

ADDIS ABEBA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
DEPARTMENT OF NURSING AND MIDWIFERY

ASSESSMENT OF KNOWLEDGE, PRACTICE AND UTILAIZATION OF
ORAL REHAYDERATION THERAPY FOR ACUTE WATERY
DIARRHOEAL DISEASE CASE MANAGEMENT AMONG MOTHERS
(CAREGIVERS') OF UNDER-FIVE CHILDREN IN ASSELA TOWN,
ETHIOPIA

BY: ADANECH ESHETE

A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES
ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE
REQUIRMENTS FOR THE DEGREEE OF MASTERS OF SCIENCE IN
CHILD HEALTH NURSING IN THE DEPARTEMENT OF
NURSING AND MIDWIFERY.

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Addis Ababa

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This thesis is by Adanech Eshete Endayelalu accepted in its present form by the board of examiners as satisfying thesis requirements for degree of masters of Science in child health nursing.

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Acronyms

BCC	Behavior Change Communication
CDD	Control of diarrheal diseases
CI	Confidence interval
CHP	Community Health Post
DHS	Demographic health survey
EDHS	Ethiopian demographic health survey
EPI	Expanded Program of Immunization
Epi info	Epidemiological information
L	Liter
MDG	Millennium Development Goal
ORS	Oral rehydration salt
ORT	Oral rehydration therapy
RHF_s	Recommended Home Fluids
PAS	Proportional allocation of sample
SPSS	Statistical package for social science
SSS	Sugar Salt Solution
SSW	Sugar Salt Water
UNICEF	United Nations International Children Education Fund
WHO	World Health Organization

OPERATIONAL DEFINITION

Acute Diarrhea: an episode of diarrhea lasts for less than 14 days.

Dehydration: the loss of water from the body, as a result of diarrhea.

Rehydration: replacement of fluid.

Oral Rehydration Therapy (ORT): administration of recommended fluid by mouth to prevent or correct dehydration as a result of diarrhea.

Oral Rehydration Salt (ORS): a Solution used for replacement of water secondary to diarrhea.

Caregiver: Anybody who taking care of a child.

An eligible child: under five children who suffered from diarrhea in the 2 weeks prior to the study.

An eligible household: a house hold which had an under five child who had diarrhea in the 2 weeks prior to the study.

Household: a group of people living in same house/compound or home sharing the same kitchen or meals

ABSTRACT

Rehydration therapy was a critical intervention to save the lives of children during the episodes of diarrhea. However, millions of children die every year due to failure to replace fluid effectively.

Globally, diarrheal diseases remain a leading cause of death. It estimates 1.87 million each year, accounting for approximately 19% among children of under- five. Most of these deaths are due to dehydration and mismanagement or delayed management of the disease.

Therefore the mothers' knowledge in management of diarrhea is likely related to its mortality and morbidity. Nearly all dehydration-related deaths can be preventable by prompt administration of rehydration therapy. ORT is simple, inexpensive and the most effective way to treat dehydration. It can be easily administered at home by the mother /care givers as soon as diarrhea episode begins.

Universal use of oral rehydration therapy (ORT) for diarrhea could prevent almost 1.5 million deaths per year, or 15% of all under-five deaths.

Objective: to assess the knowledge, practice of mothers (caregivers) towards ORS utilization for under-five children with acute diarrheal disease in Assela town.

Method: Community based quantitative cross-sectional study were conducted from March to April, 2015. A convenient sampling technique was used to select 390 households that had under-five children with acute watery diarrhea two weeks prior to study. Data were collected using pre-tested structured questionnaire by trained data collectors. The data were entered and analyzed using SPSS version 20. Descriptive statistics (frequencies and proportion) were used to describe the study population in relation to relevant variables.

Sample size – Data were obtained from 390 care givers yielding a response rate 100%

Sampling Result

The study finding revealed that out of 390 caregivers 182 (46.7%) had good knowledge about ORS utilization for acute watery diarrheal disease case management while, 208 (53.3%) of care givers had poor knowledge. In other hand 41 (10.5%) of care givers had good practice on case management while, 349 (89.5%) of care givers had poor practice to manage the disease.

Conclusion: The present study concludes that mothers had knowledge in the management of diarrhea. However, several gap existed between knowledge and practice of mothers in managing the disease. The high knowledge revealed in this study had not influenced the practice of mothers in managing the disease. Thus, there is a need for public health educational interventions.

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

CHAPTER ONE

INTRODUCTION

1:1 Back ground

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. Globally, there are nearly 1.7 billion cases of diarrhoeal disease every year (1).

In Ethiopia, also Diarrhoea is the major killer of children. According to EDHS 2012, Diarrheal disease affects about 13.3% of under-five children. The child Mortality rate in Ethiopia 2007 was 199 per 1000 live births and approximately one of every five deaths every year. It is both preventable and treatable. Key measures to treat diarrhoea include rehydration with oral rehydration salts (ORS) solution (2).

Rehydration therapy is a critical intervention to save the lives of children during the episodes of diarrhea. However, millions of children die every year due to failure to replace fluid effectively. Universal use of oral rehydration therapy (ORT) for diarrhea could prevent almost 1.5 million deaths per year, or 15% of all under-5 deaths (3).

Proper home management can reduce morbidity and mortality due to diarrhea. It was estimated that 60-70 percent of diarrhea related deaths are caused by dehydration due to loss of water and electrolytes. Factors of particular importance include care givers 'knowledge about causes of diarrhea and the associated dangers signs, prevention of dehydration during diarrheal episodes through the use of Oral Rehydration Salts (4).

1:2 problem statements

Diarrheal diseases were among the three most important causes of morbidity, and mortality in low income countries including Ethiopia. Lack of sanitation facilities was a serious health risk and obliges people to practice open defecation, thereby increasing the risk of disease transmission. Diarrhea was a common digestive disorder that all people suffer at some stage during their lives, that defines diarrhea was passing frequent, loose, watery stools three or more times in a day(5).

Diarrheal disease was an important public health problem among under- five children in developing countries. It can last several days, and can leave the body without water and salts that were necessary for survival; Diarrhea was the result of failure to exclusively breastfeed young infants to 6 months and the introduction of liquids and solid foods at too early; lack of access to sufficient clean water and sanitary disposal of human waste, inadequate feeding practices and improper hand washing; poor housing conditions and lack of access to adequate and affordable health care (6).

Deaths resulting from diarrhea reflect the principal problem of disruption of fluid and electrolyte homeostasis which leads to dehydration electrolyte imbalance, vascular instability and shock. In developing countries including Ethiopia diarrhea was a major public health problem resulting in series social and economic consequences. The leading cause of death from acute diarrhea was the loss of water and essential minerals, which can be compensated most cases by an oral Rehydration solution (ORS) (7).

Furthermore, there was no significant increase in the utilization of ORT in the last ten years; and This is created great concern among stakeholders in the country.

A similar finding was reported based on Demographic and health surveillance (DHS) data analysis in 34 countries in Sub-Saharan Africa and Asia. Investigating the factors associated with the utilization of such a widely available and effective life saving intervention is of vital importance (8).

1.3 Significance of study

Diarrheal diseases remained to be the second leading cause of death in children under five years old in developing country. In Ethiopia, also Diarrhoea is the major killer of children and thus is a serious public health problem. It estimated 73,700 children under the age of five die each year. (9).

In Ethiopia, even though progress was made in reducing child mortality from 123 deaths of under -five years of children per 1,000 live births to 88 deaths per 1,000 live births, children in the country still suffer from diarrheal diseases. The government has tried to provide this life saving treatment to the rural communities by deploying health extension workers (village health agents) in every Keble (smallest administrative unit which on average has 5000 population) in the country. However, only 39.7% of under-five year children with diarrhea received any form of ORT (10).

Oral Rehydration Salts solution uses a component of child survival strategy. However, available studies and information provided limited or inadequate knowledge to increase Oral Rehydration Salts solution use. The study thus provided information on determinants of Oral Rehydration Salts solution use aimed at guiding health providers & policy makers in improving childhood morbidities and mortalities due to diarrhoea (11).

CHAPTER TWO

LITERATURE REVIEW

2. 1-Diarrhea

In 2011, diarrhoea accounted for 700,000 deaths in children under- five years of age (U5s) worldwide making it the second leading cause of child mortality. The highest rates of child mortality are in Sub- Saharan Africa and Southeast Asia. An estimated 1.7 billion episodes of diarrhoea, equalling approximately 2.9 episodes per child per year, created health system costs of about 7 billion US dollars (12).

In Nepal about the clinical symptoms, 179 (59.7%) stated that dehydration as a major complication of diarrhea. Vomiting (23.7%) and loss of appetite (16.3%) were mentioned respectively. Furthermore, 12.7% of subjects considered child's lethargy and 6.3% mentioned dry mouth and eyes as alarming symptoms of diarrhea (13).

In congruent to this study in Gana most of those who stated that diarrhea were a serious illness for children less than five years indicated the loss of fluids involved in the disease process leading to dehydration, malnutrition and eventual death. This suggests that mothers (care givers) had knowelege on diarrhea as a serious child hood illness (14).

2. 2 – Cause of diarrhea

Diarrhea was caused by infectious organisms, including viruses, bacteria, protozoa, and helminthes, which was transmitted from the stool of one individual to the mouth of another,

termed as fecal-oral transmission. Other causes of diarrhea include food and water contamination, failure to exclusively breastfeed young infants to 6 months and the introduction of liquids and solid foods at too early age, malnutrition, dietary changes, medication and physiological stress increases the risk of diarrheal disease and an important cause of morbidity and mortality in Africa (15).

In other similar study in Sunsari Nepal, 52% of mothers stated their children's diarrhea incidence was due to contaminated food and water and approximately, 48% of respondents considered teething as a cause of diarrhea and approved consensus (16).

However, similar study in Nigeria revealed that 35% of mothers were aware of contaminated food and water as an etiologic agent of diarrhea and only 3.9% believed in teething. In comparison, with study done in Nigeria this study reveals higher the cause of diarrhea as 48% is due to cultural beliefs and level of education (17).

Other similar study in Niger finding about Knowledge of the causes of diarrhea respondents were asked if they had an idea on the causes of diarrheal disease in children, and 48% had no idea on the causes of diarrhea in their children, 10% thought it was as a result of poor personal and environmental hygiene, 18% of respondents believed that the cause of the diarrhea was eating contaminated food and/or water, 14% attributed the cause to improper hand washing, and 10% said diarrhea was caused by introducing complimentary foods too early (18).

There had been many studies that showed that the environmental risk factors and socio-economic conditions of the population were significant predictors of diarrheal morbidity. Obtaining water

from storage containers by dipping showed statistically significant association with diarrheal morbidity. Another study observed that, the odds of having diarrhea in children who lived in households, which had no latrine facility was two times higher than the odds in children who lived in households that had latrine facilities(19).

Study in Fenoteselam 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 0.6% 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 (20).

Similar 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%) (21).

2. 3 – Knowledge of mothers about ORSutilaization

In study conducted among mothers in district Nepal, majority of respondents were found to be aware of ORS and its usefulness in management of diarrhea. A very small number were also found to correctly prepare oral rehydration solution for their children when they had diarrhea (22).

Further more, the result agreed with studies conducted in Nigeria and some other African countries. Two decades after the introduction of ORT the level of awareness declined due to the lack of consistency in maternal education on this issue (23).

In a study conducted by Macdonald et al in indonesia on maternal understanding of diarrhoea related dehydration and its influence on ORS solution use, they found out that only 38% of the mothers surveyed could identify 2 or more correct signs of dehydration. A significant relation

was found between maternal knowledge of correct signs of dehydration and use of ORS solution. The study thus recommended improved health education programming for mothers of young children, as well as future programmes and evaluation of intervention studies (24).

In congruent to this study in Gana most of those who stated that diarrhea were a serious illness for children less than five years indicated the loss of fluids involved in the disease process leading to dehydration, malnutrition and eventual death. This suggests that mothers (care givers) had knowelege on diarrhea as a serious child hood illness (25).

Similar study which was done in India indicated that the education of the father influenced knowledge of the mothers. The educational status of the father might determine the economy and the social class of the family. The roles of the fathers seem to be influential in the management of the diarrhea (26).

2. 4 – Utilaization of ORS by mothers

A study conducted in Pakistan on ORS solution use found that, maternal education was related to the level of utilization of oral rehydration salt, with 95% for children whose mothers had completed secondary schooling or higher being taken for treatment, compared 55% of children with diarrhoea whose mother had no schooling or incomplete primary school(27).

According to UDHS, 26% of children under- five years of age had diarrhoea 2 weeks preceding the survey. Of these, 70% required care and only 40% were given or treated with ORS and 7% were managed on home-prepared solutions/fluids. This leaves more than half of the children who get diarrhoea not treated, either because they do not seek care in the health facilities or ORS solution was not given (28).

Study done in Gambia, all the children had received some form of oral rehydration. This was similar to a study done in rural Gujarat where oral rehydration was given for 90.6% of the diarrhoea episodes. NFHS-3 national survey conducted average of 48% mothers understands the use of oral rehydration solution (29).

Similar study was done in Nigeria, which showed the gap between knowledge and practice with being educated and none educated on ORS utilization could be linked to the fact that even though mothers (care givers) have knowledge on management of diarrhea by utilization of oral rehydration solution (ORS), they may not probably be putting the knowledge in to practice. Other factors such as the social class or family income might influence the mothers' knowledge more than just their own education (30).

Study, done on Gambia although 75% of the mothers were educated, only 156 knew the correct method of ORS preparation and its use; whereas out of the remaining mothers who knew about ORS did not know the correct method of using ORS. However, literacy rate showed positive association with adequacy of ORS knowledge (31).

Another similar study in Australia 71.48% representing about three fourth of the participants know the preparation of solution correctly, although 217 (55.6%) of the children reporting diarrhoea within 2 weeks prior to the study actually used ORS solution (32).

