



**ADDIS ABABA UNIVERSITY
FACULTY OF MEDICINE
SCHOOL OF PUBLIC HEALTH**

**ASSESSMENT OF MOTHERS' KNOWLEDGE, ATTITUDE, AND HOUSEHOLD
HYGIENE PRACTICES RELATED TO THE OCCURRENCE OF DIARRHEAL
DISEASE AMONG UNDER FIVE CHILDREN IN RURAL SETTINGS OF AWI ZONE,
WEST AMHARA REGION.**

By:

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**Assessment of mothers' knowledge, attitude and
household hygiene practices related to the occurrence
of diarrheal disease among under five children in
rural settings of Awi Zone, Western Amhara Region**

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ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
AAU	Addis Ababa University
AOR	Adjusted Odds Ratio
ANRS	Amhara National Regional State
CI	Confidence interval
COR	Crude Odds Ratio
EH	Environmental Health
EDHS	Ethiopia Demographic and Health Survey
FGD	Focus Group Discussion
FMOH	Federal Ministry of Health
HEP	Health Extension Program
HIV	Human Immunodeficiency Virus
SNNR	Southern Nations, Nationalities and Peoples Region
SPH	School of Public Health
SPSS	Statistical Package for Social Sciences
UNICEF	United Nation Children's Fund
WHO	World Health Organization
WASH	Water, Sanitation, and Hygiene

ABSTRACT

Background: Childhood diarrhoea is a leading cause of morbidity and mortality in developing countries, particularly in sub-Saharan Africa including Ethiopia. Poor water handling, unsafe disposal of excreta and unhygienic practices of mothers/caretakers are some of the risk factors for the transmission of childhood diarrhea. Improving knowledge, attitude and household hygiene practices of mothers are potentially the most effective means of reducing the burden of diarrhoeal diseases in children.

OBJECTIVE: To assess knowledge, attitude and household hygiene practice of mothers of children aged less than five years related to the occurrence of diarrheal disease among under five children in Awi Zone, West Amhara region.

METHODS: Community based cross-sectional study was employed using both quantitative and qualitative research methods from January to February 2010 in 12 rural kebeles of Awi zone, West Amhara region. Kebeles were chosen by random sampling technique. A total of 422 households that had at least one under-five child were selected by random sampling technique from list of census frame. A structured and pre-tested questionnaire was used to collect quantitative data. Four focus group discussions (FGDs) were also held to generate important idea for the study. Data were entered into EPI Info version 6.04 and it was also edited, cleaned, and analyzed using SPSS version 16.0. Odd ratio with 95% CI was employed to test the significant association and multiple logistic regressions were also used to control confounders.

RESULTS: The multivariate regression model showed that children in the age category of 12-23 months were 6.5 times more likely to be affected by diarrhea as compared to those children in the age category of 36 – 59 months [AOR: 6.48, 95% CI: (2.23,18.84)]. Use of unprotected water sources, poor utilization of latrine and feces seen around the yard were significant predictors for the occurrence of childhood diarrhea in bivariate analysis ($p < 0.05$). Mothers/caretakers have high knowledge on key critical handwashing times of before preparing food (96.4%) and after eating food (84.6%). Crude association was observed in the practices of hand-washing after defecation, habit of body bath taking by mothers and frequency of washing hands with soap ($p < 0.05$). Multiple logistic regression analyses showed mother /caretakers presenting diarrhea [OR: 15.96, 95% CI: (2.27, 112.33)] and early initiating foods [AOR: 4.03, 95%CI: (1.32, 12.31)] were independent predictor of the occurrence of childhood diarrhea. The study also indicated that the two week period prevalence of childhood diarrhea was 20.6%.

CONCLUSION: This study substantiates the occurrence of childhood diarrhea was highly related with mothers'/caretakers' hygienic and child feeding practices in particular and the environmental health characteristics in general. Therefore emphasis should be given to enhance the awareness of mothers/caretakers about household hygiene and childcare practices.

Keywords: *knowledge, household Hygiene, critical times of hand washing, household environment and Childhood diarrhea*

1. INTRODUCTION

Global burden of diseases caused by poor hygienic practices has recently been estimated with various disease outcomes, principally diarrhoeal diseases (1). Diarrhea is defined as three-or-more loose or one-or-more watery stools over the past 24 hour's period. It is mainly can be attributed to three major environmental causes: poor sanitation, poor hygiene, and contaminated water and food (2, 3). Since more than 80% of the cases of diarrhea worldwide are the result of fecal-oral contamination ,improving household hygiene practices is the most effective means of reducing the burden and deaths of childhood diarrhea by 26% and 65% respectively (2, 4).

Diarrheal disease is a major cause of childhood morbidity and mortality worldwide. Annually, 4 billion episodes and 2.2 million deaths of diarrhea occurred around the world, over 98% diarrheal disease and 90% of deaths are occurred in developing countries. More than half of these deaths also occurring among under-five children, and 40 % of these shared by sub-Sahara Africa region (2, 3, 5).

In Ethiopia, diarrhoeal disease is one of the most frequent causes of illness and a major contributor to mortality among children (6). The occurrence of diarrhoea varies by age of the child .Young children ages 6-23 months are more prone to diarrhoea than children in the other age groups (7). A child under five years of age is estimated to suffer from an average of five episodes of diarrhea per year. Pocket studies that had done at different part of the country indicated two-week period prevalence of under five diarrhea ranges from 15.5- 51.4% (8-11). The Ethiopia's 2005 demographic and Health Survey also estimated the two-weeks period prevalence in rural 19% and in Amhara region 14.6% (7).

The Ethiopian government is strongly committed to reduce child deaths by two-thirds in Millennium Development Goals. Despite of this commitment, out come indicators as measured by diarrhoea prevalence and Knowledge, attitude and practice of environmental hygiene is still remain at the low level (12-14).

To improve access and equity to preventive essential health interventions, Federal Ministry of Health (FMOH) had launched in 2005 a new innovative program: the Health Extension Program (HEP) (13). Which is an innovative community based health care delivery system aimed at creating healthy environment and healthful living at household levels with focused on increased health awareness of the community (13).

Environmental health is component of the health extension packages which is giving due attention to improve sanitation, water supply and household hygiene of the rural community at household level. This program also has implemented in Awi zone, Amhara region since 2005 in seven rural woredas of all kebeles. In the area hygiene related diseases such as diarrhea are commonly reported as causes of under five children morbidity. However, mothers' awareness and household hygiene practices related to under 5 diarrhea was not assessed in the area.

