. A Community Based Study of Childhood Morbidity in Tigray, *EJHP*, (2001).
33. Tessema, T., Hailu, S., Anberbir, S. and Mitikie, G. Household Illness Prevalence and Its Determinants in the Under-Five Children. *EJD*, (2001)
34. Kaba, M. and Ayele, F. Ethnographic Study of Diarrheal Disease among Under-Five Children in Mana District, Jimma Zone, Southwest Ethiopia. *EJHP*, (2000).
35. Root, G.P.M. Sanitation, Community Environment and Childhood Diarrhea in Rural Zimbabwe. *Journal of Health, Population and Nutrition*, (2001)19, 73-82.
36. Timaeus, I.M. and Lush, L. Intra-Urban Differentials in Child Health. *Health Transition Review*, (1995) 5, 163-190.
37. Mock, N.B., Sellers, T.A., Abdoh, A.A. and Franklin, R.R Socioeconomic, Environmental, Demographic and Behavioral Factors Associated with the Occurrence of Diarrhea in Young Children. *Social Science & Medicine*, . (1993
38. Mbori-Ngacha, D.A., Otieno, J.A., Njeru, E.K. and Onyango, F.E. Prevalence of Persistent Diarrhea in Children Aged 3 - 36 Months at the Kenyatta National Hospital, Nairobi, Kenya. *East African Medical Journal*, (1995)
39. Taha A Assessment of mothers knowledge and practice in use of ORS for diarrhea in rural Bangladesh; Saudi medi. J.AUG 2008
40. Rustein, S.O. Factors Associated with Trends in Infant and Child Mortality in Developing Countries during the 1990s. *Bulletin of WHO*, (2000)
41. Mitike, G. Prevalence of Acute and Persistent Diarrhea in North Gondar Zone, Ethiopia. *East African Medical Journal*, (2001) .
42. Donald E., Theyhundu B. Abdulsattar C. Kai R. Magda s kiristic C Update of ORS usage in Afghanistan: Result of national study; 2008
43. Pelto, G.H.) The Role of Behavioral Research in the Prevention and Management of Invasive Diarrhea. *Reviews of Infectious Diseases*, (1991.
44. Knowledge attitude and practice of ORS by mothers/ care takers in treatment of diarrhea in under five children 2010
45. Surafel W. Knowledge attitude and practice of mothers about ORS in,2006