2. 5 – Importance of ORS on managing acute watery diarrheal disease

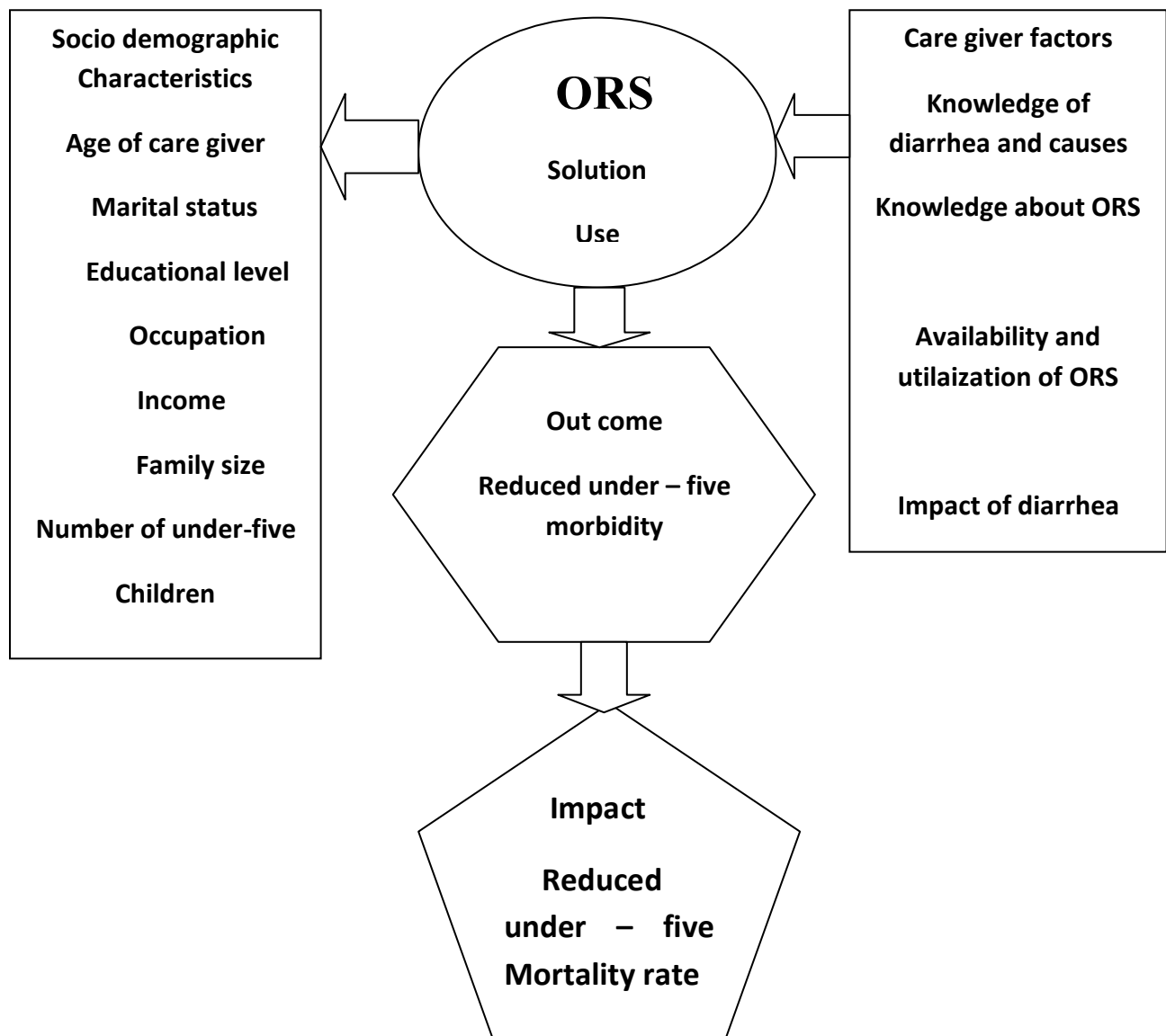
ORS can prevent 93% of childhood diarrhea mortality. The use of anti-diarrhea drugs and antibiotics, which have no clinical benefits, cannot be allowed in the treatment of acute watery diarrhea. However, even up to 80% of the children with diarrhea in some areas reported to have received no ORS but only anti-diarrheal drugs. Successful reduction of diarrhea mortality in the

1970s and 1980s can be attributed largely to the scaling-up use of oral rehydration therapy and programs to educate caregivers on its appropriate use (33).

Low-osmolarity ORS has been shown to reduce stool volume output and vomiting by 25% and 30% respectively compared to the original formula of ORS. Low-osmolarity ORS also reduces the need for unscheduled intravenous (IV) fluids in young children and the duration of diarrhoea by 33%. The use of I.V. fluids implies the need for hospitalization with all its increased costs to the health care system as well as potential risks to the patient (34).

The pivotal role of oral rehydration therapy in the management of diarrheal diseases was well established. However, though global efforts to promote ORT in various forms resulted in an initial decrease in mortality from diarrheal illness when appropriately used, the gains are yet to be optimized especially in developing countries where diarrhea plays the highest part in childhood morbidity and mortality (35).

ORT was the single most effective, reducing the number of deaths by almost three times from other intervention. It has been used all over the world and saves millions of lives, especially infants. According to current WHO/UNICEF guidelines ORS should begin at home at the first sign of diarrhea to prevent dehydration (36).



Adopted and modified from Adrawa Michael, Oral rehydration salts solution use in children Under - five years with diarrhea in Arua district, Uganda, 2011

Fig. 1 Conceptual frame work of determinants of ORS solution use in Children under five years with acute diarrheal disease among mothers (care givers) in Assela town, Arsi zone, Oromiya region, Eastern Ethiopia, 2015

2. 6 Description of the conceptual framework

The use of ORS solution was influenced by many factors which were interrelated. Socio demographic factors such as education increase a caregiver's autonomy regarding decision making for seeking health care for diarrhea. In addition, education increases the caregiver's chances of getting information on the need of using ORS solution. The age of the caregiver was likely to influence the use of ORS solution. The young caretakers were likely to ensure that their children used ORS solution since the young caregivers did not have experience about dangers of diarrhea (37).

Marital status is also likely to determine the use of ORS solution since married women were more likely to get support than those unmarried. If a caregiver has traveled for long distance in order to access ORS, and well knowing that especially female caregivers had a lot of domestic chores, such as looking after other children, preparing food for the family and collecting firewood, then it was possible that these female caregivers may make late use of ORS solution or none at all. Availability of ORS at the health facility also influenced the use of ORS solution since most caregivers believe in getting drugs from the health facility any time they seek treatment (38).

Caregiver factors such as knowledge of diarrhea and causes , knowledge of the correct use of ORS solution, timeliness of seeking care, decision for child treatment, mode of acquisition of ORS, and availability of ORS in the house all tend to determine ORS solution use in children under five years with diarrhea(39).

CHAPTER THREE

Objectives of the study

General objectives

To assess knowledge and ORS utilization of mothers (caregivers) for under- five Children with acute diarrheal disease in Assela town.

Specific objectives

- To assess the knowledge of mother (caregivers) in managing children of under - five years old with acute diarrheal disease.
- To assess the practice of mothers (caregivers) towards the management of ORS for acute diarrheal diseases of children under-five years.
- To describe factors that influence use of ORS solution in management of acute diarrhea among under- five children.
- To assess the knowledge of mothers (caregivers) towards the preparation of ORS for acute diarrheal diseases of children under-five years.

CHAPTER FOUR

METHODS AND MATERIALS

4.1 Study area

The study has been conducted in Assela town Administration, Arsi zone, Oromiya Regional state Eastern Ethiopia. Assela is the capital city of Arsi zone and located 175 km from the capital city of Ethiopia, Addis Ababa. There were 8 Kebeles, which was directly accountable to their Sub city administration. Estimated population of Assela town was 93,729. Among these, 40,029 (42.7%) male, 46,598 (49.7%) were females and 7,102 (7.6%) of them under five children.

Regarding Health Facilities in Assela town, there was 1 Referral teaching Hospital, 1 private hospital, 2 Governmental and 1 Non Governmental Health center, 2 non Governmental clinics, 8 private clinics, 20 private Pharmacy which serves the town.

4.2 Study period

The study has been conducted from January – June, 2015

4.3 Study design

The study was a community based cross-sectional design.

4.4 Source population

The study population included mothers (caregivers) of children under- five years.

4.5 Study population

The study population included mothers (caregivers) of children under - five years whose children suffered from acute diarrheal disease in the 2 weeks prior to the study.

Eligibility

4.5.1 Inclusion criteria

Households in the selected Kebeles with mothers (caregivers) whose children under- five years of age suffered from diarrhea in two weeks prior to the study and those who volunteer has been included in the study.

4.5.2 Exclusion criteria

Mothers'(Caregivers) of a children under five years of age and not present at home at the time of data collection, who were mentally and seriously ill, those who had hearing and speaking difficulty and those who did not volunteer for the study were excluded by default.

4.6 Sample size determination and sampling procedure

4.6.1 Sample size

From the source population the size of the sample was determined by the following Standard formula.

$$n = \frac{(z_{1-\alpha/2})^2 p (1-p)}{d^2}$$

Where n= minimum sample size required

P = prevalence of diarrhea in Ethiopia 13.3% in, 2015

d = the margin of sampling error tolerated (5%)

$Z_{1-\alpha/2}$ = the standard and normal variable at (1- α) %

Confidence level and α is 5% which 95% confidence level 1.96

$$\text{Therefore } n = \frac{(z_{1-\alpha/2})^2 p (1-p)}{d^2}$$

$$n = \frac{(1.96)^2 \times 0.133 \times 0.87}{(0.05)^2}$$

$$n_i = 178 + \text{contingency } 10\% = 195 * 2 = \underline{390}$$

4.6.2 Sampling Technique

The study subjects were selected those under- five children who had diarrhea two weeks prior to the study and the care givers of children using convenient sampling techniques in each house hold.

4.6.3 Sampling procedure

The town has eight kebeles; all of which included in the study. To get the list of registration of mothers who had under-five children, I used the local health extension workers. Then the sample was determined using proportional allocation to size (PAS). Finally, the study subjects were selected those children who had diarrhea two weeks prior to the study. If the eligible mother was absent from the house at the time of data collection, revisit would be done and if absent for the second time they were considered as non respondent.

4.6.3 Proportional allocation

In Assela town there are 8 kebeles and all had been included in this study. The total number of under-five children is 7,102. Out of these 1,960 are in Chillalo kebele, 1,309 in kombolcha, 753 in Arada, 701 in Burkitu, 685 in Welkesa, 659 in Anko, 537 in Busetta and the rest 498 in Halila. Based on proportional allocation to size this 390 study subjects were distributed to each kebele using the following formula.

$$n_k = \frac{n \times N_k}{N}$$

N

Where; nk =required sample size from each kebele

(Chillalo, Kombolcha, Arada, Burkitu, welkesa, Anko, Halila)

n= the total sample size - 390

After that the sample size were allocated to each kebele as follows;

$$\text{nk Chillalo} = \frac{n \times N_k (\text{Chillalo})}{N} = \frac{1,960 \times 390}{7,102} = \underline{108}$$

$$\text{nk Kombolcha} = \frac{n \times N_k (\text{Kombolcha})}{N} = \frac{1,309 \times 390}{7,102} = \underline{72}$$

$$\text{nk Arada} = \frac{n \times N_k (\text{Arada})}{N} = \frac{753 \times 390}{7,102} = \underline{40}$$

$$\text{nk Burkitu} = \frac{n \times N_k (\text{Burkitu})}{N} = \frac{701 \times 390}{7,102} = \underline{38}$$

$$\text{nk Welkesa} = \frac{n \times N_k (\text{Welkesa})}{N} = \frac{685 \times 390}{7,102} = \underline{38}$$

$$\text{nk Anko} = \frac{n \times N_k (\text{Anko})}{N} = \frac{659 \times 390}{7,102} = \underline{36}$$

$$\text{nk Buseta} = \frac{n \times N_k (\text{Buseta})}{N} = \frac{537 \times 390}{7,102} = \underline{30}$$

$$nk \text{ Halila} = \frac{Nk (\text{Halila})}{N} = \frac{498 \times 390}{7,102} = 28$$

$$N = 7,102$$

Therefore to get 390 under-five children from total kebeles of the town; 108 were taken from Chillalo kebele, 72 from Kombolcha, 40 from Arada, 38 from Burkitu, 38 from Welkesa, 36 from Anko, 30 from Buseta and the rest 28 from Halila.

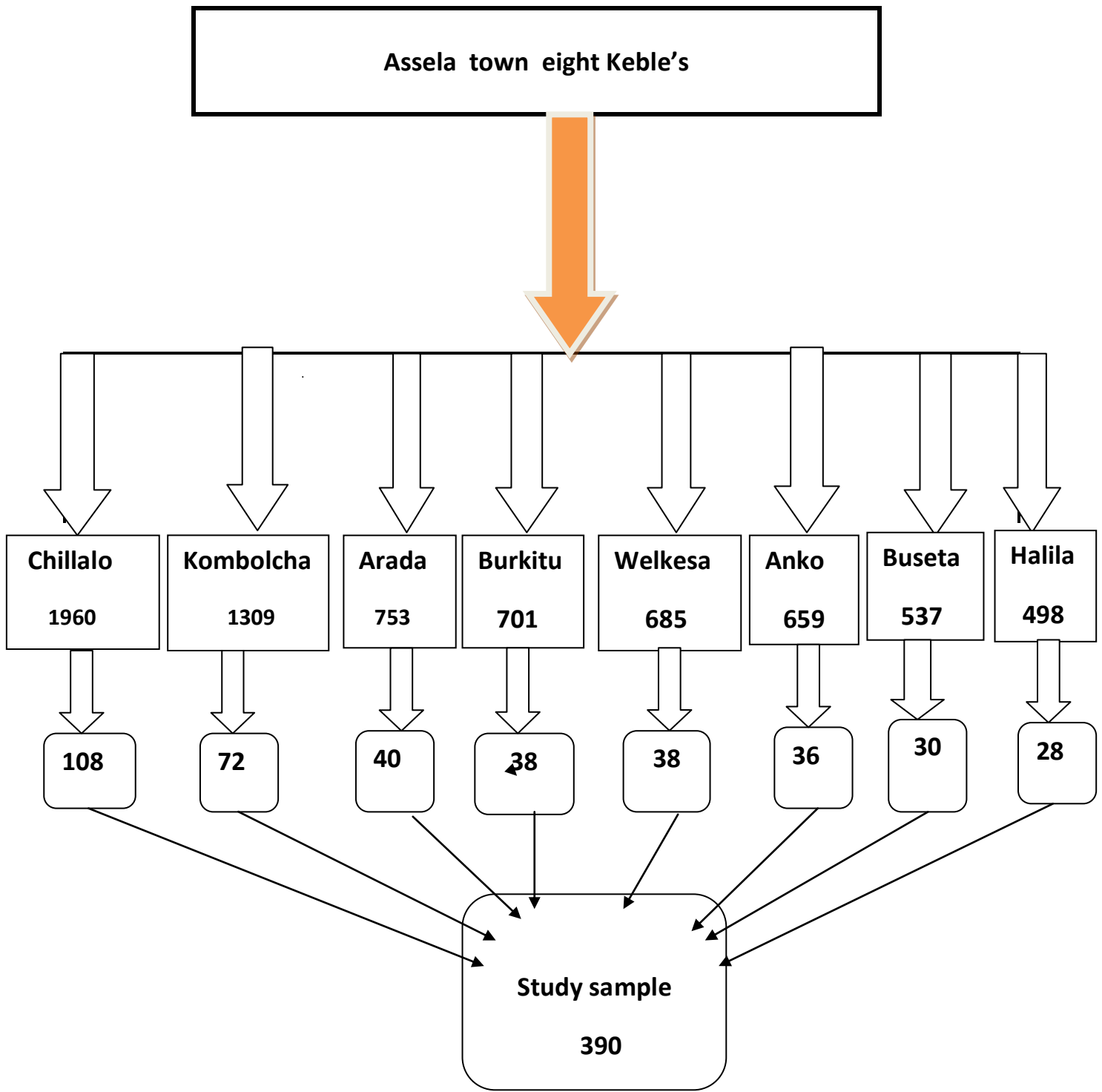


Fig: II Schematic representation of sample procedure

4.7 Data Collection Procedure

4.7.1 Instrument and measurement

A structured interviewer administered questionnaire had been used to collect data from mothers (caregivers) of under-five children. It was constructed by adopting and modifying from previous researches done on related topics. First, the English version of the questionnaire was prepared. Then it has been translated to Amharic version (local language) and oromigna then back to English. The questionnaire consisted of three parts. The first part contains about socio-demographic characteristics of under-five children and mother (caregivers).The second part knowledge assessment of the mother (caregivers) and the last one practical assessment part.