Therefore, this study helps to assess the knowledge, attitude and household hygiene practices of mothers related to childhood diarrheal diseases in under five children. Moreover, the outcome of this study will help to design appropriate strategies on prevention of childhood diarrhea morbidity and promote the household hygiene behavior of mothers in the designated study area and similar set ups.

2. LITERATURE REVIEW

The disease burden from unsafe water, sanitation, and hygiene (WASH) is estimated at the global level taking into account various disease outcomes, principally diarrhoeal diseases. Interventions of hygiene and sanitation can reduce all diarrheal causes in different proportions: improved sanitation by 37.5%, provision of adequate water quantity and quality by 21% and simple handwashing could save up to 1 million lives every year (2). However, hygiene promotion programs can only be successful if they are practiced based on the current level of knowledge, perceptions, and hygiene behaviors of mothers (15).

1. Socio-demographic factors

It is widely recognized that diarrhoea is a major cause of morbidity and mortality among children and is affected by several socioeconomic, environmental, and behavioral factors (16). Mothers in the community face several constraints on the management of domestic water supplies, household sanitation, personal hygiene, and childhood diarrhea. One of the most significant constraints is the lack of financial resources to invest in diarrheal disease prevention and treatment. This economic constraints limit women's access to the means to make hygiene and health-related household improvements (17). A study in Ghana showed children living in poor households have higher rates of diarrhea than their wealthy counterparts, probably due to inadequate access to environmental facilities, unsanitary environments in the home and poor child hygiene (18).

Mother's age at the time of birth the child and child's age contributed as risk factor for the occurrence of childhood diarrhea. Study in rural Egypt showed that young children were found to have a 4.6 higher risk of recurrent diarrhea than older ones. Further more, a 5.6 higher risk was reported among children whose mothers were teenagers than among children with older mothers (19).

Mother's educational level has a positive influence on desirable hygiene behaviour (20). Mothers with at least primary school education could be an important socioeconomic factor in determining child survival in developing countries (21). The findings in Ghana indicated there

was lower incidence of childhood diarrhea among children of educated mothers than among children of mothers with no education because of educated mothers practice good hygiene and better child feeding, all of which increase a child's resistance against infectious diseases (18). However, the study conducted in Nigerian indicated that uneducated ones, have poor perception of the risk associated with indiscriminate environmental and personal hygiene and childhood diarrhea (22).

The number of children living in the house is another important demographic variable that influences the prevalence of diarrhoea, where the risk of having diarrhoea rises as the number of children living in the house increases (16). A study in Southern Nations Nationalities and Peoples Region of Ethiopia, showed the numbers of children in a household and economic status of a household were found to be significant determinants of diarrhoeal morbidity (8).

2. Maternal Knowledge, Attitude and Household Hygiene Practices

2.1 Mothers' personal hygiene

The critical junctures of handwashing are before preparing food, eating, feeding a child, and after using the toilet and cleaning the bottom of a child. At this critical time hands should be properly washed with soap and only a small amount of water and scrub all surfaces of hands, including palms, back, between the fingers and especially under the fingernails, for at least 14-20 seconds, rinse well with running water (rather than rinsing in still water); and dry either on a clean cloth or by waving in the air (23, 24).

The use of bare hands to cleanse the bottom of a child after it has defecated is common practice in much of the world and provides an easy route for faecal pathogens to reach the environment (25). Studies showed that hand washing before eating is more common than after visiting or defecation (26). For example, in Peru only 11% of people were observed to wash hands after defecation (20) and similar study in Burkina Faso also showed that only 4% of mothers used soap to wash their hands after cleaning a child's bottom (25) and another study in Bangladesh showed the hand washing practice by households' before taking meals was only 10% and after defecation was only 8% and 25% used to cut their finger nails regularly (27). Literature reviews

indicated that hand washing with soap can reduce diarrhoea morbidity in the range of 30% to 47% even it is higher than diarrhoea reduction by providing clean water (27%) (25, 28).

The challenge is to find effective ways of getting people to wash their hands and develop the practices (28). Meta analysis study showed the observed rates of handwashing practices with soap at critical moments around the world range from 0-34 percent (23). It was also documented that children whose mothers fail to wash their hands with soap before preparing meals or after defecating are at much higher risk of contracting diarrhea (18).

A survey conducted by Ministry of Health, Environmental Health Department in 12 woredas showed the ranges of hand washing after visiting the toilet was 30-70 percent (14). Another study in Southern Nations Nationalities and Peoples Region of Ethiopia indicated 50% and 56% of the respondents in Mirab Abaya and Alaba respectively had the habit of hand washing after defecation. A survey conducted in Amhara region also indicated the respondents' level of awareness about the importance of hand washing at critical junctures was found to be 63.1% before eating, 45.7% before preparing food, 19% after defecation, and only 5.4% after cleaning the buttocks of a child. The respondents' hand washing practices was only 19.4% of used soap for hand washing in at least one critical juncture the day prior to the survey date (29).

2.2 Human excreta Disposal

The direct and indirect means or paths by which people come in contact with feces in their environment are via five different paths of fluids, fields, food, flies, and fingers (2). In areas where sanitation coverage is below 98% the only 2% remaining inadequate access to sanitation can contribute the diarrheal disease in the range of 70-90% (30). Appropriate latrine construction and use has been shown to reduce the incidence of diarrheal episodes by about 20 to 40% (6). A case-control study of the risk factors for diarrhoea in children under three in Burkina Faso reported that the unsafe disposal of child stools (left lying on the ground, thrown on a heap or outside the compound) was associated with a 50% increase in the risk of diarrhoea morbidity as compared to disposal in a latrine (25). Similar study also indicated that failure to dispose of stools hygienically was related to an increased of incidence of diarrhoea diseases from 30-50%

in young children (31). Another study conducted in Ghana showed that significant association was obtained between access to a toilet facility and the incidence of diarrhea. children living in homes without access to toilet have high incidence of diarrhea than the counterparts (18).

Knowledge, attitude, and practice study on diarrheal disease indicated that most mothers perceived fecal contamination was never presented as a direct cause of diarrhea and the feces of infants were not associated with germs because of insufficient knowledge about the health benefits of sanitation and hygiene (20, 32).

A survey conducted by Ministry of Health, Environmental Health Department, indicated more than 60% of respondents did not know any diseases transmitted through excreta and about 50 percent also believed that children's feces could not transmit diseases (14). Other pocket studies that had done in East Gojam Zone of Amhara region indicated that the risk of the occurrence of childhood diarrhoea was 3 times higher in the households with observable faeces in their yards than households with no observable faeces in their yards (9).

2.3 Water handling and storage

Distance to the water point and the time taken at the water point were the two major factors that determined access to potable water (29). When water is further than about a kilometer (greater than 30 minute round trip) from the home, mothers tend to restrict use of water for hand-washing. On the other hand, when water is freely available at close range (less than 1Km or 30 minutes round trip) , hand-washing becomes more frequent (25). Therefore, accessible, plentiful supplies of water facilitate encourage better hygiene in general, and more hand-washing in particular (25). This is plausible to the findings from Nicaragua, where children from homes with poor water availability had a 34% higher rate of diarrhoea than plentiful availability of water at home (25).

There is a significant difference between people's reported and observed practices: people's adequate knowledge about safer water practices is not being reflected in usage (24). Water free of pathogenic agents at the source may become contaminated with faecal material in the private domain through various behaviors, such as collection and storage of drinking water in open

vessels and in vessels which are not cleaned regularly, use of communal cups to draw water, and hands touching the water during collection, storage, and use (25, 33, 34). As stated in other similar studies, majority of mothers lack knowledge of association between contaminated water and diarrhoeal disease (32). Some studies suggested that the covers of the containers which were not tightened and unclean cover caused the water to be contaminated (33).

A study in Southern Nations Nationalities and Peoples Region of Ethiopia indicated that most people used dipping method of water drawing in the storage, however, some households who used dippers are put on racks or shelves to keep its cleanliness (35). Another study in this region also indicated that majority about three-fourth proportion of the study subjects knew and believed that water can transmit diarrheal diseases (36).

2.4 Child Feeding Practices

Diarrhoea was more prevalent among the children of mothers who prepared food unhygienically (37). The lack of washing hands with soap and water before handling food, feeding the child (including breast milk) is major causes of diarrhoea among children (38). Early supplementation is discouraged because it is usually associated with increased risk of illness, and especially diarrhoeal disease(7). Bottle-feeding is a major risk factor for diarrhoeal disease (25). Infants who are not breast fed have a 2-3 times greater risk of diarrhea than breast fed infants (39).

2.5 Domestic and Environmental Hygiene

Improving domestic hygiene practices is potentially one of the most effective means of reducing the global burden of diarrhoeal diseases in children (25). Domestic and environmental hygiene are household and surrounding cleanliness, garbage disposal, and animal management. Hygienic behaviors for household cleanliness and open defecation create potential dangers of infections from fecal pathogens in contaminated grounds. Children who play on grounds contaminated with fecal matter will have the risk of contracting diarrhea (1).

A study in Nigeria found that children of mothers with poor refuse-disposal practices the incidence of diarrhoea recorded more than those who had disposed safely (37).

Poor household sanitation create conducive environments that attract houseflies to the household (18). Flies are commonly thought of as a source of diarrhoeal disease which have been shown to carry pathogens on their feet, in their faeces and in the digestive juices which they regurgitate onto foods (25). Animal faeces also have been shown to harbor a number of organisms that may also be infective to children as well as the dung encourage fly proliferation. The review study in developing countries showed an association between animal faeces and diarrhoea. The study indicated that young children in houses in which domestic animals kept in home had 69% greater and 2.5 times more likely to suffer from diarrhoea than houses without animals (25).

3. Magnitude of Diarrhoeal Disease

Approximately 4 billion episodes of diarrhea per year cause 2.2 million deaths, most-1.7 million under 5 children, about 15% of all under 5 deaths are in developing countries (3). An estimated 88% of this burden is attributable to unsafe drinking water supply, inadequate sanitation, and poor hygiene (5). Cohort studies done in rural Bangladesh indicated that peak diarrheal morbidity was occurred in 0-17 months of age (40) and Ethiopia Demography and Health Survey (EDHS) showed young children aged 6-23 months are more prone to diarrhoea than children in the other age groups (7).

There is a general agreement that the cause of diarrhea is the result of various dimension interactions of socio-economic factors, household and environmental conditions, and personal behaviors that lead to create undesirable environment and diseases such as diarrheal especially on children (Figure 1).