4.7.2 Data collectors

Eight health extension workers were recruited as data collectors and three other diploma nurses also recruited as supervisors. All data collectors and supervisors were oriented for a day on data collection process based on the guide that was developed by principal investigator for data collectors' and clarifying how to interview the questionnaire. They were allowed to fill the questionnaire and later discussion was made in all contents of the format and areas of difficulties were revised. The data collectors were responsible to interview the mother (caregivers) of under-five children, record the result in a consistent manner and finally submitted the result to the investigator as scheduled. The principal investigator and the supervisors strictly followed the overall activities for each activity on daily base to ensure the completeness of questionnaire, to give further clarification and support for data collectors.

4.7.3 Pre test

The data collection tool was pre-tested three days prior to the actual data collection on 5% of the calculated sample size of 20 mothers (caregivers) those who are not the actual study participant and adjustment were made based on the research tools, reaction of the respondents, This was to ensure that the study design was appropriate and the tool is valid and reliable.

4.8 Data quality assurance

All data collectors and supervisors was oriented and trained on how to interview and record the data and assigned out of their respective kebeles to minimize information bias. In order to assess the validity and reliability of the instrument, clarity of the questionnaire and respondent reaction to the questions and interviewer, it was pre-tested. If the mother (caregivers) was not present during data collection period, repeated trials were attempted to get her. During the data collection time close supervision and monitoring had been carried out by supervisors and the investigator to insure the quality of the data. Finally the collected data was checked by the supervisor and investigator for its completeness.

4.9 Study variable

4.9.1 Dependent variable

- Knowledge on ORS utilization.
- Practice on ORS utilization.

4.9.2 Independent variable

Mother (caregivers) factor

- Age
- Sex
- Level of education
- Marital status
- Religion
- Occupation

Children factor

- Age of the child
- Birth order
- Number of under-five children

Family related factors

- Husband occupation
- Husband educational status
- Income
- House hold size

4.10 Operational definition

Good knowledge: who answer above the mean of the Knowledge question was considered as Good knowledge.

Poor knowledge: who answer below the mean of the knowledge question was considered as poor knowledge.

Good practice: who able to answer above the mean of the practice question was considered as Good practice.

Poor practice: who answer below the mean of the practice questions was consider as Poor practice.

4.11 Data Processing and Analysis

The collected data was checked manually for completeness and consistencies, after that coded and entered in EPI Info version 7 and transferred to SPSS version 20 for analysis. Descriptive statistics were used to summarize the socio-demographic characteristics' of the study participants and the awareness of ORS utilization. To identify factors associated with ORS utilization practice, binary logistic regression analysis was carried at two levels, first bivariate logistic regression was performed to each independent variable with the outcome variable and those variables with a p value < 0.2 will be included in the final model (multivariate analysis). Strength of association was measured using odds ratio, and 95% confidence intervals. Statistical significance was declared at P value < 0.05 .

4.12 Ethical considerations

Ethical clearance was obtained from AAU, department of nursing and midwifery research committee and college of health science institutional review board. Each study participant was adequately informed about the objective of the study and anticipated benefit and risk of the study by their data collector. Verbal consent was obtained from study participants for protecting autonomy and ensuring confidentiality. Respondents were also being told the right not to respond to the questions if they don't want to respond or to terminate the interview at any time.

4.13 Dissemination and Utilization of results

Result of the study was submitted and presented to department of Nursing and Midwifery, School of Allied Health Sciences, College of Health Sciences, Addis Ababa University. The study results were also being submitted to Oromiya Region, Arsi zone, Assela Woreda Health Bureau and Arsi University Assela town. Effort was made to present the result in locally or internationally held seminars, workshops, conferences and meetings. For the publication purpose, the abstract of this thesis was submitted to national or international peer reviewed publishers.

CHAPTER FIVE RESULT

Socio demographic and socio economic variables of children and care givers of under- five children.

A total of 390 participants (care givers) whose children suffered from diarrhea in the last two weeks prior to the study were included and complete response rate was obtained 390(100%).

On the bases of age group, out of 390 care givers 232 (59.5%) were found to be between 25 – 35 years. 89 (22.8%) were between the age of 15 -24years, while 69 (17.7%) were above 35years old. From the total care givers 373 (95.4%) of them were female in sex while 17 (4.6%) of them were male. On the other hand the study covers 189 (48.5%) were Oromo in ethnicity while 199 (51.0%) out of the total care givers were Orthodox in Religion.

The study indicates that 342 (87.7%) were educated, while 48 (12.3%) received no education. Among the 342 (87.7%) educated care givers 86(22.1%) were interviewed and confirmed that they had primary education, and 146 (37.4%) covers secondary level, while 91 (23.3%) of care givers owned Diploma and the rest 19 (4.9%) had first Degree and above. The marital status indicates 333 (85.4%), 17 (4.4%), 25 (6.4%), 15 (3.8%) were single, married, divorced and widowed respectively. One hundred and thirteen (20%) had one child, 120 (30.8%) two children and the rest 167 (49.2%) had more than two children.

The age of the children range from 0 -59 months. Among this 69 (17.7%) were between 0 - 11 months, 112 (28.7%) were between 12 – 23months, 87 (22.3%) were between 24 – 35 months and 122 (31.3%) were older than 35 months and out of this 184 (47.3%) were male and the rest

206 (52.7%) were female. Majority of the care givers 173 (44.7%) were house wives; while 80 (20.5%) mothers were Government employee 73 (18.7%) were private employee, 59 (15.1%) were merchant and 5 (1.3%) has no occupation and more than half 205 (52.6%) of the care givers had one child under five years in one house hold.

In regard to their husbands educational status 29(7.4%), 72 (18.4%), 132 (33.8%), 102 (26.1%), and 55 (14.3%) were illiterate, primery, secondary, college and the rest degree and above level. In occupational status of spouse 107(27.4%) were Government employee, 121(31%) of them private employee, 78(19.1%) had merchant, 30(7.7%) of daily laborer and 54 (14.1%) of the rest other occupation.

Majority of the care givers 214 (54.8%) were between 1001 – 3000 birr monthly income and half of house hold 195 (50%) of them had less or equal to five family members and the rest half of them above five in number (Table –1).

Table - 1 Disribution of socio demographic variables of the study Participants (caregivers and children) in Assela town, Arsi zone, Oromiya regional state Eastern Ethiopia, 2015

Variables	Category	Frequency (no) 390	Percentage %
Age of children in Month	0 - 11	69	17.7
	12 – 23	112	28.7
	24 – 35	87	22.3
	36 – 47	81	11.5
	48 – 59	41	4.8
Sex of children	Male	184	47.3
	Female	206	52.7
Age of care giver	15 -24yr	89	22.8
	25 -35yr	232	59.5
	>35yr	69	17.7
Sex of care giver	Male	17	4.6
	Female	373	95.4
Marital status of care giver	Single	17	4.4
	Married	333	85.4
	Divorce	25	6.4
	Widowed	15	3.8
Ethnicity	Amhara	72	18.5
	Oromo	189	48.5
	Gurage	66	16.9
	Tigre	08	2.0
	Others	55	14.1
Religion	Orthodox	199	51.0
	Muslim	108	27.7
	Protestant	58	14.9
	Catholic	25	6.4
Number of under- five children in the House hold	1	205	52.6
	2	161	41.3
	3 – 5	24	6.1
Total		390	100%

Continuation of table -1 Distribution of socio demographic variables.

Variables	Category	Frequency (no) 390	Percentage 100%
Educational status of care giver	Illiterate	48	12.3
	Elementary	86	22.1
	Secondary	146	37.4
	Diploma	91	23.3
	First degree and more	19	4.9
Occupational status of Care giver	Governmental Employee	80	20.5
	Private employee	73	18.7
	House wife	173	44.7
	Merchant	59	18.7
	Others	05	1.3
Educational status of spouse	Illiterate	29	7.4
	Elementary	72	18.4
	Secondary	132	33.8
	Diploma	102	26.1
	First degree and more	55	14.3
Occupational status of spouse	Governmental Employee	107	27.4
	Private employee	121	30.9
	Merchant	78	19.9
	Daily laborer	30	7.7
	Others	54	14.1
Monthly income	< 500 birr	24	6.2
	501 – 1000 birr	79	20.2
	1001 - 3000 Birr	214	54.8
	>3000 Birr	71	18.3
	No source of income	02	0.5
House hold size	Less than or equal to 5	195	50.0
	Above 5	195	50.0
Total		390	100%

Knowledge of Mothers (care givers) about acute diarrhea and its management

The majority of participants 284 (72.8%) defined diarrhea as occurring when the stools were watery or loose more than three or more times; 33 (8.5%) participants indicated diarrhea as occurring when there was an increase in number of stools. Other descriptions of diarrhea by mothers included 47 (12.1%) the presence of blood or 17 (4.4%) mucus in the stool and 9 (2.3%) of them greenish stool. Most of 316 (81%) of care givers had awareness about different causes of acute diarrhea 102 (26.2%) caused by poor hygiene, 76(19.5%) of them by contaminated food, 70(17.9%) were unclean water and other different causes, while; 74 (19%) of them had poor knowledge about the causes of acute diarrhea indicated that child hood diarrhea can erupt during teething.

Majority of them prepared different kinds of fluid for rehydration about 127 (32.6%) of them used soup and 112 (28.7%) rise water as a primary home management and the care givers stated the impact of diarrhea 201 (51.9%) were dehydration, 68 (17.3%) vomiting, 95 (24.2%) said fever and bloody stool and the rest 26 (6.6%) of them estimated poor appetaite (Table -2).

Table – 2 Responce of Mothers (caregivers) on acute watery diarrhea, its definition, cause, home management and out come of diarrheal disease case management on ORS usage for under- five children in Assela town, Arsi zone, Oromiya regional state Eastern Ethiopia, 2015

Variables	Category	Frequency no - 390	Percentage %
Definition of acute diarrhea	Frequent watery stool (3 or more times)	284	72.8
	Frequent non watery stool	33	8.5
	Bloody stool	47	12.1
	Greenish stool	09	2.3
	Mucoid stool	17	4.4
cause of acute diarrhea	Poor hygiene	102	26.2
	Food Poisoning/contaminated food	76	19.5
	Unclean water	70	17.9
	Teething	74	19.0
	Intestinal parasite	67	17.2
	Flies	01	0.3
Home made fluid	Salt with water	67	17.2
	Sugar with water	17	4.4
	Rise water	112	28.7
	Soup	127	32.6
	Juice	43	11.0
	Soft drink	14	3.6
Impact of diarrhea	Dehydration	201	51.9
	Vomiting	68	17.3
	Fever and bloody stool	95	24.2
	Poor appetaite	26	6.6
Total		390	100%

Table – 3 Knowledge of mothers (care givers) on utilization of oral rehydration therapy for acute diarrheal disease case management for under- five children in Assela town, Arsi zone, Oromiya regional state Eastern Ethiopia, 2015

Out of eleven knowledge question asked to caregivers of under-five children about ORS utilization for the management of acute watery diarrhea from the total 390 care givers 182 (46.7%) of them has good knowledge about acute watery diarrheal disease case management on ORS utilization. While, others 208 (53.3%) were poor knowledge for case management (Table3).

Variable	Frequency	Percentage %	Mean	Std. deviation
Good knowledge	182	46.7	8.3128	1.36410
Poor knowledge	208	53.3		

Table – 4 Practice of mothers (care givers) on utilization of oral rehydration therapy for acute diarrheal disease case management for under- five children in Assela town, Arsi zone, Oromiya regional state Eastern Ethiopia, 2015

Out of eight practice question asked to caregivers of under-five children about ORS utilization for the management of acute watery diarrhea from the total 390 care givers 41 (10.5%) of them has good practice about acute watery diarrheal disease case management on ORS utilization. While, others 349 (89.5%) were poor knowledge for case management (Table4).

Variables	Frequency	Percentage %	Mean	Std. deviation
Good practice	41	10.5	2.7872	2.72913
Poor practice	349	89.5		

Out of total study subjects 182 (46.7%) of them and 41 (10.5%) has good knowledge and practice about ORS utilization Whereas 208 (53.3%) and 349 (89.5%) of care givers has poor knowledge and practice (Fig – 3)

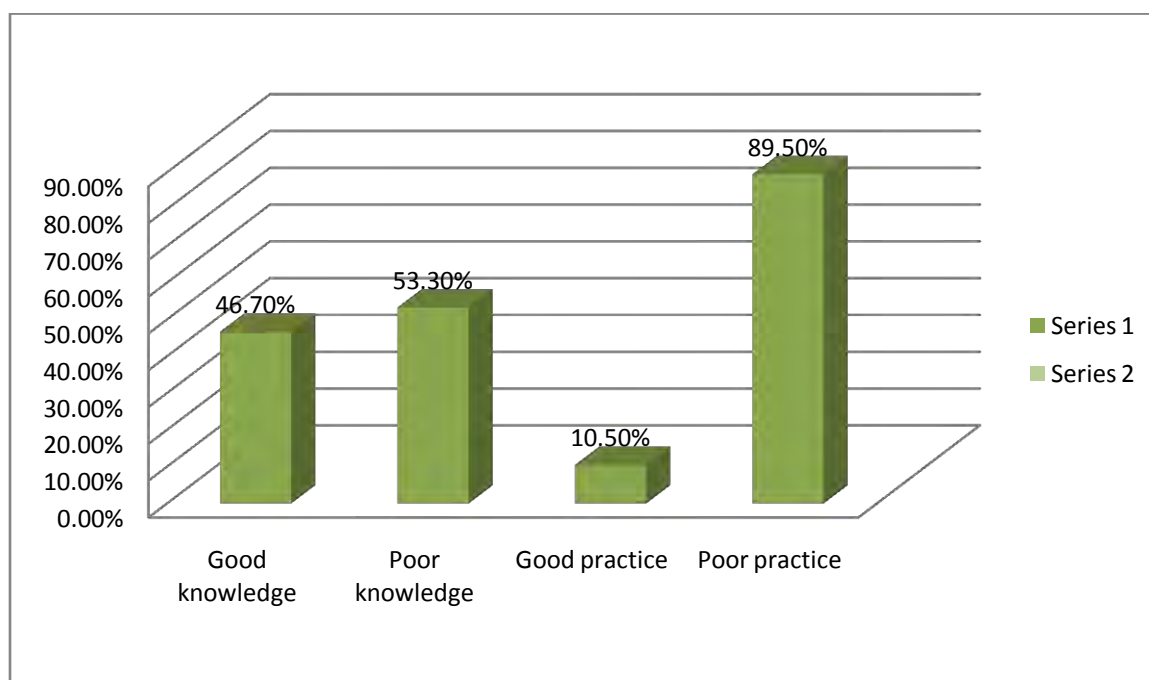


Fig: 3 Knowledge and practice of ORS utilization for acute diarrheal disease case management among mothers (caregivers) of under- five children in Assela town, Arsi zone, Oromiya region, Eastern Ethiopia, 2015

Although out of 390 care givers 217 (58.2%) of them administered Oral rehydration Solution for acute diarrheal disease, the majority 114 (52.6%) of care givers started giving rehydration for their children on the second day of illness, while 50 (23.0%) gave on the first day within 24 hrs, and 25(11.5%) of them gave on the third day while, the rest 28 (12.9%) gave on the fourth day. Half of the care givers 112(51.2%) administered ORS perfectly after passing of every loose stool and 18(8.3%) of them administered once a day, 19 (8.8%) of them administered two to three times a day, while, 38 (17.5%) of them administered four to five times a day and the last 30(13.2%) of them administered six times and over. Most of 143 (65.9%) care givers used mixed ORS within 24hrs, while, 43 (19.8%) gave within two days similarly 26 (12%) gave within three days and the rest 5 (2.3%) took four days.

The majority which amounts 163 (43.7%) from the total of 390 care givers mentioned the purpose of ORS that it decreases diarrhea while others 95 (43.7%) of caregivers stated correctly it has replaced fluid loss. The rest 15(7.2%) of them has no idea about the purpose of ORS while one respondent on the other hand that it increased diarrhea.

With regards to a knowledge question asked about oral rehydration solution (ORS) for treatment of acute watery diarrhea majority of the care givers (n=373, 95.6%) respond yes the best treatment of dehydration caused by diarrhea. Only 4.4% (n = 17) of care givers they didn't know about ORS. (Figure - 4)

Did you know oral rehydration solution (ORS) for the treatment of acute watery diarrhea?

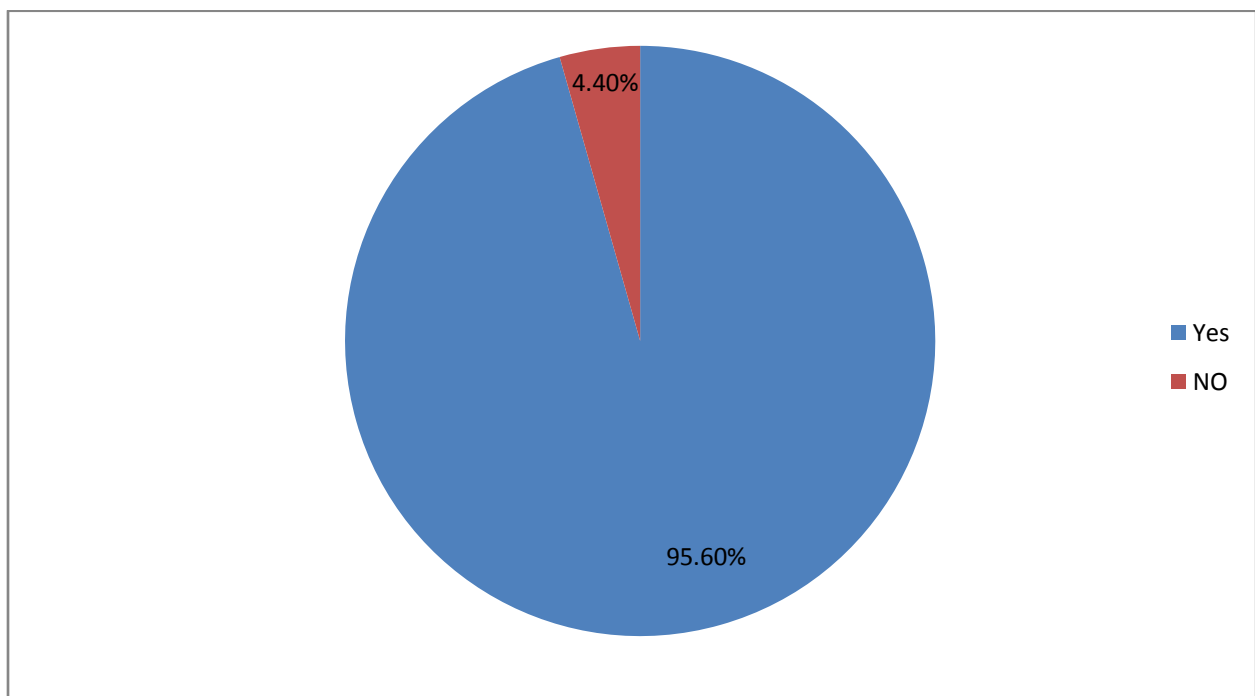


Fig: 4 Knowledge of mothers (caregivers) on ORS utilization for acute diarrheal disease case management of under- five children in Assela town, Arsi zone, Oromiya region, Eastern Ethiopia, 2015

Out of 217 (58.2%) of care givers prepared ORS for acute diarrheal disease case management 118 (54.3%) were prepared correctly one ORS sachet by 1000 ml of water while; others 19 (8.8%) of them by 500ml, 16 (7.4%) by 750ml, 6 (2.8%) by three coca bottle of 300ml (900ml), 5 (2.3%) by 2 beer bottle of 600ml (1200ml) and others 53(24.4%) of care givers prepared by 1500 ml of water (Figure – 5).

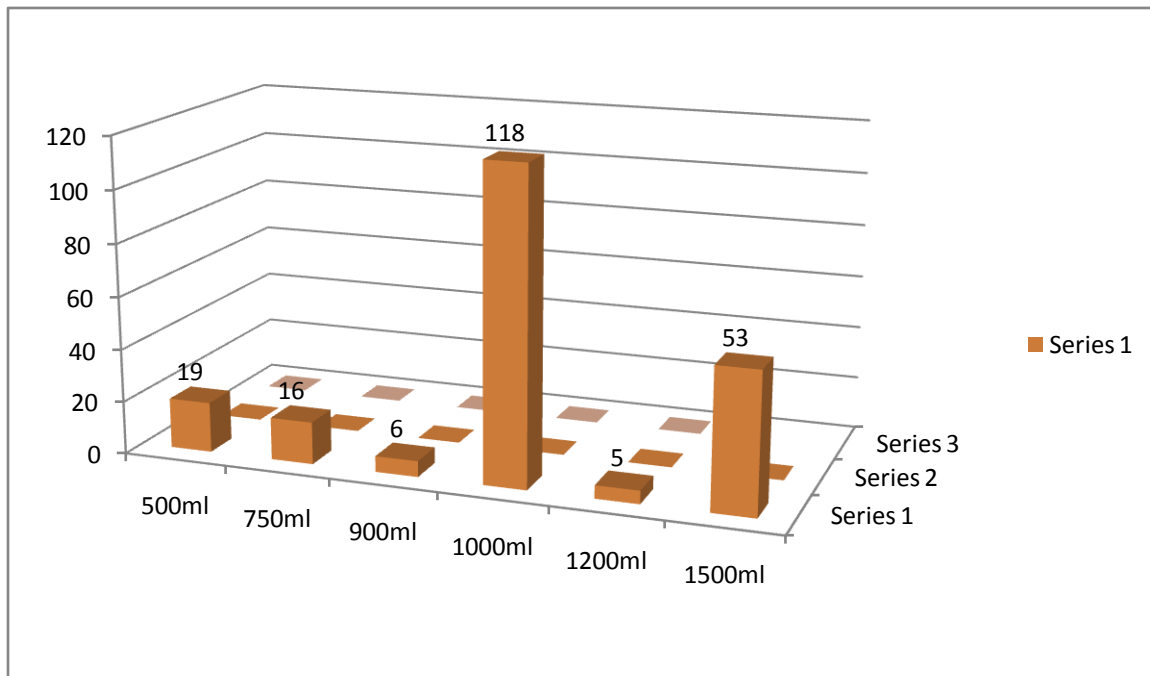


Fig: 5 ORS preparation among Mothers (care givers) of under five children for acute diarrheal disease case management In Assela town, Arsi zone, Oromiya region, Eastern Ethiopia, 2015

The relation ship between knowledge, maternal educational level, occupational and socioeconomic status and use of oral rehydration solution (ORS).

As shown in the table below the total numbr of care givers were 390 in which 48 (12.3%) of them were illiterate, while 11(22.9%) has good knowledge and 37 (77.1%) of them had poor knowledge. On the other hand from the total number of 86 (22.1%) of Elementery level educated care givers 31(36%) of them has good knowledge and the rest 55(64%) of them has poor knowledge. Concerning the secondary level educated care givers in which the total number amounts to 146 (37.4%), 69(47.3%) had good knowledge while 77 (52.7%) of them had poor knowledge. In the same way the diploma level educated care givers which has a total number of 91(23.3%) has 56(61.5%) good knowledge about ORS utilaization and the others 35(38.5%) had poor knowledge. Degree and above level shares 19 (4.9%) in which 15 (78.9%) had good knowledge and the rest 4(21.1%) were grouped to poor knowledge about ORSutilaization.

Although the total number of mothers were 390, but when splited indicate 80(20.5%) of them were governmental employee and out of this 47(58.8%) of them has good knowledge and 33(41.3%) of care givers has poor knowledge about ORS utilaization. On the other hand from 73 (18.7%) of private employee, 35(47.9%) of care givers has good knowledge while 38 (52.1%) of mothers has poor knowledge. Similarly out of 173 (44.4%) house wives 71(41%) of them has good knowledge about ORSutilaization and the rest 102 (59%) had poor knowledge. The number of merchants care givers holds 59 (15.1%) in which 26 (44.1%) of care givers has good knowledge, 33(55.9%) of them has poor knowledge. Since there were unknown occupations which holds 5 (15%) care givers in which 3 (60%) of them has good knowledge and the rest 2(40%) of care givers had also poor knowledge about ORSutilaization.

Out of 24 (6.2%) care givers those whose monthly income was less than birr 500 8(33.3%) has good knowledge and the rest 16(66.7%) has poor knowledge about ORSutilaization, similarly out of 81 (20.8%) who has a monthly income between 500 and 1000 birr, 27(33.3%) of them has good knowledge and 54 (66.7%) of them has poor knowledge. In the same way from 214(54.9%) care givers those whose monthly income was between 1001and 3000 birr half of the care givers 107(50%) has good knowledge and the rest 107(50%) has poor knowledge and those who has monthly income of greater than 3000 birr in which the total was 71(18.2%) of caregivers 40(56.3%) of them has good knowledge and the rest 31(43.7%) of mothers has poor knowledge about ORS utilaization **(Table -5)**.

Table -5 The relation ship between knowledge, maternal educational level, occupational and socioeconomic status and use of oral rehydration solution (ORS) in Assela town, Arsi zone Oromiya region Eastern Ethiopia, 2015

Variables	ORS use	Good knowledge %	Poor knowledge %	Total %
Maternal (caregivers) Educational level	Illiterate	11 (22.9)	37 (77.1)	48 (12.3)
	Elementary	31 (36.0)	55 (64)	86 (22.1)
	High school (Secondary)	69 (47.3)	77 (52.7)	146 (37.4)
	Diploma (college)	56 (61.5)	35 (38.5)	91 (23.3)
	Degree and above	15 (78.9)	04 (21.1)	19 (4.9)
Maternal (care givers) Occupational status	Government Employee	47 (58.7)	33 (41.3)	80 (20.5)
	Praivate employee	35 (47.9)	38 (52.1)	73 (18.7)
	House wife	71 (41.0)	102 (59)	173 (44.4)
	Merchant	26 (47.1)	33 (55.9)	59 (15.1)
	Others	03 (60)	02 (40)	05 (1.3)
Socioeconomic level Monthly income	<500birr	08 (33.3)	16 (66.7)	24 (6.2)
	500 -1000birr	27 (33.3)	54 (66.7)	81 (20.8)
	1001 – 3000birr	107 (50)	107 (50)	214 (54.8)
	>3000birr	40 (56.3)	31 (43.7)	71 (18.2)
Total		390		100%

The relation ship between maternal educational level, occupation and socioeconomic status with practice of usage of oral rehydration solution (ORS).

As shown in the table below the total numbr of care givers were 390 in which 48 (12.3%) of them were illiterate, while 1(2.1%) has good practice and 47 (97.9%) of them had poor practice. On the other hand from the total number of 86(22.1%) of Elementery level educated care givers 2(2.3%) of them has good practice and the rest 84(97.7%) of them has poor practice. Concerning the secondary level educated care givers in which the total number amounts to 146 (37.4%), 15(10.3%) had good practice while 131(89.7%) of them had poor practice. In the same way the diploma level educated care givers which has a total number of 91(23.3%) has 17(18.7%) good practice about ORS utilaization and the others 74(81.3%) had poor practice. Degree and above level shares 19 (4.9%) in which 6 (31.6%) had good practice and the rest 13(68.4%) were grouped to poor practice about ORSutilaization.

Although the total number of mothers were 390, but when splited indicate 80(20.5%) of them were governmental employee and out of this 19(23.8%) of them has good practice and 61(76.2%) of care givers has poor practice about ORS utilaization. On the other hand from 73 (18.7%) of private employee, 3(4.1%) of care givers has good practice while 70 (95.9%) of mothers has poor practice. Similarly out of 173 (44.4%) house wives 15(8.7%) of them has good practice about ORSutilaization and the rest 158 (91.3%) had poor practice. The number of merchants care givers holds 59 (15.1%) in which 5 (8.5%) of care givers has good practice, 54(91.5%) of them has poor practice. Since there were unknown occupations which holds

5 (15%) care givers in which all of them 5 (100%) of them had poor practice about ORSutilaization.

Out of 24 (6.2%) care givers those whose monthly income was less than birr 500 2(8.3%) has good practice and the rest 22(91.7%) has poor practice about ORSutilaization, similarly out of 81 (20.8%) who has a monthly income between 500 and 1000 birr, 15(18.5%) of them has good practice and 66 (81.5%) of them has poor practice. In the same way from 214(54.9%) care givers those whose monthly income was between 1001and 3000 birr half of the care givers 22(10.3%) has good practice and the rest 192(89.7%) has poor practice and those who has monthly income of greater than 3000 birr in which the total was 71(18.2%) of caregivers 2(2.8%) of them has good practice and the rest 69(97.1%) of mothers has poor practice about ORS utilaization (Table -6)

Table- 6 the relationship between maternal educational level, socioeconomic status anmonthly income with practice usage of oral rehydration solution (ORS) in Assela town, Arsi zone Oromiya region Eastern Ethiopia, 2015

Variables	ORS use	Good practice %	Poor practice %	Total %
Maternal (caregivers) Educational level	Illiterate	01 (2.1)	47 (97.9)	48 (12.3)
	Elementary	02 (2.3)	84 (97.7)	86 (22.1)
	High school (Secondary)	15 (10.3)	131 (89.7)	146 (37.4)
	Diploma (college)	17 (18.7)	74 (81.3)	91 (23.3)
	Degree and above	06 (31.6)	13 (68.4)	19 (4.9)
Maternal (care givers) Occupational status	Government employee	19 (23.8)	61 (76.2)	80 (20.5)
	Praivate employee	03 (4.1)	70 (95.9)	73 (18.7)
	House wife	15 (8.7)	158 (91.3)	173 (44.4)
	Merchant	05 (8.5)	54 (91.5)	59 (15.1)
	Others	0 (0)	05 (100)	05 (1.3)
Socioeconomic level Monthly income	<500birr	02 (8.3)	22 (91.7)	24 (6.2)
	500 -1000birr	15 (18.5)	66 (81.5)	81 (20.8)
	1001 – 3000birr	22 (10.3)	192 (89.7)	214 (54.8)
	>3000birr	02 (2.8)	69 (97.1)	71 (18.2)
Total			390	100%

In the present study Out of total participants 166 (42.6%) of care givers had good knowledge about ORS preparation while 224 (57.4%) of them had poor knowledge. In the other hand 41 (10.5%) of care givers had good practice about ORS preparation whereas 349 (89.5%) of them had poor practice (Table -7).