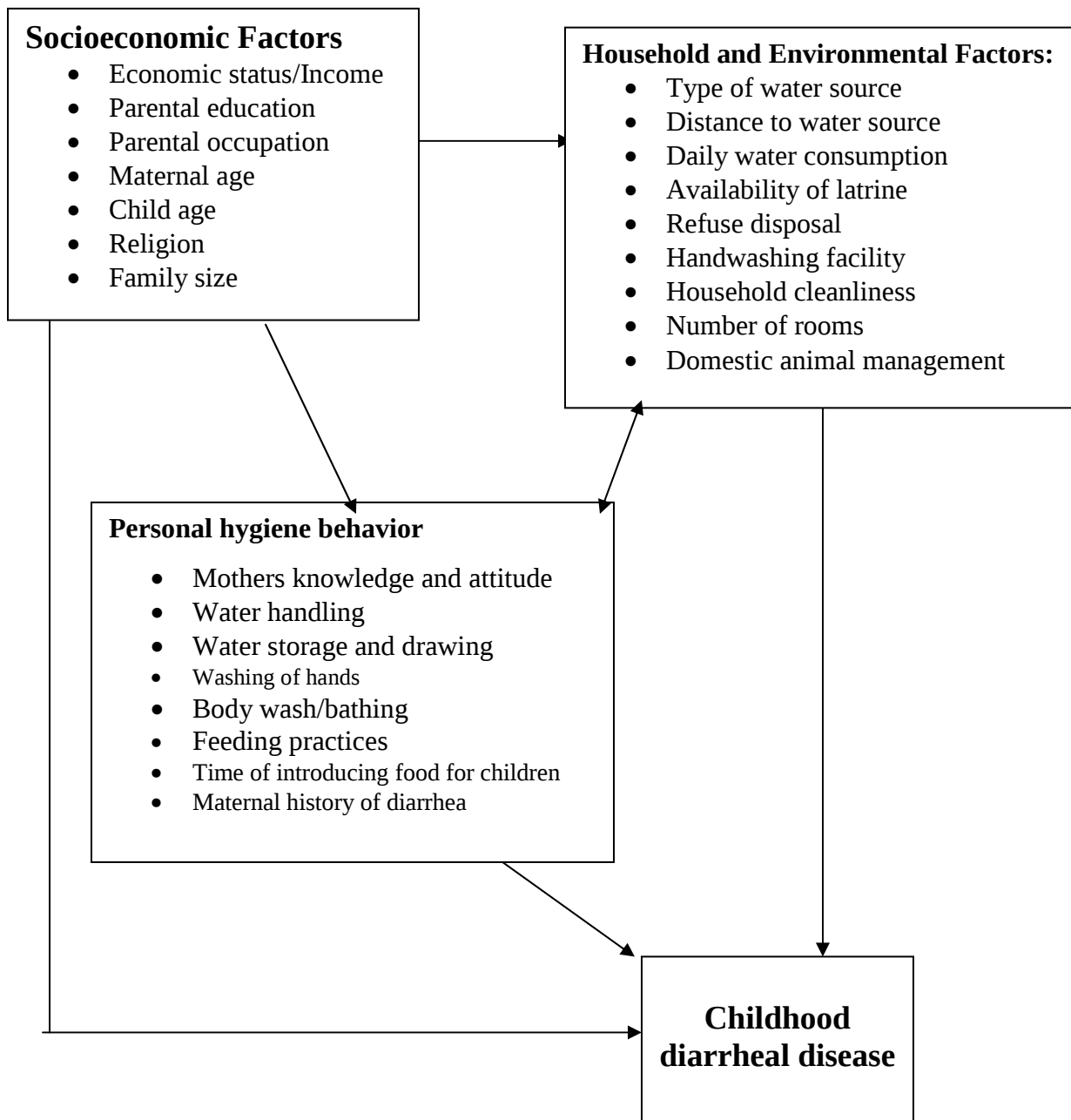


Figure 1: Conceptual framework of potential cause of childhood diarrhea.

3. SIGNIFICANCE OF THE STUDY

Most rural communities are characterized by poor domestic hygiene, inadequate water supply and open disposal of human excreta which are underlying factor for the occurrence of childhood diarrhea. As proxy, gap assessment of knowledge and hygienic practice of children's mothers/caretaker and their effects on the transmission of diarrheal disease pathogens should be identified based on personal and domestic hygiene practices.

Hygiene and environmental health is part of the health extension packages which is widely implemented in all parts of Ethiopia particularly by giving due attention to rural community at household leveled. Good hygiene and sanitation must start at the grass roots level of mothers' knowledge, attitude and practices where health is reflected on the well being of the family. The personal and domestic hygiene behaviors of mothers determine the health status of the children. Since similar studies are not ample in our country related to mothers' hygienic practices and childhood diarrhea, this study would serve as the baseline to identify the problem and help to take appropriate measures by policy makers, program planners and managers.

4. OBJECTIVE

General Objective

To assess knowledge, attitude and household hygiene practice of mothers of children aged less than five years related to the occurrence of diarrheal disease among under five children in Awi zone, west Amhara region.

Specific objectives

1. To assess mothers' knowledge and attitude about household hygiene.
2. To assess mothers hand washing practice based on key critical times.
3. To identify household and environmental hygiene practices of mothers that contributes for the occurrence of childhood diarrhea.

5. METHODS

5.1 Study Design

Community based cross-sectional study was conducted using both quantitative and qualitative research methods from January to February 2010 in the rural settings of Awi zone.

5.2 Study area

The study was conducted in Awi zone, which is one of the 11 zones in Amhara Regional State. It is located in the western direction of the region. The capital town of the zone is Injibara which is 432 kilometers North of Addis Ababa and 120 kilometers south of the regional capital town Bahirdar. Based on the 2007 National census the projected population of the zone is 1,037,498. Out of which 89% of the Population are residing in rural areas (41). The zone has seven rural and three town administrative woredas and further subdivided in to 18 urban and 167 rural kebeles. The study was conducted in 12 rural kebeles from four rural districts namely: Dangila, Banja, Guagusa shikudad and Ankesha woreda. The major ethnic group of the zone is Agew and second to Amhara. The population is predominantly Christian by religion.

There are 13 health centers and 178 health posts providing services for the community. Two health extension workers were assigned in each rural kebele health post. The potential health coverage of the zone is 93%. Malaria, intestinal parasite upper respiratory tract infections, and HIV/AIDS are the main health problems of the general community whereas in under five children: Malaria, diarrhea upper respiratory tract infections and gastroenteritis are common health problems of the zone. The sanitation and water coverage of the zone is 85 % and 63% respectively (42).

The zone consists of both highland and lowland areas, with an altitude ranging from 700 -2920 meters above sea level. Annual rainfall ranges from 700 to 2700 millimeter. There are three climatic zones: Woynedega (45%), Dega (15%) and kola (40%). The majority classification of ecological zone by altitude is high land 60% and lowland 40%.

5.3 Source population

The source population was all mothers with under five children in Awi zone.

5.4 Study population

The study population was those mothers having atleast one under five children in the selected kebeles.

5.5 Sample size determination

Sample size (n) was determined using the following single population formula. Since there was no any previous study that indicates prevalence of diarrhoea for Awi zone, it is preferred to use in EDHS 2005, the Amhara region two-weeks period prevalence of all diarrhea in children aged less than five years was used (P), margin of error (d), standard Z-score of 1.96 corresponding to 95% confidence interval ($Z\alpha/2$), design effect of 2 provide correction for the loss of sampling efficiency resulting from the use of multistage sampling technique and 10% non-response rate. EPI INFO was used to calculate the required sample size for a cross-sectional population survey of single population proportion with the following assumptions.

$$n = \frac{(Z\alpha/2)^2 * P(1-P)}{d^2}$$

$$n = \frac{(1.96)^2 * .146 * .854}{(0.05)^2} = 191$$

$$= 191 * 2 + 10\% * 191 = 422, \text{ Where:}$$

P- prevalence of under-five diarrhoea for population =14.6% (7).

$Z\alpha/2$ - critical value at 95% confidence level of certainty = 1.96

d- The margin error between the sample and the population = 5%

The desired sample size was 422 households that have at least one under five children.