Table - 7 Knowledge and practice of ORS preparation among care givers of under – five children for acute watery diarrheal disease case management in Assela town, Arsi zone Oromiya region Eastern Ethiopia, 2015

Category	Dependent Variables	Good knowledge Frequency %	Poor Knowledge Frequency %	Good practice Frequency %	Poor practice Frequency %
Oral rehydration solution preparation (ORS)	Knowledge	166 (42.6)	224 (57.4)	-	-
	Practice	-	-	41(10.5)	349 (89.5)

Association of the socio demographic variables with knowledge of ORS usage among under- five children

In the bivariate analysis significant association was observed between the educational statuses of Mothers and their knowledge about ORS utilization for acute diarrheal disease case management. Illiterate mothers were 0.071 times less knowledgeable about ORS utilization than those who were secondary and above (COR= 0.071(95%CI = 0.020, 0.225)).

Mother's occupational status was among the socio-economic factors which was significantly associated with the knowledge of ORS usage on acute diarrheal disease case management. Mothers with occupational status of house wife were 0.382 times less knowledgeable about ORS utilization than those who were governmental employee (COR= 0.382 (0.062, 2.347)).

Mothers (care givers) who have married among the socio demographic factors which was significantly associated with the knowledge of ORS usage on acute diarrheal disease case management. Those married care givers were 0.850 times more likely to have knowledge about ORS utilization for acute watery diarrheal disease case management compared to those single (COR= 0.850(95%CI= 0.301, 2.398))(Table -8).

Table – 8 Association of the socio demographic variables with knowledge of ORS usage among under- five children in acute diarrheal disease in Assela town, Arsi zone Oromiya region Eastern Ethiopia, 2015

Variable	Caterory	Yes	No	COR (95% CI)	P-Val	AOR (95% CI)	P. valu
Educational status of the care givers	Illiterate	8(16.7%)	40(83.3%)	0.071(0.020,0.225)	0.020	15.503(3.207,73.011)	0.035
	Elementary	30(34.9%)	56(65.1%)	0.191(0.063,0.582)	0.051	5.657(1.446,22.123)	0.063
	Secondary	64(43.8%)	82(56.2%)	0.279(0.095,0.814)	0.081	3.920(1.098,13.991)	0.095
	Diploma	50(54.9%)	41(28.1%)	0.436(0.145,1.310)	0.139	2.232(0.696,7.153)	0.177
	Degree & ab	14(73.7%)	5(26.3%)	1.724(1.399,2.124)	0.160		
Occupational Status of the Care givers	Government	44(55%)	36(45%)	0.851(0.129,5.444)	0.828	2.520(0.294,21.594)	0.399
	Privat emp.	32(43.8%)	41(56%)	0.520(0.082,3.302)	0.488	1.931(0.247,15.063)	0.531
	House wife	63(36.4%)	110(63.6%)	0.382(0.062,2.347)	0.029	2.179(0.285,16.647)	0.453
	Merchant	24(40.7%)	35(59.3%)	0.457(0.071,2.946)	0.410	1.931(0.245,15.200)	0.532
	Others	3(60%)	2(40%)				
Marital status of the care giver	Single	6(35.3%)	11(64.7%)	0.623(0.151,2.581)	0.514	2.084(0.391,11.109)	0.390
	Married	142(42.6%)	191(57.4%)	0.850(0.301,2.398)	0.041	2.364(0.632,8.835)	0.201
	Divorse	11(44%)	14(56%)	0.898(0.248,3.248)	0.758	1.726(0.409,7.282)	0.458
	Wedowed	7(46.7%)	8(53.3%)	0.875	0.870		
Religen	Orthodox	90(45.2%)	109(54.8%)	0.948(0.527,1.704)	0.858	0.870(0.460,1.648)	0.670
	Muslime	39(36.1%)	69(63.9%)	0.649(0.339,1.241)	0.191	1.035(0.510,2.103)	0.924
	Protestant	10(40%)	15(60%)	0.765(0.295,1.98)	0.582	1.335(0.478,3.722)	0.581
	Catholic	27(46.6%)	31(53.4%)				

Occupational Status of husband	Government	54(50.5%)	53(49.5%)	1.332(0.589,3.012)	0.490	4.742(0.378,59.499)	0.228
	Private	50(41.3%)	71(58.7%)	0.921(0.411,2.065)	0.842	5.909(0.487,71.708)	0.163
	Merchant	29(37.7%)	48(62.3%)	0.790(0.335,1.861)	0.590	6.681(0.545,81.921)	0.137
	Day laborer	20(36.4%)	35(63.6%)	0.747(0.302,1.852)	0.529	6.575(0.535,81.818)	0.141
	Others	13(43.3%)	17(56.7%)				
Educational status of husband	Illiterate	5(17.2%)	24(82.8%)	0.322(0.094,1.097)	0.070	0.543(0.040,7.426)	0.647
	Elementary	23(32.4%)	48(67.6%)	0.741(0.299,1.834)	0.516	0.219(0.016,2.912)	0.250
	Secondary	62(47%)	70(53%)	1.369(0.596,3.145)	0.459	0.124(0.009,1.587)	0.114
	Diploma	53(52%)	49(48%)	1.672(0.713,3.919)	0.237	0.116(0.009,1.587)	0.107
	Degree & above	12(42.9%)	16(57.1%)	1.159(0.399,3.364)	0.786	0.180(0.012,2.728)	0.216
Number of under five children	One	84(41%)	121(59%)	2.083(0.213,20.366)	0.528	0.728(0.065,8.142)	0.797
	Two	71(44.1%)	90(55.9%)	2.367(0.241,23.241)	0.460	0.646(0.058,7.130)	0.721
	Three	10(50%)	10(50%)	3.000(0.265,33.974)	0.375	0.529(0.042,6.606)	0.621
	Four	1(25%)	3(75%)				
Number of children	Ono	47(41.6%)	66(58.4%)	2.136(0.649,7.035)	0.212	0.520(0.117,2.301)	0.389
	Two	56(46.3%)	65(53.7%)	2.585(0.789,8.468)	0.117	0.416(0.105,1.649)	0.212
	Three	43(47.3%)	48(52.7%)	2.687(0.806,8.959)	0.108	0.388(0.104,1.445)	0.158
	Four	16(32.7%)	33(67.3%)	1.455(0.405,5.229)	0.566	0.694(0.176,2.746)	0.603
	Five	04(25%)	12(75%)				
Family size	Less than -5	83(42.6%)	112(57.4%)	1.000(0.689,1.494)	1.000	0.979(0.542,1.770)	0.945
	Above 5	112(57.4%)	83(42.6%)				

Assosiation of the socio demographic variables with practice of ORS usage among under-five children in acute diarrheal disease case management.

There was a statistically significant association between educational status of the mother and practice on ORS usage for acute watery diarrheal disease case management. The care givers educational statuses were 2.329 times less practice on all level of education (COR= 2.329(95%CI = 1.618, 3.354)).

The mothers (care givers) occupational status has significant association with practice of ORS usage on acute diarrheal disease case management. Mothers occupation were 0.592 times less practice on all status of occupation (COR=0.592(95%CI= 0.427, 5.821)).

The Husband occupational status also has significant assosiation with practice of ORS usage on acute diarrheal disease case management. The occupational status of husband were 1.489 times less practice on all status of occupation (COR = 1.489(1.135, 1.954)) (Table -9).

Table – 9 Assosation of the socio demographic variables with practice of ORS usage among under- five children in acute diarrheal disease in Assela town, Arsi zone Oromiya region Eastern Ethiopia, 2015

Variable	Caterory	Yes	Ng	COR (95% CI)	P-Val	AOR (95% CI)	P. valu
Educational status of the care givers	Illiterate	1(2.1%)	47(97.9%)	2.329(1.618,3.354)	0.019	8.203(0.723,93.08)	0.089
	Elementary	2(2.3%)	84(97.7%)			8.413(1.243,58.044)	0.029
	Secondary	15(10.3%)	131(89.7%			1.584(0.386,6.496)	0.523
	Diploma	17(18.7%)	74(81.3%)			1.170(0.346,3.952)	0.821
	Degree and above	6(31.6%)	13(68.4%)				
Occupational Status of the Care givers	Government	19(23.8%)	61(76.2%)	0.592(0.427,5.821)	0.002	7.997E-008(2.139E-008,2.990E-007	0.000
	Privat emp.	3(4.1%)	70(95.9%)			3.126E-007(6.351E-008, 4.135E-007	0.000
	House wife	15(8.7%)	158(91.3%			1.262E-007(3.582E-008,4.135E-007	0.000
	Merchant	4(6.8%)	55(93.2%)			1.733E-007(1.733E-007,1.733E-007	
	Others	0	5(100%)				
Marital status of the care givers	Single	(0%)	17(100%)	1.336(0.750,2.379)	0.325	2839508.307	0.997
	Married	35(10.5%)	298(89.5%			0.717(0.072,7.097)	0.776
	Divorse	5(20%)	20(80%)			0.316(0.026,3.904)	0.369
	Wedowed	1(6.7%)	14(93.3%)				

Religion	Orthodox	17(8.5%)	182(91.5%)	1.336(0.750,2.379)	0.325	3.192(1.349,7.553)	0.008
	Muslime	8(7.4%)	100(92.6%)			2.841(1.003,8.047)	0.490
	Protestant	2(8%)	23(92%)			4.357(0.813,23.364)	0.860
	Catholic	14(24.1%)	44(75.9%)				
Occupational Status of husband	Government	21(19.6%)	86(80.4%)	1.489(1.135,1.954)	0.004	0.573(0.011,28.812)	0.780
	Private	7(5.8%)	114(94.2%)			1.391(0.027,70.435)	0.869
	Merchant	5(6.5%)	72(93.5%)			1.186(0.23,62.077)	0.933
	Day laborer	5(9.1%)	50(90.9%)			0.781(0.017,36.807)	0.900
	Others	3(10%)	27(90%)				
Educational status of husband	Illiterate	1(3.4%)	28(96.6%)	0.748(0.560,1000)	0.050	3.207(0.043,214.650)	0.610
	Elementary	2(2.8%)	69(97.2%)			4.258(0.074,243,543)	0.483
	Secondary	11(8.3%)	121(91.7%)			1.295(0.027,63.073)	0.896
	Diploma	18(17.6%)	84(82.4%)			0.740(0.015,37.361)	0.880
	Degree	6(21.4%)	22(78.6%)			0.750(0.013,41.646)	0.888
Number of children	Ono	14(12.4%)	99(87.6%)	0.958(0.718,1.277)	0.768	0.479(0.052,4.375)	0.514
	Two	10(8.3%)	111(91.7%)			0.977(0.106,8.991)	0.983
	Three	10(11%)	81(89%)			0.682(0.074,6.294)	0.736
	Four	6(12.2%)	43(87.8%)			0.590(0.061,5.692)	0.648
	Five	01(6.3%)	15(93.8%)				
Family size	Less than -5	20(10.3%)	175(89.7%)	1.056(0.553,2017)	0.768	1.301(0.385,4.396)	0.672
	Above five members	21(10.8%)	174(89.2%)				

CHAPTER SIX

DISCUSSION

Oral rehydration therapy is the cornerstone of fluid replacement. It is a primary intervention for the management of diarrhea. In the developing countries the incidence of diarrhoeal diseases remains unchanged. Oral rehydration and early realimentation have dramatically reduced mortality and morbidity in acute watery diarrhea in children. It can be easily administered at home by the mothers/caregivers as soon as a diarrhea episode begins. One of the components of WHO diarrhea control programme is correct knowledge and use of oral rehydration solution (ORS) (6).

The present study revealed that, Most of 316 (81%) of care givers had awerness about different causes of acute diarrhea, 102 (26.2%) said it was caused by poor hygiene, while, 76(19.5%) indicated it was from contaminated food and 70 (17.9%) noted it was from unclean water and other different causes, while; 74 (19%) of them had poor knowledge about the causes of acute diarrhea but indicated that child hood diarrhea can erupt during teething this was highly comparing with the study done in Indonesia 2010 in which 3.9% in Nigeria 44.3% and 48% in sunsari Nepal 3.9% in Nigeria. In comparison, with study done in Nigeria this study reveals higher the cause of diarrhea as 48% is due to cultural beliefs and level of education (17).

This might be due to low level of knowledge about causes of diarrhea and cultural beliefs.

In this study it was found that 182(46.7%) of care givers has good knowledge about ORS utilization by mothers for treating diarrhea. The educational status of care givers was significantly assossated with both knowledge and practice (COR= 2.329(95%CI = 1.618,

3.354)). Those illiterate and primary educated care givers had less awareness about ORS usage for acute diarrheal disease case management with their knowledge towards ORS and also with mothers' perception about advice/information on ORS given by health workers/mass media along with mothers' knowledge about diarrhea. Similar study was done in Nigeria, which showed the gap between knowledge and practice with being educated and none educated on ORS utilization could be linked to the fact that even though mothers (care givers) have knowledge on management of diarrhea by utilization of oral rehydration solution (ORS), they may not probably be putting the knowledge in to practice. Other factors such as the social class or family income might influence the mothers' knowledge more than just their own education (30).

Further more, the result agreed with studies conducted in Nigeria and some other African countries. Two decades after the introduction of ORT the level of awareness declined due to the lack of consistency in maternal education on this issue. The reason for the low level of knowledge to use ORT is most likely to be a drop in the level of education and awareness of the mothers on diarrheal management as well as due to poor public enlightenment on this topic (17).

In addition study done in India indicated that the education of the father influenced knowledge of the mothers. The educational status of the father might determine the economy and the social class of the family. The roles of the fathers seem to be influential in the management of the diarrhea (26).

The majority of mother's occupation was being house wives significantly associated with knowledge (COR= 0.382 (0.062, 2.347)). So they were busy, no access of sharing of idea, not follow a mass media, and not regularly visit health professional to get supportive idea. On the

other hand majority of father works exposes them to different person who had different level of knowledge and experience to share ideas and made them responsible for their children.

Regarding the impact of diarrhea the response of the mother 201 (51.9%) were dehydration, 68 (17.3%) vomiting, 95 (24.2%) said fever and bloody stool and the rest 26 (6.6%) of them estimated poor appetite this was highly comparing with study done in Nepal in which 179(59.7%).

In this study from the total of 390 care givers 373 (95.6%) of them heard about ORS and out of this 217 (58.2%) of them practiced ORS preparation. Majority 114 (52.6%) of the children rehydration started on the second day of illness because of the mother not given attention, mother might expect it can stop by itself, neglection might be, 50 (12.8%) first day with in 24 hrs, 23(5.9%) of them third day and the rest 28 (7.2%) on fourth day. This finding suggests that caretakers tend to present late for diarrhoeal treatment. The implication is that, this could contribute to high under –five morbidity and mortality.

In present study most of 163 (43.7%) the care givers mentioned the purpose of ORS to decrease diarrhea while others 95 (43.7%) of caregivers stated correctly to replace fluid loss. Similar study in Nepal this difference between knowledge and practice with being educated and none educated on ORS utilization could be linked to the fact that even though mothers (care givers) have knowledge on management of diarrhea by utilization of oral rehydration solution (ORS), they may not probably be putting the knowledge in to practice. This could be attributed to mothers' busy on home activities and the time involved in providing care for the other children (13).

With regards to a question asked about the seriousness of diarrhea as a child hood illness, majority of the mothers (care givers) (n =384, 98.5%) responded in positive that diarrhea was a serious child hood illness. Only 1.5 % (n= 6) of the care givers mentioned diarrhea is not a serious child hood illness. In congruent to this study in Gana most of those who stated that diarrhea were a serious illness for children less than five years indicated the loss of fluids involved in the disease process leading to dehydration, malnutrition and eventual death. This suggests that mothers (care givers) had knowelege on diarrhea as a serious child hood illness (25).

In present study majority 243(62.3%) of the care givers received their information about ORS utilaization from the health workers. This result is in line with the study done in Uganda. In which (37.19%).

In the present study 118 (54.3%) respondents were correctly prepared ORS with one litre of water. 50(12.8%) of children reporting diarrhoea were treated with ORS solution within the first 24 hours. Another similar study in Austeralia 71.48% representing about three fourth of the participants know the preparation of solution correctly, although 217 (55.6%) of the children reporting diarrhoea within 2 weeks prior to the study actually used ORS solution (32).

The result of the above finding not comparable to present study because of the study area is not a national level simple a local kebele. This finding is lower than the national target of 80% (33).

For present study analysis was done two times crude and adjested ratio, bivariate and multivariate logestic regression on knowledge and practice with independent variables.

The study revealed 333 (85.4%) of care givers married (COR= 0.850 (95%CI= 0.301, 2.398)) significantly associated and those married women are responsible to their children than others, they share ideas psychologically and economically they get support to manage their children whereas those single, divorce and widowed care givers three fourth of them not prepared ORS for acute diarrheal disease whereas those married had a better practice. This might be, those single mothers may not have experience in utilization of ORS the reason for this, the child might be unwanted, or they may not have somebody whom they share their ideas, no support and it might be also financial problem. As well in divorce and widowed mother (care givers) psychological affection might be a problem.

In addition mothers of high parity with more than two children had better knowledge on the management of childhood diarrhea. This suggests that those mothers might have prior exposure and experience care of children with diarrhea. This is in agreement with the findings of other previous studies in Ghana (25).

The economic status of mothers did not show any significance in the use of oral rehydration solutions. Difficulties with the use of ORS include inaccurate preparation, administration of inadequate quantities, late management of children, termination of management and the failure to use them at all. Generally, socio-demographic factors such as mothers' education and occupation, husbands' employment status, family income and family size are linked with mothers' knowledge about diarrhoea and its management apart from mothers' personal attitude and behaviour.

Strength and limitation of the study

Strength of the study

The study has included all under- five diarrheal cases mothers (care givers) two weeks prior to the study and has got 100% response rate.

The questioner was pretested on excluded cases and a necessary modification was made to minimize difficulty during the data collection.

Limitation of the study

- The health extension workers (data clerk) were occupied by regular work during data collection period difficult to change one kebele to another kebele to avoid information bias, time for care givers to recall toget reliable data.
- It is possible that some caregivers could not remember (recall bias) the details when illness recall of 2 weeks was used in study. This may affect the reliability and validity of the data collected.
- Since the data collectors were Health professionals there may be some social desirable responses for some of the variables (information bias
 - Lack of adequate similar studies in our country to make comparative discussion.

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATION

7. 1Conclusion

In conclusion the present study revealed 46.7% of mothers (caregivers) had good knowledge whereas 53.3% of them had poor knowledge. In the other hand 10.5% mothers (care givers) had good practice while, 89.5% of them had poor practice in the usage of ORS for the management of acute watery diarrheal disease. In addition on the preparation of ORS sachet during management of acute watery diarrheal disease for their children 54.3% of mothers (care givers) prepared one sachet of ORS with one litre of water whereas 45.7% of them prepared with different amount of water. However, there is a gap in the knowledge and practices of caregivers regarding the management of acute watery diarrhea. The knowledge revealed in this study had not influenced the practice of mothers in managing the disease.

7. 2RECOMMENDATION

The result of this study revealed a good knowledge of mothers on the management of under-five acute watery diarrheal disease. However, this knowledge had not influenced their practice to manage the disease. Thus interventions are needed to enhance Mothers' practice to improve home-based case management of under- five acute watery diarrheal diseases. Since most of the diarrheal cases were treated at home, mothers (care givers) need to have a basic knowledge about the management and practice of ORS preparation for under -five diarrhea control, to shorten its duration, severity and prevalence of this life- threatening under- five disease. Home based management of oral rehydration solution in case of acute diarrhea should clearly be percolated in the community through home visits and demonstration, not only the visits to the health facility to enhance the reduction in morbidity and mortality of under-fives due to acute diarrheal disease as a long term goal and this can be realized by changes in the behavior of the care givers through the interpersonal communication.

- Thus, there is a need for public health educational interventions. Health promotion efforts should target these areas of practice to further improve the management of under- five diarrheal diseases to minimize mortality and morbidity cases, after all to achieve millenium development goal.

Annexes

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ANNEX II

English version Participant Information sheet

ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCE DEPARTMENT OF NURSING AND MIDWIFERY

Good morning/ afternoon?

My name is _____ . Currently I am a graduate student at Addis Ababa University, College of Health Sciences, School of Allied Health Sciences, Department of Nursing and Midwifery. And now I am conducting a research to assess knowledge and practices of ORS utilization in Assela town.

Title of the research: Assessment of Knowledge practices and ORS utilization among mothers (caregivers) for under-five children with acute diarrhea in Assela Town, Arsi zone, Oromiya Regional State, Ethiopia, 2015.

Objective: To assess the knowledge and practice of mothers' (caregivers) ORS utilization for under- five Children with acute diarrhea in Assela town.

Duration: The duration of this study will be from January – June, 2015

Participants: The mothers (caregivers) of children under-five whose children suffered from diarrhea in the 2 weeks prior to the study.

Potential Risks: There is no foreseen risk by being participating in this study.

Confidentiality: All the information that you give will be kept confidential and private. Only the principal investigator and interviewer will have access to the information, and you

are not mentioned (indicated) by name and won't accessible to third party. Your name won't register on the question sheet so that you will not be identified.

Benefits: No financial benefits are related with this study. But by participating in this study, you will acquire or increase knowledge related to the practice of ORS utilization.

I would like to ask you few questions. Your honest response to the questions can make the study to achieve its objective.

You are kindly requested to respond voluntarily. You can also choose not to participate in this study or if you become uncomfortable during the study, you will be allowed to leave the study at any time. At any time if you have questions, you can contact me by using the following addresses.

Name of the principal Investigator:

Adanech Eshete

Mobile: 09 11 04 07 12. E-mail: adanecheshete2007 @gmail.com

ANNEX III: Informed consent

Addis Ababa University College of Health Sciences School of Allied Health Sciences

Department of Nursing and Midwifery

I here with declare that:

- ✓ **The objectives of this study are explained to me and are clear.**
- ✓ **The contents of the consent are verified to me to participate in the study.**

I understand that participation in this study is completely voluntary and that I may withdraw at any time without supplying reasons. I agree to participate in this study to be interviewed, provided my privacy is guaranteed. When signing this consent form to participate in the study, I promise to answer honestly to all reasonable questions and not provide any false information or in any other way purposely mislead the researcher.

Signature of the participant _____ **date** _____

Signature of the investigator _____ **date** _____

ANNEX - IV

Respondents' Questionnaire

English Version

This questionnaire is adapted and modified from different similar researches that were done previously.

First identify by asking: In the last 2 weeks, have any of your children under- five suffered from diarrhea?

S.No	Question for the mothers (caregivers)	Response and code	Skip
Section : I A) Socio-demographic characteristics of child			
1	How old is your child? (in month's)	
2	What is your child sex	a. Male b. Female	
3	What is the birth order of child?	a. 1 st b. 2 nd c. 3 rd d. 4 th	
4	How many children under five do you have in this house hold?	a. 1 b. 2 c. 3 d. 4	
B) Socio demographic characteristics of caretaker			
5	Sex	a. Male b. Female	
6	Age of caregiver (in years)	
7	Religion	a. Orthodox b. Muslim c. Catholic d. Protestant e. Other (specify).....	

8	Ethnicity	<ul style="list-style-type: none"> a. Amhara b. Oromo c. Guragae d. Tigray e. Others 	
9	Level of education	<ul style="list-style-type: none"> a. Illiterate b. Elementary school c. High school d. College e. University 	
10	Occupation	<ul style="list-style-type: none"> a. Governmental employee b. Private employee c. House wife d. Merchant e. Other 	
11	Relation of caregiver to client	<ul style="list-style-type: none"> a. Mother b. Father c. Sibling d. Grand mother e. Grand father f. Other, specify 	
12	Parity (for females only!)	<ul style="list-style-type: none"> a. 1 b. 2 c. 3 d. 4+ 	
13	Marital status	<ul style="list-style-type: none"> a. Single b. Married c. Divorced d. Widowed 	
14	If married, what does your husband/wife do?	<ul style="list-style-type: none"> a. Governmental employee b. Private employee c. House wife d. Merchant e. Other 	
15	What is the highest level of education he/she has attained?	<ul style="list-style-type: none"> a. Illiterate b. Elementary school c. Secondary school d. College e. University 	

16	Monthly income	<ul style="list-style-type: none"> a. < 500 birr b. 500 -1000 birr c. 1001 - 3000 birr d. > 3000 birr 	
17	Family size	<ul style="list-style-type: none"> a. Less than or equal to five b. Above five 	
Section II: Caregiver factors			
A - Knowledge part			
18	What do you understand by diarrhea?	<ul style="list-style-type: none"> a. Frequent passing of watery stool(3 or more times) b. Frequent passing of non-watery stool c. Blood in stools d. Greenish stools e. Mucus in stool f. No idea g. Other, specify..... 	
19	Is diarrhea a serious child illness?	<ul style="list-style-type: none"> a. Yes b. No 	
20	What do you think are the cause of diarrhea? (Tick as many as possible)	<ul style="list-style-type: none"> a. Poor hygiene b. Food poisoning/ contaminated food c. Contaminated water d. Teething e. Intestinal parasite f. Flies g. No idea h. Other , please specify 	
21	Do you know any danger signs related to diarrhea in a child?	<ul style="list-style-type: none"> a. Yes b. No 	
22	What are some of the danger signs associated with diarrhea? (Tick as many as possible?)	<ul style="list-style-type: none"> a. Becoming weak or lethargic b. Repeated vomiting / vomiting everywhere c. Fever and blood in stool 	

		<ul style="list-style-type: none"> d. Marked thirst of water e. Poor feeding f. Reduced urine output g. Other, specify please 	
23	During the diarrhea illness, did the child eat?	<ul style="list-style-type: none"> a. About the same b. More than usual c. Much less d. Somewhat less 	
24	During the diarrhea illness did the child drink?	<ul style="list-style-type: none"> a. About the same b. More than usual c. Much less d. Somewhat less 	
B-Practice part			
25	What do you feed your child on?	<ul style="list-style-type: none"> a. Breast milk only b. Breast milk + infant formula c. Complementary feeding only d. Complementary feeding plus breast milk e. Normal family diet f. Other , specify 	
26	What available recommended Home-made fluid / home base oral rehydration fluid can be given to a child with diarrhea? (Tick as many as possible)	<ul style="list-style-type: none"> a. Sugar and salt solution b. Salt with water c. Rice water d. Soup e. Juice f. Other, specify..... 	
27	Have you heard about a fluid made from a special packet called (ORS)?	<ul style="list-style-type: none"> a. Yes b. No 	
28	If yes did your child receive ORS solution in the last two weeks he/she suffered from diarrhea?	<ul style="list-style-type: none"> a. Yes b. No 	
29	After how long the diarrhea started, ORS was given to the child?	<ul style="list-style-type: none"> a. Same day b. Second day c. Third day d. Fourth day e. I don't know 	
30	How was ORS prepared?	<ul style="list-style-type: none"> a. 1 sachet of ORS -300 mls (3 coke bottle) of water b. 1 sachet of ORS -500 mls (1 small size of mineral bottle) of water c.1 sachet of ORS -600 mls 	

		<p>(2 beer bottle) of water d.1 sachet of ORS -750 mls (1 medium size of mineral bottle) of water e.1 sachet of ORS -1000mls (1 liter) of water f. 1 sachet of ORS -1500mls (1.5 liters or large size of mineral bottle) of water</p>	
31	Who taught you how to mix ORS solution?	<p>a. Friend / neighbor / relative b. Health provider c. Heard on radio d. Read instruction my self e. Other(specify)</p>	
32	How often should ORS be given?	<p>a. Once a day b. 2 – 3 times a day c. 4 – 5 times a day d. 6 & above times a day e. After the passing of every loose stool f. No idea</p>	
33	How much ORS solution should be given to the child each time the child has lose stool?	<p>a. As much as the child can drink b. Coffee cup of 100ml c. Don't know / can't answer d. Other (specify)</p>	
34	How long should the mixed ORS last?	<p>a. 24 hrs (1 day) b. 48 hrs (2 days) c. 72 hrs (3 days) d. 96 hrs (4 days) e. Other, specify</p>	
35	Mention the reason(s) why ORS is given to children having diarrhea	<p>a. To increase the diarrhea b. To decrease the diarrhea c. To prevent dehydration d. No idea e. Other, specify</p>	
36	What water do you use to mix ORS solution?	<p>a. Previously boiled and cooled water b. Drinking water c. Any available water d. Highland water</p>	

ANNEX: V

የተሳታፊዎች መረጃ መስጫ ቅጽ-በአማርኛ

እንደምን አደሩ/ዋሉ?