5.6 Sampling procedure

5.6.1 Quantitative Survey

The study was conducted using multi-stage sampling scheme of simple random and stratified techniques. Since high number of under five diarrhea diseases reported from rural areas, the rural settings of Awi zone was purposively selected for this study. Taking into consideration the limitations of resources four Woredas of the zone was randomly selected from the total 7 rural woredas. The selected woredas were stratified into highland and lowland according into the climatic zone assuming agro-ecology makes a difference in diarrhea. From the total 78 rural kebeles of the selected woredas 12 kebeles were randomly selected by simple random sampling technique. By proportionally allocated according to their size of kebeles, 8 kebeles from high land and 4 kebeles from low land were selected for the study.

Prior to data collection, household census was done by health extension workers and community health agents to identify the eligible study subjects. The enumerated numbers of the eligible mothers were 18563. From the total 422 sample size, 257 samples were drawn from highland and 165 were from lowland areas. This was distributed to the respective kebeles proportionally to mothers having atleast one under five children household size. These households were coded and selected using simple random sampling technique from the full list of households using random number table. The selected households code were chalk marked on the house door to cross -check during data collection and supervision (Figure 2).

5.6.2 Qualitative survey

Focus Group Discussion (FGD) was conducted in order to generate information from the study area to supplement the result of the quantitative data. Four kebeles, two kebeles from highland, and two kebeles from lowland areas were selected purposively for focus group discussion. Information was collected from those selected mothers who have under five children and who did not participated in the quantitative study to minimize information dissemination biase during the study period.

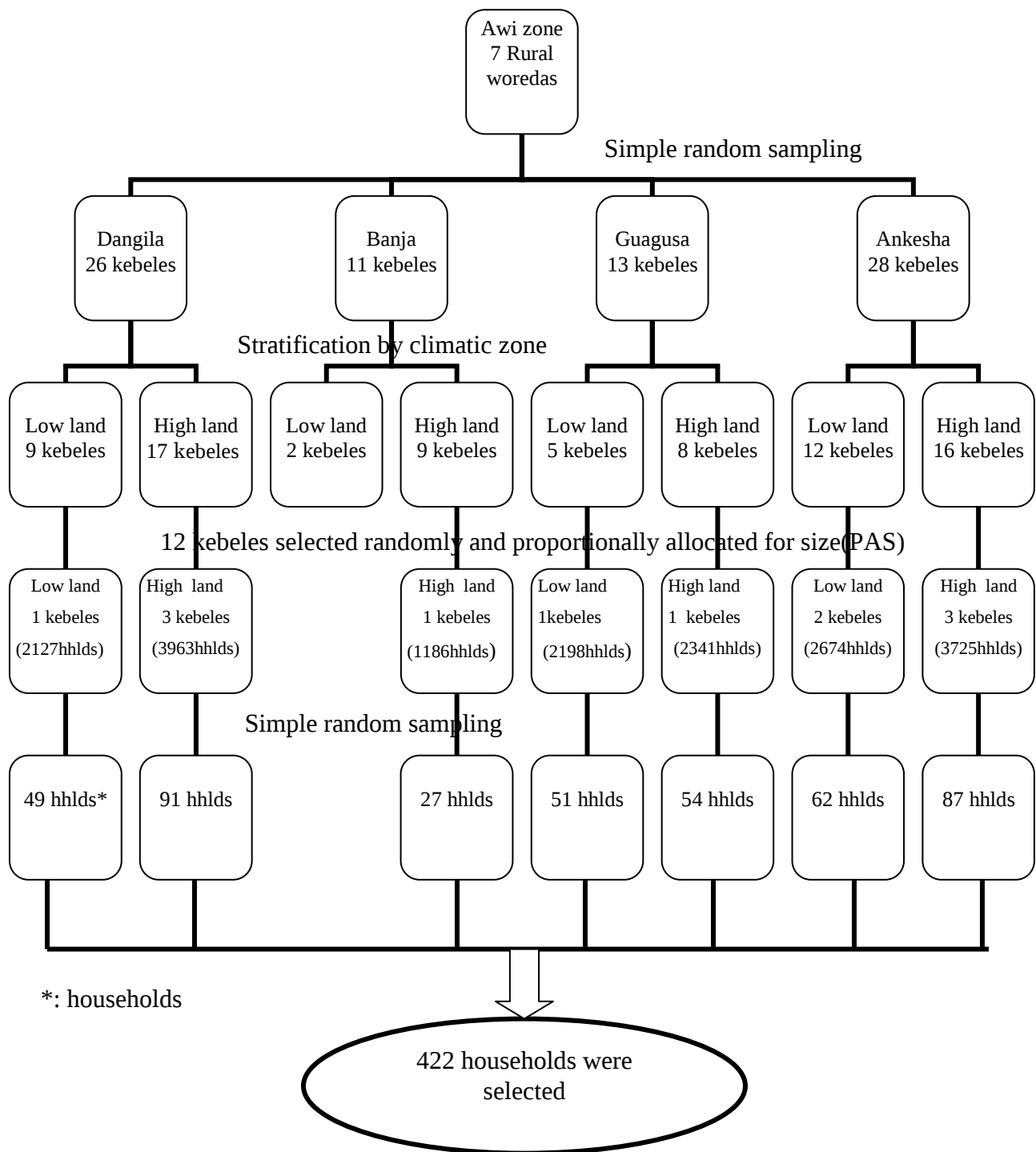


Figure 2: Schematic Representation of the sampling procedure of rural settings of Awi Zone, West Amhara Region, October, 2010.

Inclusion criteria

Households having a child/children under 5 years or if there was more than one child in the household the youngest child or a child having history of diarrhea no more than 14 days at the time of survey was selected to collect information on the child's demographic and health characteristics.

Exclusion

- Children with persistent diarrhea for greater than two weeks.
- Mothers/caretakers with under five children less than 18 years of age

5.7 Study Variables

Dependent variables

- The occurrence of diarrhoea in children within two weeks time of the survey.

Independent variable

Socio-demographic variables: Family economic status, family size, number of children, maternal age, education and occupation and religion.

Environmental sanitation: Presence of handwashing facility, availability of latrine, water source, amount of daily water consumption, distance to the water source, refuse disposal site, presence of animals in the house.

Knowledge and Household hygienic practices: Mother hand washing, personal hygiene of the mother and the child, water handling and storage, child feeding, feces disposal, food storage and preparation.

5.8 Data collection

Quantitative Data

A structured questionnaire was prepared first in English and then translated to Amharic. The latter version was back translated to English, to ensure its consistency. Other than the study kebeles, a total of 20 households were interviewed during the pre-test in 10 households of highland and 10 households in lowland of the rural areas. The questions that were difficult to respond during pre-test were rephrased. Twelfth grade completed six data collectors and 3 environmental health bachelors for supervisors who were fluent both in Amharic and local language (Awign) were recruited, and a two days intensive training on the data collection instrument and its administration, observation and measurements that need to be measured. Regular daily supervision of the data collectors and checking of the completeness and accuracy of data was made by the principal investigator.