አዳኝ እሹቴ እባላለሁ። በአዲስ አበባ ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፣ ነርቪንግና ሚዲካል ትምህርት ክፍል በህፃናት

ጤና የ2ኛ ዓመት የማስትሬት ድግሪ ተመራቂ ተማሪ ነኝ።

በአሁኑ ሰዓት በአሰላ ከተማ ከአምስት አመት በታች ልጆች ባላቸው እናቶች ላይ ልጆቻቸው የተቅማጥ ህመም ሲይዛቸው ለወዝ መላሽ ንጥረ መድሀኒት ያላቸውን እውቀትና ክህሎት በማጥናት ላይ እገኛለሁ።

የጥናቱ ርዕስ፡- በአሰላ ከተማ ዕድሜያዊ ከአምስት ዓመት በታች ለሆኑና በተቅማጥ ለተጠቁ ህፃናት ወላጆች ስለወዝ መላሽ ንጥረ መድሀኒት ያላቸውን ግንዛቤና ተሞክሮ ፣አርሲ ዞን አሮሚያ ብሔራዊ ክልላዊ መንግስት፣ ኢትዮጵያ፣ 2007 ዓ.ም።

የጥናቱ ዓላማ፡- ዕድሜያዊ ከአምስት ዓመት በታች ለሆኑና በአጣጣፊ የተቅማጥ ህመም የተጠቁ ህፃናት ወላጆች ስለወዝ መላሽ ንጥረ መድሀኒት ያላቸውን ግንዛቤና ክህሎት ግምገማ

ተሳታፊዎች፡- ዕድሜያዊ ከአምስት ዓመት በታች ለሆኑና ጥናቱ ከመጀመሩ ከሁለት ሳምንት በፊት የተቅማጥ ህመም የታየባቸውን ህፃናት ወላጆች ይመለከታል

የሃንድሽ ጉዳት፡- በዚህ ጥናት መሳተፍ ምንም አይነት ጉዳት የለውም።

ጥቅማ ጥቅም፡- በዚህ ጥናት መሳተፍ ምንም አይነት ገንዘብ አያስገኝም። ነገር ግን በዚህ ጥናት መሳተፍ ወላጆች ስለወዝ መላሽ ንጥረ መድሀኒት እውቀት ያገኛሉ ወይም ያላቸውን እውቀት ያዳብራሉ።

ስለዚህ ይህንን አስመልክቶ የተወሰኑ ጥያቄዎችን ልጠይቅዎት እወዳለሁ። የእርስዎ በእውነት ላይ የተመሰረተ መልስ ለዚህ ጥናት መሳካት አስተዋፅኦ ያደርጋል። እርስዎም የሚሰጡት መረጃ ከአጥኚውና ቃለመጠይቅ አድራጊው በስተቀር በማንኛውም መልኩ ለሌላ 3ኛ ወገን ተላልፎ አይሰጥም። በሙሉ ፈቃደኝነት እንዲሳተፉ እየጠየቅሁ ያለመሳተፍ ወይም

በማንኛውም ጊዜ ራስዎን ከጥናቱ የማግለል ሙሉ ሙብት አለዎት። በማንኛውም ጊዜ ጥያቄ ካለዎት በሚከተለው አድራሻዬ
ማግኘት ይችላሉ።

አዳኝ እሸቴ

ስ.ቁ.09 11 04 0712

ኢ.ሜይል፡ adanecheshete2007@gmail.com

ANNEX: VI

የስምምነት መግለጫ ፎርም - በአማርኛ

አዲስ አበባ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ ነርሲንግ ዲፓርትመንት ድህረ ምረቃ ፕሮግራም

እኔ ስሜ ከዚህ በታች የተገለፀው፤ የዚህ ጥናት ዓላማ በደንብ የተብራራልኝ ሲሆን የጥናቱንም ዓላማ ተረድቻለሁ።

በዚህ ጥናት ላይ መሳተፍ በሙሉ ፈቃደኝነት ላይ የተመሰረተ መሆኑን በሚገባ የተረዳሁ ሲሆን በማንኛውም ጊዜ ከጥናቱ

ራሴን የማግለል መብት እንዳለኝ አውቄአለሁ። ስለሆነም የምሰጠው መረጃ እስከተጠበቀ ድረስ በዚህ ጥናት ለመሳተፍ

ተስማምቻለሁ። በዚህ ጥናት ለመሳተፍ ስምምነቴን ስገልፅ ለምጠየቀው ጥያቄ በእውነት ላይ የተመሰረተ መልስ ለመስጠት

የተስማማሁ መሆኔን አረጋግጣለሁ።

የመረጃ ሰጪው ፊርማ _____ ቀን _____

የአጥኝው ፊርማ _____ ቀን _____

ANNEX: VII

መጠይቅ - አማርኛ ቅጽ

አዲስ አበባ ዩኒቨርሲቲ ነርሲንግ እና የሚድዋይሬሪ ዲፓርትመንት

ይህ መጠይቅ የተዘጋጀው ዕድሜያዊ ከአምስት ዓመት በታች ለሆኑና በአጣዳፊ የተቆማጥ ህመም የተጠቁ ህፃናት ወላጆች ግንዛቤና ክህሎት በተመለከተ መረጃ ለማሰባሰብ ነው።

ክፍል አንድ			
ሀ - ሕፃናቱን በተመለከተ የሚሞላ መጠይቅ			
1	የልጁ/ቷ ዕድሜ ስንት ነው (በወራት ይገለፅ)	
2	ፆታ	ሀ. ወንድ	ለ. ሴት
3	ልጁ/ልጅቷ ለቤተሰቡ ስንተኛ ልጅ ነው/ናት	ሀ. አንደኛ	ሐ. ሶስተኛ
		ለ. ሁለተኛ	መ. አራተኛ
4	በቤተሰቡ ውስጥ ስንት ከአምስት አመት በታች ህፃናት አሉ	ሀ. አንድ	ሐ. ሶስት
		ለ. ሁለት	መ. አራት
ለ. ስነህዝብና ማህበራዊ ጉዳዮችን የሚመለከቱ የሕፃናቱ ቀጥታ ተንከባካቢ ለሆኑ የሚሞላ			
5	ፆታ	ሀ. ወንድ	ለ. ሴት
6	የተንከባካቢው ዕድሜ	
7	ሐይማኖት	ሀ. ኦርቶዶክስ	መ. ፕሮቴስታንት
		ለ. ሙስሊም	ሠ. ሌላ ካለ ይገለፅ
		ሐ. ካቶሊክ	

8	ብሔር	ሀ. አማራ ሙ. ትግሬ ለ. አርባ ሠ. ሌላ ሐ. ጉራጌ	
9	የትምህርት ደረጃ	ሀ. ያልተማረ ለ. አንደኛ ደረጃ ሐ. ሁለተኛ ደረጃ መ. ኮሌጅ ሠ. ዩኒቨርሲቲ	
10	የስራ ሁኔታ	ሀ. የመንግስት ሠራተኛ ለ. የግል ተቀጣሪ ሐ. የቤት እመቤት መ. ነጋዴ ሠ. ሌላ....	
11	ከታማሚው ጋር ያላቸው ዝምድና	ሀ. እናት ሙ. የሴት አያት ለ. አባት ሠ. የወንድ አያት ሐ. እህት ረ. ሌላ ከሆነ ይገለፅ	
12	ተጠያቂዎ ሴት ከሆኑ ብቻ የሚሞላ ስንት ልጆች ወልደዋል	ሀ. አንድ ለ. ሁለት ሐ. ሶስት መ. አራት ሰ. አምስትና ከዛ በላይ	

13	የጋብቻ ሁኔታ	ሀ. ያላገባ ለ. ያገባ ሐ. የፈታ መ. በሞት የተለየ	
14	ያገባ/ች ከሆነ የስራ ሁኔታ ይገለፅ	ሀ. የመንግስት ሠራተኛ ለ. የግል ተቀጣሪ ሐ. ነጋዴ መ. ሌላ	
15	የትምህርት ደረጃ	ሀ. ያልተማረ ለ. አንደኛ ደረጃ ሐ. ሁለተኛ ደረጃ መ. ኮሌጅ ሠ. ዩኒቨርሲቲ	
16	የወር ገቢዎ ምን ያህል ይሆናል	ሀ. ከ 500 ብር በታች ለ. ከ 501 – 1000 ብር ሐ. ከ 1001 - 3000 ብር መ. ከ 3000 ብር በላይ	
17	የቤተሰብ ብዛት	ሀ. አምስትና ከዛ በታች ለ. ከአምስት በላይ	

	ክፍል ሁለት ሀ - የህግ ቀጥታ ተንከባካቢ የግንዛቤ መጠይቅ		
18	ተቅማጥ እንዴት ይገለጻል	ሀ. ተደጋጋሚ ፈሳሽ ሰገራ ሰባትና (3) ከዛ በላይ ለ. ተደጋጋሚ ፈሳሽ ያልሆነ ሰገራ ሐ. ደም የተቀላቀለበት ሰገራ መ. አረንጉዴ ሰገራ ሠ. መግል የተቀላቀለበት ሰገራ ረ. መልስ የለውም	
19	ህፃናቶች ላይ ተቅማጥ ጎጂ ከሚባሉት ውስጥ አንዱ ነው ብለው ይገምታሉ	ሀ. አዎን ለ. አይደለም	
20	የተቅማጥ ህመምን የሚያመጡ (መንስኤው) ምንድነው ብለው ይገምታሉ	ሀ. የንፅህና ጉድለት ለ. የተበከለ ምግብ መመገብ ሐ. የተበከለ ውሀ መጠጣት መ. የጥርስ መብቀል መጀመር ሠ. የአንጀት ጥገኛ ትላትል ረ. ዝንብ ሰ. መልስ የለም ሸ. ሌላ ካለ ይጠቀሱ.....	
21	የተቅማጥ ህመም ህፃናቶች ላይ የሚያስከትለው ጉዳት እንዳለ ያውቃሉ	ሀ. አዎን ለ. አላውቅም	
22	መልሱ አዎን ከሆነ ከሚቀጥሉት ዝርዝሮች ውስጥ የቱ ይከሰታል ብለው ይገምታሉ	ሀ. በተደጋጋሚ በወጣው ፈሳሽ ምክንያት አቅም ማጣትና መልፈስፈስ	

		<p>ለ. በተደጋጋሚ ማስመለስ/ የገባውን ሁሉ ማውጣት</p> <p>ሐ. ትኩሳትና በሰገራ ውስጥ ደም መቀላቀል</p> <p>ሠ. ምግብ አለመመገብ</p> <p>ረ. የሽንት መጠን መቀነስ</p> <p>ሰ. ሌላ ካለ ይጠቀስ.....</p>	
23	<p>ልጅዎ ከተቅማጡ በኋላ የምግብ ፍላጎቱ እንዴት ነው</p>	<p>ሀ. እንደበፊቱ ነው የሚመገበው</p> <p>ለ. ከበፊቱ የተሻለ ነው የሚመገበው</p> <p>ሐ. በጣም ትንሽ ነው የሚመገበው</p> <p>መ. አነስተኛ ነው የሚመገበው</p>	
24	<p>ልጅዎ ከተቅመማጡ በኋላ ፈሳሽ ይወስዳል</p>	<p>ሀ. እንደበፊቱ ነው የሚጠጣው</p> <p>ለ. ከበፊቱ የተሻለ</p> <p>ሐ. በጣም ትንሽ ነው የሚጠጣው</p>	
ለ - የክህሎት መጠይቅ			
25	<p>በቤት ውስጥ ከሚዘጋጁ በተቅማጥ የወጣውን ፈሳሽ ከሚመልሱ በየትኛው ተጠቅመዋል</p>	<p>ሀ. የጨው ና የስኳር ውህድ</p> <p>ለ. የጨውና የውሀ ውህድ</p> <p>ሐ. የሩዝ ውሀ</p> <p>መ. አጥሚት</p> <p>ሠ. ጃስ</p> <p>ረ. ለስላሳ መጠጥ</p> <p>ሰ. ሌላ ካለ ይጠቀስ</p>	

26	ልጅዎትን ምንድንው የሚመግቡት	<p>ሀ. የጡት ወተት ብቻ</p> <p>ለ. የጡትና የቆርቆሮ ወተት</p> <p>ሐ. ተጨማሪ ምግብ ብቻ</p> <p>መ. ተጨማሪ ምግብና የጡት ወተት</p> <p>ሠ. የቤተሰብ ምግብ</p>	
27	በፓኬት መልክ የታሸገና በየጤና ድርጅቱ የሚገኝ ወዝ መላሽ ንጥረመድሀኒት ተበጥበጦ የሚጠጣ መኖሩን ያውቁ ኖሯል	<p>ሀ. አውቃለሁ</p> <p>ለ. አላውቅም</p>	
28	መልሱ አውቃለሁ ከሆነ በነዚህ ሁለት ሳምንታት ውስጥ ለልጅዎ ሰጥተውት ነበር	<p>ሀ. አዎን ሰጥቻለሁ</p> <p>ለ. አልሰጠሁም</p>	
29	ከምን ያህል ቀን በጊላ ፈሳሹን ጀመሩለት	<p>ሀ. በመጀመሪያው ቀን</p> <p>ለ. በሁለተኛው ቀን</p> <p>ሐ. በሶስተኛው ቀን</p> <p>መ. በአራተኛው ቀን</p> <p>ሠ. አላውቅም</p>	

30	<p>ወዘመላሽ ንጥረ መድሀኒት አዘገጃጀትዎት እንዴት ነበር</p>	<p>ሀ. አንዱን እሽግ በሶስት የኮከብ ጠርመራ መበጠጠጥ</p> <p>ለ. አንዱን እሽግ በግማሽ ሊትር ውሀ መበጠጠጥ</p> <p>ሐ. አንዱን እሽግ በሁለት የቢራ ጠርመራ ውሀ መበጠጠጥ</p> <p>መ. አንዱን እሽግ በመካከለኛ ከግማሽ ሊትር በሚበልጥ ውሀ መበጠጠጥ</p> <p>ሠ. አንዱን እሽግ በአንድ ሊትር ተኩል ውሀ መበጠጠጥ</p> <p>ረ. አንዱን እሽግ በአንድ ሊትር ውሀ መበጠጠጥ</p>	
31	<p>በመጀመሪያ እንዴት እንደሚበጠጠጥ ከየት ስሙ</p>	<p>ሀ. ከጓደኛ ፤ ጎረቤት፤ ዘመድ</p> <p>ለ. ከጤና ባለሙያ</p> <p>ሐ. ከፊደላዊ</p> <p>መ. እሽጉ ላይ ከተጻፈው ተረድቼ</p> <p>ሠ. ሌላ ካለ ይጥቀሱ</p>	
32	<p>በቀን ውስጥ ምን ያህል ጊዜ ይሰጡታል</p>	<p>ሀ. አንድ ጊዜ ብቻ</p> <p>ለ. ከሁለት እስከ ሶስት ጊዜ ብቻ</p> <p>ሐ. ከአራት እስከ አምስት ጊዜ</p> <p>መ. ስድስትና ከዛም በላይ</p> <p>ሠ. ባስቀመጠው ቁጥር</p> <p>ረ. አላውቅም</p>	

33	በአንድ ጊዜ ምን ያህል መጠን ይሰጡታል	<p>ሀ. ህፃኑ አስከሚቢቃው ድረስ</p> <p>ለ. አንድ የቡና ስኔ 100 ሲሲ</p> <p>ሐ. አላውቅም</p> <p>መ. ሌላ ካለ ይጠቀስ -----</p>	
34	አንድጊዜ የበጠበጡትን ወዝ መላሽ ንጥረ መድሀኒት ለምን ያህል ጊዜ ይጠቀሙታል	<p>ሀ. አንድ ቀንና ሌሊት</p> <p>ለ. ሁለት ቀንና ሌሊት</p> <p>ሐ. ሶስት ቀንና ሌሊት</p> <p>መ. አራት ቀንና ሌሊት</p> <p>ሠ. ሌላ ካለ ይግለጹ</p>	
35	ወዝመላሽ ንጥረ መድሀኒትንና በቤትውስጥ የሚዘጋጁትን ፈሳሾች ለልጅዎ መስጠትዎ ጠቀሜታው ምንድን ነው	<p>ሀ. የተቅማጡን መጠን መጨመር</p> <p>ለ. ተቅማጡን መጠን ለመቀነስ</p> <p>ሐ. በተቅማጥ የወጣው ፈሳሽ እንዳያደክመው መተኪያ ነው</p> <p>መ. መልስ የለውም</p> <p>ሠ. ሌላ ካለ ይግለጹ -----</p>	
36	ወዝ መላሽ ዱቄቱን በምን አይነት ውሃ ነው የሚበጠብጡት	<p>ሀ. ፈልቶ በቀዘቀዘ ውሃ</p> <p>ለ. ለመጠጥ የምንጠቀምበት ውሃ</p> <p>ሐ. የተገኘውን ውሃ</p> <p>መ. ሌላ ካለ ይግለጹ -----</p>	

AANEEXXII: VIII

Unka Afaan Oromoo Odeeffannoo Hirmaatoota irraa ittiin funaannamu UNIVEERSITI ADDIS ABABAATTI KOLLEEJII SAAYNNSII FAYYAA DIPAARTIMENTI QINDOONINNA NARSIING FI MIDWIFEERII

Akkam bultan/Ooltan?