Qualitative Data

For the qualitative study, semi-structured discussion guide was developed containing important points to explore the knowledge, attitude and household hygiene practices of mothers towards childhood diarrhea. The principal investigator conducted the FGDs and one supervisor was also involved as note taker. The discussions were recorded by using manually note taking and Tape-recorder. Four focus group discussion (FGDs) were conducted. To avoid information bias, mothers with under five children who were not involved in the interview were selected for focus group discussion. Since the required information was saturated, only in four FGDs were conducted (two groups from lowland and two groups from highland) and in each group 6-8 discussants in range were participated in the study.

5.9 Data quality

The questionnaire was developed by the principal investigators after reviewing different literatures. To keep its consistency, a questionnaire first prepared in English was translated to Amharic and then back to English. It was pre-tested with data collectors & supervisors and necessary correction was made after the pre-test to reach a common understanding prior to the actual data collection. Training manual was prepared and data collectors and supervisors were trained for two days on objective of the study, sources of bias, observation, and interview

techniques. To strengthen this data collection, guideline was prepared and given for each data collector and supervisor. Counter check up was done by the supervisors and principal investigator at the end of each day. Every 10th households, one household was randomly selected and re-interviewed by the supervisors to check for the reliability and consistency of data.

The collected information was rechecked for its completeness and consistency before entering the data into a computer. The data entry was made by principal investigator and 10% of the data were re-entered to see its validation. At the end of data entry data cleaning were made. Frequencies, cross tabulations, sorting and filters were used to check missed values and variables. Errors identified were corrected after revising the original questionnaire.

5.10 Data Analysis

Data were originally coded and entered in to EPI INFO version 6.04 statistical package. Then it was exported to SPSS 16.0 statistical package for cleaning and analysis statistical inferences. Recoding and re-categorizing was made for selected relevant variables. The data was presented using tables, percentages, graphs, and mean values. The strength of association between variables was determined using odds ratio, with 95% confidence interval. Significant variables ($p < 0.05$) at bivariate also further analyzed by stepwise logistic regression analysis method to compute adjusted odds ratio of the selected variables.

The qualitative data from manually written notes and tape-recorded discussions were transcribed, compiled together, and later translated into English and finally categorized in to thematic areas. Summaries of the transcripts were developed, highlight important findings, and quotations from the discussions extracted.

5.11 Ethical considerations

The ethical approval and clearance was obtained from Medical Faculty of Addis Ababa University ethical committee. Permission was also obtained from the concerned bodies of Awi Zonal Health Department and the selected Woredas Health Offices. Informed verbal consent was obtained from each respondent before data collection was started. Each respondent was assured the information provided by subjects was confidential and used only for the intended purpose of the research. Children who were found to be sick during the visits were told to visit nearby health facilities.

5.12 Dissemination of results

High priority will be given to the timely dissemination of the study findings to the relevant organizations and stakeholders. The plan of diffusion of the project result includes presentation at school of public health, Addis Ababa University. The report paper will be disseminated to the Amhara Region Health Bureau, Awi zone Health Department and other interested governmental and non governmental organizations. Eventually, effort will be made on publication in scientific journals.

5.13 Operational Definition

Diarrhoea: three-or-more loose or one-or-more watery stools over the past 24 hour's period.

Knowledge: is information stored in memory. Knowledge is assessed in terms of what the mother knows about personal hygiene and environmental sanitation and whether this knowledge is true or false.

Attitude: the predisposition to respond in a favorable or unfavorable manner towards the mother opinion about personal hygiene and environmental sanitation related childhood diarrhea.

Practice: The practice refers to health behavior practice is overt behaviour habit or customs of an individual with respect to household hygiene practices.

Hygiene: cleanliness or conditions and practices that serve to promote or preserve health

Critical time for hand washing practice – hand washing practices mainly after visiting latrines or cleaning bottom's of children, before preparing food and before eating or feeding children.

Occurrence of childhood diarrhoea – the presence of diarrhoea affected <5 children in the house with in two weeks period prior to survey, as reported by the mothers/caretaker of the child

Lowland: areas called kolla in Amharic which is below 1,500 meters above sea level

Highland: area called woyna dega and dega in Amharic which are 1,500 meters above sea level

6. RESULTS

6.1 Socio-demographic characteristics

A total of 422 households were included in this study, which makes the response rate 100%. Out of these households, 257 (60.9%) were from highland and 165(39.1%) from lowland rural areas.

One hundred twenty six (29.9%) households had family size 4 or less persons and 296(70.1%) households had a family size of greater than five persons in their families, with a mean (SD) household family size of 5.51 ($\pm$ 1.76). There were 345 (81.8%) households with only one child, 24 (17.5%) with two children and the rest 3 (0.7%) households had three under five children in their family (Table 1). Three hundred seventy nine (89.8%) of respondents relation were mothers for the children.

Ages of respondents ranged from 18 to 52 with a mean of 29.9 $\pm$ 6.8 (SD) years. More than 70% of the mothers were below the mean age. Three hundred fifty eight (84.8%) of mothers were married, almost all 417 (98.8%) were orthodox by religion and 354 (83.9%) were Agew by ethnicity. Three hundred thirty eight (80.1%) mothers were illiterate and the rest attended informal or elementary school and above. As regards to the occupation of the mothers, 90.3 % were housewives. About 29.6% of the respondents monthly earned less than 250 birr and 21.8% greater than 1000 birr (Table 1). Slightly greater than half of the respondents had a functional radio (54.5%) as their only source of broadcast information.

Table 1: Distribution of respondents by socio-demographic characteristics, Awi zone, West Amhara region, April, 2010.

Characteristics (n=422)	Frequency	Percent
Family size		
≤ 4	126	29.9
> 5	296	70.1
No. of under 5 children in households		
One	345	81.8
Two	24	17.5
Three	3	0.7
Respondents' age in years		
18-24	97	23.0
25-29	112	26.5
30-34	117	27.7
≥ 35	96	22.8
Marital status		
Married	358	84.8
Unmarried/single	18	4.3
Widowed	28	6.6
Divorced/separated	18	4.2
Religion		
Christian	417	98.8
Muslim	5	1.2
Ethnicity		
Agew	354	83.9
Amhara	68	16.1
Maternal education		
Illiterate	338	80.1
literate	84	19.9
Occupation of the respondent		
Housewife	381	90.3
Others	41	9.7
Households' Monthly income		
< 250 birr	125	29.6
250-499 birr	84	19.9
500-999 birr	63	14.9
≥ 1000 birr	92	21.8
Refused /Don't know	58	13.7

6.2 Environmental health Characteristics

From the total of 422 households, 302 (71.6%) had corrugated iron sheet roof houses. Three hundred forty one households (80.8%) had houses with mud floor while the rest used animal dung to polish the floor. In 64.2% of the households it was observed domestic animals such as hens, dogs, calves, and sheep kept in the same rooms with people while the rest kept far from an average distance of 6.5 meters from living house (Table 2).

With regard to latrines, 300 (70.1%) of the households were equipped with traditional pit latrines and 122 (28.9%) had no latrine. Majority, 234 (55.5%) of the respondents explained that they were always using latrines. Sixty nine percent of latrines were > 6 meters far away from houses. The young children faeces disposal method was assessed. Two hundred fifty six (60.7%) households disposed their children's faeces properly by throwing into latrine but the rest 39.3% dispose improperly by throwing out of houses somewhere either in the garden or in the bush. There were observable faeces in the compound of 21.3% of the households. In sixty one (25.7%) households were observed that there were fresh faeces in the pit of the latrine hole.

Two hundred (47.4%) of the households disposed their refuse in open field and the rest used prepared pit for burnt or buried or as fertilizer for compost or used mixed methods (Table 2).

In the study area, protected spring or hand pump was a common source for drinking water use. 55.7% of the respondents used protected spring/well as the source of their drinking water and the remaining 44.3 % used unprotected spring/well or river. However, the majority of the households, 54.7% used river as common source for domestic use for cleaning or washing purpose. Regardless of the accessibility type of protected water source, three hundred eleven (73.7%) of the respondents used a source of water within thirty minutes walk, and over 26.3% of households required more than 30 minutes to fetch their water. The average daily water consumption for household was 58 liters and the mean per capita per day water consumption was 11 (± 3.7) liters. More than forty six percent of households daily water consumption were 58 l/day and 53.6% less than 58 l/day as compared to the mean daily water consumption per household per day (58 lit(± 27)). Out of the total households 88.2% used clay pot where as 11.8% used Jerican containers commonly to collect water.

With regard to the handwashing, only 20 (4.7%) had handwashing facility (HWF), sixty (80.0%) of which was sited near latrine facilities and the rest was in home and kitchen (Table 2)

Table 2: Environmental health conditions of the study households, Awi zone, West Amhara region, April, 2010.

Characteristics	Frequency	Percent
Distance of domestic animals living from the living house (n=422)		
< 1 meters(shared the same room)	271	64.2
1- 6 meters	68	16.1
> 6 meters	83	19.7
Latrine facilities		
Available	300	71.1
Not available	122	28.9
Distance of latrine from the house (n= 300)		
< 6 meters	93	31.0
6-10 meters	113	37.7
≥ 10 meters	94	31.3
Feces observed around the pit-hole (n=300)		
Yes	77	25.7
No	223	74.3
Feces around the yard (observational) (n=300)		
Visible feces	64	21.3
No visible feces	236	78.3
Refuse disposal*		
Open field	200	47.4
Pit	119	28.2
Farm field as fertilizer/compost	111	26.3
Source of drinking water		
Protected	235	55.7
Unprotected	187	44.3
Water source for domestic purpose other than drinking		
Protected	129	30.6
Unprotected	293	69.4
Distance to water source/round trip/		
< 30 minutes	311	73.7
≥ 30 minutes	111	26.3
Presence of hand washing facilities		
Yes	20	4.7
No	402	95.3

* Multiple responses

6.3 Knowledge, attitude and practices of the respondents about water, sanitation, and personal hygiene

Mothers' knowledge about water, sanitation, and personal hygiene related to childhood diarrhea was assessed by asking questions about cause of childhood diarrhea related to water, human faeces, or personal hygiene.

Half of the study subjects, 215(50.9%) knew that contaminated water can transmit diarrheal diseases. Among those water contaminated by animals and faeces was mentioned by 121 (56.3%) and 111 (51.6%) respondents as the major causes of childhood diarrhea respectively. Two hundred forty one (57.1%) of the study subjects could not know the possibility of contamination of water from safe sources but only 159 (37.7%) knew water may be contaminated at home during handling even if the source is safe (Table 3). Factors such as withdrawing utensils, 99 (61.9%), store water in uncovered containers, 64 (40%) and store water in unclean container 60 (37.5%) were mentioned as main contribution factor for the contamination of drinking water at home.

With regard to sanitation more than half of the study subjects 244 (57.8%) knew that human feces can transmit under five diarrheal diseases. Among those 201 (82.0%) of the respondents mentioned all types of faeces could cause childhood diarrheal diseases (Table 3).

To assess the level of respondent awareness about critical junctures, respondents were asked to mention spontaneously when they think to wash their hands is important. Accordingly, 407 (96.4%) before preparing food, 357 (84.6%) before eating food, 213 (50.5%) before feeding children, 177 (41.9%) after defecating, 173 (41%) after eating food and 138(32.7%) after cleaning a child's buttocks were mentioned by the respondents as important wash hands time (Figure 3).