Maqaan koo_____. Yeroo amma kana ani Univeersitii Addis Ababaatti digirri lammaffaa koo kolleejjii Saayinsii Fayyaa fi Dipaartimeentii qindoominnaNaarsiingii fi Mid wayifeeritti barachaa jira. Eebbaaf immoo qorannaoo beekumsa fi haala muuxannoo itti fayyadamnisaa ORS gara kaasa cimaa daa'imman umriin isaan waggaa shan gadiif kennamu irratti magaalaa Assallaa, Naaannoo Oromiyaa ,Itiyooophiyaa keessatti bara 2015 akka lakk. Awuroopaatti gaggeessaa jira.

Kaayyoon Qoranichaa: Beekkumsaafi muuxannoo haalaa itti fayyadamsa ORS garaa kaasa cimaa daa'imman umrii waggaa shanii gadiif haadhaan ykn kununsittuu daa'immaa biroon kennamu Magaala Assalla keessatti qorachuuf.

Yeroon Qoranno Kanaa: Ammajii _Waxabajjii 2015 akka lakk. Awuroopaatti.

Hirmaattoonni Qorannoo kanaa: Haadha ykn kununsitoota daa'imman umrii waggaa shanii gadii garaa kaasaa cimaan qabamanii torbaan lamaan duraatti yaalchisan.

Hubachiisa: Qoranno kana irrattii hirmaattaniif rakkoon tokkolee isin irra hin gahu.

Icciitii eeguu ilaalchise :Oddeeffannoo ykn icciiti sirra argadhee tokko illee nama birooof dabarsee hin laadhu.Waraqaa kana gubaa irratti maqaan kee hin barrawu.

Bu'aa Qoranno irra argamu: Kafaltiin qorannoo kanaa irraa argamu hin jiru. Garuu qorannoo kana irratti hirmaachuu keetiif/keessaniif beekkumsaa fi muuxannoo haala itti fayyadamnisa ORS ni dabalatu.

Kanaafuu milkaa'innaa qorannoo kanaatiif gaaffilee armaan gaditti isin gaaffadhuu amanteedhaan akka naaf kennitan nan abdadha.

Gaaffilee armaan gaditti gaaffatamtu kan feedhaa keetiin hirmaachuu qabda.Yoo hirmaachuuf hin barbaanne ta'e illee hirmaachuu dhiisuuf mirgaa guutuu qabda.

Yeroo feetetti hirmaachuu dhiisuu ni dandeessa. Gaaffii yoo qabaate immoo teessoo armaan gadii kanaan na qunnamuu ni dandeessa.

Maqaa Qorataa:

Adaanechi Isheete

Teessoo: Lakk. bil.moobaayilaaa-: 09 11 04 07 12.

E-mail: adanecheshete2007 @gmail.com

AANEEXXII: IX Waraqaa waabii Qorrannoo

Univeersiitii Addis Ababaatti koolleejjii Saayinsii Fayyaa fi Dipaartimeentii qindoominnaa Narsiingii fi Mid waayifeerii.

Kan eeyyamee fi ifa godheef:

- ✓ Kaayyoon qorrannoo kanaa ifaa fi haalaan naaf ibsame ta'u.
- ✓ Qabiyyeen qorrannoo kanaa kan naaf ibsameef qorrannicha irratti hirmaachuuf walgaleera.

Walgaltee kana irraa kan hubadhe qorrannoo kana irratti hirmaachuu kan danda'u fedha koo irratti kan hundaa'eef yeroo fedheetti sababii tokkoo illee osoo hin gaaffatamne dhiisee deemuu akka danda'u. Akkasumas qorrannoo kana irratti hirmaachuufi gaaffiilee gaaffatamee hundumaa amantummaadhaan deebisuufi odeeffannoo sobaa akka hin kennineef qorataa karaa hin taane eeruu akka hin qabne wal galeejira.

Mallattoo hirmaata qorrannoo _____ Guyyaa _____

Mallattoo qorataa _____ Guyyaa _____

AANEEXXII : X

Gaaffilee hirmaattoota qorannoo gaaffatamu.

Hiikkaa: Afaan Oromoo

Gaaffileen kunnin qorannoo kanaan dura gaggeeffame irraa kan fudhatameef fooyya'ee qorannoo kanaaf kan dhiyaateedha.

Duraan dursii gaaffii gaaffachuun addaa baafadhu. :Torbaan lamaan darban keessatti daa'imni umriin isaa waggaa shanii gadi ta'e gara kaasan sijelaa dhukkubsatee beeka?

Tartiba Lakk.	Gaaffilee Haadha (kununsituu daa'ima) gaaffatamu	Deebii fi Codii Gaaffilee	Irra darbi
Kutaa I A) Haala odeeffannoo walgala daa'imichaa			
1	Umriin daa'ima keetii meeqa? (Ji'aan/baatiin)	_____	
2	Saalli isaa hoo?	a. dhiira b. dubara	
3	Daa'ima meeqaaffaa keeti?	a. 1 ^{ffaa} b. 2 ^{ffaa} c. 3 ^{ffaa} d. 4 ^{ffaa}	
4	Daa'imman umriin isaan waggaa shani gadii meeqa qabda?	a. 1 b. 2 c. 3 d. 4	
I B) Haala odeeffaannoo walii gala kunuunsaa daa'imaa			
5	Saala	a.dhiira b. dubara	
6	Umrii kunsituu daa'maa(waggaan)	_____	
7	Amantaa	a. Ortoodooxii b. Musiliila c. Kaatoolikii d. Piroteestaantii e. Kan biro(yoo jiraate ibsi)_____	
8	Sebaa	a. Amharra b. Oromo c. Guragae d. Tigraye e. Others	
9	Sadarkaan barnoota keetii hammam?(Hanga meeqatti barate)	a. Hin baranee b. Sadarkaa 1 ^{ffaa} c. Sadarkaa 2 ^{faa} d. koolleejjii	

		e. Univeersiitii	
10	Dalagaan kee maal?	a. Hojjataa mootummaa b. Hojii dhuunfaa c. Haadha manaa d. Daldalaa e. Kan biro	
11	Walitti dhufeenyi keetiif daa'ima maal? (Firoomni)	a. haadha b. Abbaa c. Oboleeti/Oboleessa d. Akaakayyuu e. Akkayoo f. Kan biro(ibsi)_____	
12	Daa'ima meeqa deesse?(dubara qofaaf)	a. 1 b. 2 c. 3 d. 4+	
13	Gaa'ila qabdaa?	a. Hin qabu b. Eeyyee nan qaba c. Wal hiknee jira d. Najalaa du,e/duute	
14	Yoo gaa'ila qabaate Abbaan manaa/haati manaa kee maal dalagu?	a. Hojjataa mootummaa b. Hojii dhuunfaa c. Haadha manaa d. Daldalaa e. Kan biro	
15	Jia'n qershi meqa argita	a. 500 gedi b. 500 -1000 c. 1001 – 3000 d. 3000 oli	
16	Mattii bayinaa	a. Sheni fi sheni gedi b. Shni oli	
17	Sadarkaan barnoota inni/ishiin g eete/gahe meeqa?	a. Hin barannee b. Sadarkaa 1 ^{ffaa} c. Sadarkaa 2 ^{faa} d. koolleejjii e. Univeersiitii	

Kutaa II : A. Halaawalgala beekkumsa kunuunsa/kunsituu daa' imaa			
18	Garaa kaasaa/baasaa/ haala kamiin hubata?	<ul style="list-style-type: none"> a. Hamma baay'inna bobaa dhangala'o garaa baasuutiin (yeroo sadii oli) b. Hammaa baay'inna bobaa dhangala'oo hin taaneetiin c. Bobaan dhiiga qabaachuu isaatiin d. Bobaan bifa magariisaa qabaachuu isaatiin e. Waan akka furrii fakkaatu bobaa keessa jiraachuu isaatiin f. Yaada homaatu hin qabu g. Kan biroo yoo jiraate ibsi 	
19	Garaa kaasan/baasaan dhukkuba cimaa daa' imaati?	<ul style="list-style-type: none"> a. Eeyyee b. Lakki/miti 	
20	Sababni dhukkuba garaa kaasa/baasa maal jettee amantaa? (kan ni ta'a jetu itti mari)	<ul style="list-style-type: none"> a. Qulqullinna dhabuu b. Nyaata summaa'ee/faalame c. Bishaan faalame d. Biqiluu ilkaan /irga daa' imaa e. Raammolee garaa keessaa f. Tiisisa/Tittisa g. Yaadaa homaa hin qabu h. Kan biro yoo jiraate ibsi___ 	
21	Mallattoolee hamaa garaa kaasa/baasaa wajjiin walqabate daa' ima irratti kan ati beektu jira?	<ul style="list-style-type: none"> a. Eeyyee b. Lakki/hin beeku 	
22	Isaan kamtuu mallattoolee hamaa muraasa garaa kaasa/baasaa wajjiin walqabata? (kan ni ta'a jettu taalii godhi)	<ul style="list-style-type: none"> a. Ofi dadhabuu ykn ofi wolaaluu hammaa garaa kaasaa bahu wajjiin. b. Irra deddeebi'anii haqqisuufi iddoo hundattuu haqqisuu. 	

		<ul style="list-style-type: none"> c. Hoo'a qaamaa fi bobaa dhiiga qabu boba'uu d. Dheebuu cimaa qabaachuu e. Fedha nyaata dhabuu f. Fincaan fincaa'uu hir'atu/ diduu g. Kan biroo yoo jiraate ibsi 	
23	Yeroo daa'imni garaa kaassan/baasaan dhukkubsate soorata ni nyaataa?	<ul style="list-style-type: none"> a. Akkuma dura nyaatutti nyaata b. Hanga duraa caala nyaata c. Baay'ee xinnoo Hanga duraa gadi nyaata d. Hamma tokko hanga duraa irra xinnoo nyaata 	
24	Yeroo daa'imni garaa kaassan/baasaan dhukkubsate dhugaatii ni dgugaa?	<ul style="list-style-type: none"> a. Akkuma dura dhugutti dhuga b. Hanga duraa caala dhuga c. Baay'ee xinnoo Hanga duraa gadi dhuga d. Hamma tokko hanga duraa irra Xinnoo dhuga 	
B. Kutaa Haala muuxannoo ilaalchisee			
25	Daa'ima kee maal soorachiista?	<ul style="list-style-type: none"> a. Aannan harmaa qofa b. Aannan harmaa fi Aannan saamsamaa daa'immanii c. Nyaata dabalataa qofa d. Aannan harmaa fi Nyaata dabalataa e. Nyaata maatiin nyaatu f. Kan biro yoo jiraate ibsii _____ 	
26	Daa'ima garaa kaasaan /baasaan qabeef dhangala'oo manatti qopheessitani kennitaniif jiraa?	<ul style="list-style-type: none"> a. Bulbulaa Sukkaar fi Sooqqiddaa b. Sooqqiddaa fi bishaan c. Bishaan ruuzaa d. Shoorbaa e. Cuunfaa muduraa f. Kan biro yoo jiraate ibsii_____ 	
27	Dhangala'oo addaa ORS jedhamu dhageette beekta?	<ul style="list-style-type: none"> a. Eeyyee b. Lakki/Hin beeku 	

28	Yoo eeyyee jette,daa'imni kee garaa kaasaan dhukkubsatee torbaan lamaan dura ORS fudhatee beekaa?	<ul style="list-style-type: none"> a. Eeyyee b. Lakki/Hin beeku 	
29	Garaa kaasaan daa'ima kee erga eegaleen booda guyyaa meeqaffaatti ORS kennameef?	<ul style="list-style-type: none"> a. Guyyuma sanitti b. Guyyaa itti aanu/Lammaffaa c. Guyyaa sadiin booda d. Hin beeku 	
30	ORS haala kamiin qophaa'aa/bulbulamaa?	<ul style="list-style-type: none"> a. ORS saakketii 1-bishaan 300mls (bishaan jookii 1) b. ORS saakketii 1-bishaan 500mls (bishaan qaruura xiqqaa Jiddugaleessa 1) c. ORS saakketii 1-bishaan 600mls (bishaan qaruura biiraa1) d. ORS saakketii 1-bishaan 750mls (bishaan qaruura Jiddugaleessa 1) e. ORS saakketii 1-bishaan 1000mls (bishaan litira 1) f. ORS saakketii 1-bishaan 1500mls (bishaan litira 1 fi walakkaa) 	
31	Akkaataa ORS ittiin bulbulan eenyutuu si barsiisee?	<ul style="list-style-type: none"> a. Hiriyyaa/Ollaa/fira b. Ogeessa fayyaa c. Raaiyooni irraa dhagaye d. Qajeelfama isaa ofii kootiin dubbise e. Kan biro yoo jiraate ibsi_____ 	
32	Guyyaatti yeroo meeqaaf kennamaa?	<ul style="list-style-type: none"> a. Al tokko qofa b. Guyyaatti yeroo 2-3 c. Guyyaatti yeroo4-5 d. Guyyaatti yeroo 6 fi isaa oli e. Yeroo bobaa dhangal'aa bobaaseen booda 	
33	Dhangala'oon ORS bobaan booda hammamtu daa'imaaf kennamaa?	<ul style="list-style-type: none"> a. Hanga daa'imni dhuguu danda'eetti b. Sheni buna fi 100 ml c. Hin beeku d. Kan biro yoo jiraate ibsi 	

34	ORS erga bulbulleen booda sa'aa meeqaaf itti fayyadamnaa?	<ul style="list-style-type: none"> a. Sa'aa 24 (Guyyaa 1) b. Sa'aa 48 (Guyyaa 2) c. Sa'aa 72 (Guyyaa 3) d. Sa'aa96 9 (Guyyaa 4) e. Kan yoo jiraate ibsi_____ 	
35	Sababa ORS daa'ima garaa kaasaan qabeef kennamuuf ibsi	<ul style="list-style-type: none"> a. Garaa kaasaa dabaluuuf b. Garaa kaasaa hir'isuuf c. Goggogiinsa qaama ittisuuf d. Yaada homaa hin qabu e. Kan biro yoo jiraate ibsi_____ 	
36	Bishaan akkamii ORS bulbuluuf ittiin fayyadamta?	<ul style="list-style-type: none"> a. Bishaan hoo'ee qabbanaa'e b. Bishaan dhugaatiif oolu c. Bishaan madda kamiyyuu d. Kan biro yoo jiraate ibsi_____ 	

ANNEX: XI

Assurance of Principal Investigator

I, the undersigned, agree to accept responsibility for the scientific, ethical and technical conduct of the research project and provision of the required progress as per terms and conditions of the research and publication office in an effect of time grant is forwarded as the result of this application. I will provide timely progress report to my advisor and seek the necessary advice and will communicate timely with my advisor.

Name of student: Adanech Eshete

Signature: _____ Date _____.

Advisor: Sr. Alemnesh Mandesh (Bsc, Msc.)

Signature _____ Date _____