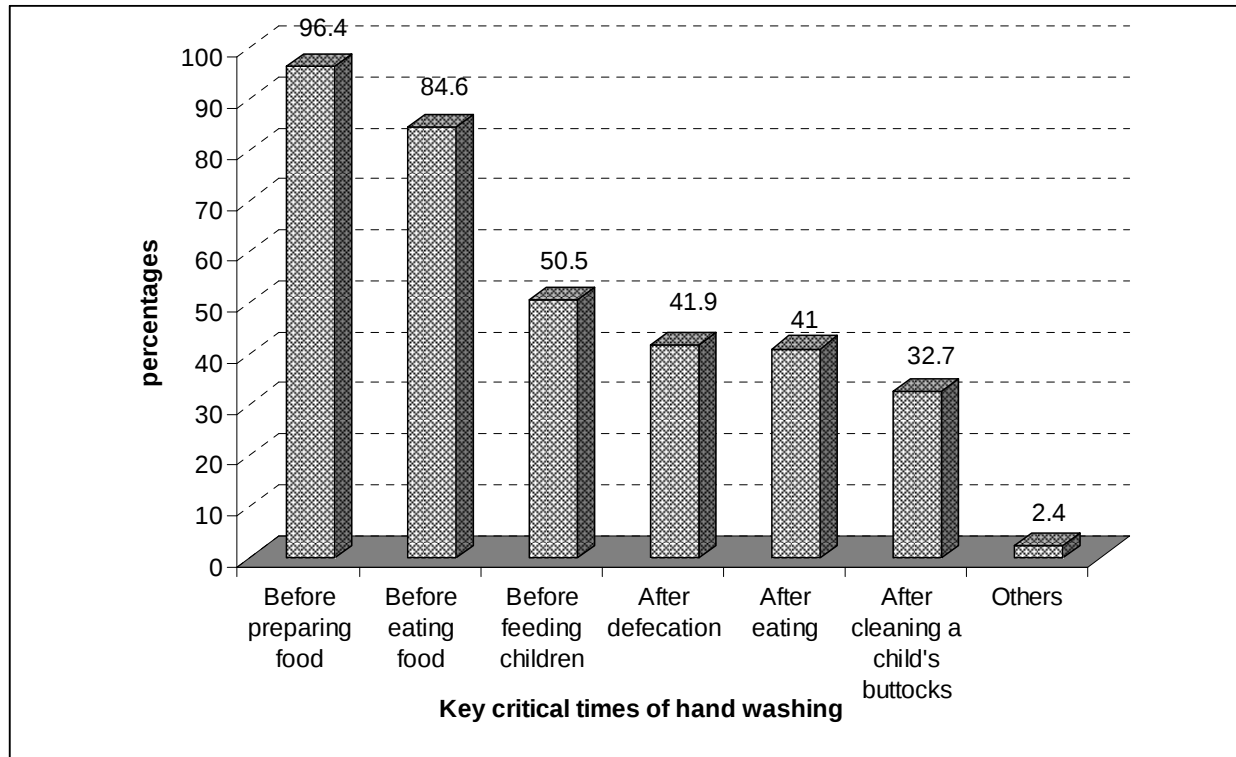


Figure 3: Response of mothers/caretakers awareness about key critical handwashing times, Awi zone, west Amhara region, April, 2010.

Majority of the study subjects 344(81.5%) knew that flies can transmit diarrheal diseases. However, fifty- five (13.0%) of the respondents did not know that diarrheal diseases could be transmitted by flies. There are also misconceptions that 10 (2.9%) of the respondents mentioned malaria as a diseases transmitted by houseflies.

Table 3: Respondents' knowledge about water and sanitation related to under five diarrheal diseases in Awi zone, west Amhara region, April, 2010.

Characteristics	Frequency	Percent
Contaminated water can transmit childhood diarrhea (n=422)		
yes	215	50.9
No	121	28.7
Don't know	86	20.4
Types of water responsible to cause diarrheal diseases* (n=215)		
Any type of water	53	21.5
Faecally contaminated water	111	51.6
Water contaminated by animals	121	56.3
Water from safe sources can be contaminated in the house (n=422)		
Yes	159	37.7
No	241	57.1
Don't know	22	5.2
Can feces transmit under five children diarrheal diseases? (n=422)		
Yes	244	57.8
No	112	26.6
Don't know	66	15.6
Types of feces resulting under five diarrheal diseases (n=244)		
Children feces	13	5.3
Adult feces	14	5.7
All types of feces	201	82.0
Don't know	17	6.9
Flies can transmit under five diarrheal diseases (n=422)		
Yes	344	81.5
No	23	5.5
Don't know	55	13.0

*multiple responses

The attitude of the mothers/care takers about water, hygiene, and sanitation were assessed. Two hundred thirty three (55.2 %) of the respondents believed that safe water sources could be contaminated at home during handling or storage.

With regard to handwashing, 293 (69.4%) of the respondents agreed that mother's unwashed hands can transmit under five children diarrheal diseases and whereas the rest 70 (16.6%) disagree with this idea. The respondents attitude washing their hands before preparing all types of food, after eating, after defecation and after cleaning children's anus were 321 (76.1%), 307 (72.7%), 288 (68.2%) and 263 (62.3%) respectively believed to wash always while the rest did it sometimes and small proportions believed never to do it (Table 4).

Table 4: Attitude of mothers/care takers about water, sanitation, and personal hygiene related to under five diarrheal diseases in Awi zone, West Amhara region, April 2010.

Characteristics (n=422)	Frequency	Percent
Safe water sources can be contaminated at home		
Agree	233	55.2
Undecided	29	6.9
Disagree	160	37.9
Mothers' unwashed hands can transmit childhood diarrhea		
Agree	293	69.4
Undecided	59	14.0
Disagree	70	16.6
Wash hands before preparing all types of food		
Always	321	76.1
Sometimes	95	22.5
Never	6	1.4
Wash hands before eating		
Always	307	72.7
Sometimes	108	25.6
Never	7	1.7
Wash hands after defecation		
Always	288	68.2
Sometimes	124	29.4
Never	10	2.4
Wash hands after cleaning children's anus		
Always	263	62.3
Sometimes	142	33.6
Never	17	4.0

In the same way of knowledge and attitude, questions were asked to assess practices among mothers towards childhood diarrhea. Majority of the respondents 371 (87.9%) were found to wash their water containers always before fetching water. Two hundred sixty four (62.6%) of the study subjects used Leaves /grasses to cover their water collection container during transportation or storage. According to the observation made during data collection, one hundred sixteen (27.5%) of the respondents stored the storage container in having a possibility of reaching by domestic animals.

Regarding withdrawing water from the storage, 289 (68.5%) of respondents used drew water by dipping, 109 (25.8%) by pouring and the rest 24 (5.7%) used mixed methods. In addition, 222 (52.6%) and 200 (47.6%) of the respondents were placing dipping or drinking utensils on the safe places and on unsafe places respectively.

The respondents' practice of handwashing at critical junctures was 400 (94.8%) before eating, 379 (89.8%) after eating, 338 (80.1%) before preparing food, 134 (31.8%) after defecation, 106 (25.1%) after cleaning the buttocks of a child and only 23 (5.5%) before feeding children (Figure 4). After cleaning child's bottom, 51.4%, and 45.5% of the respondent washed their hands with only water and with soup to wash their hands respectively (Table 5).

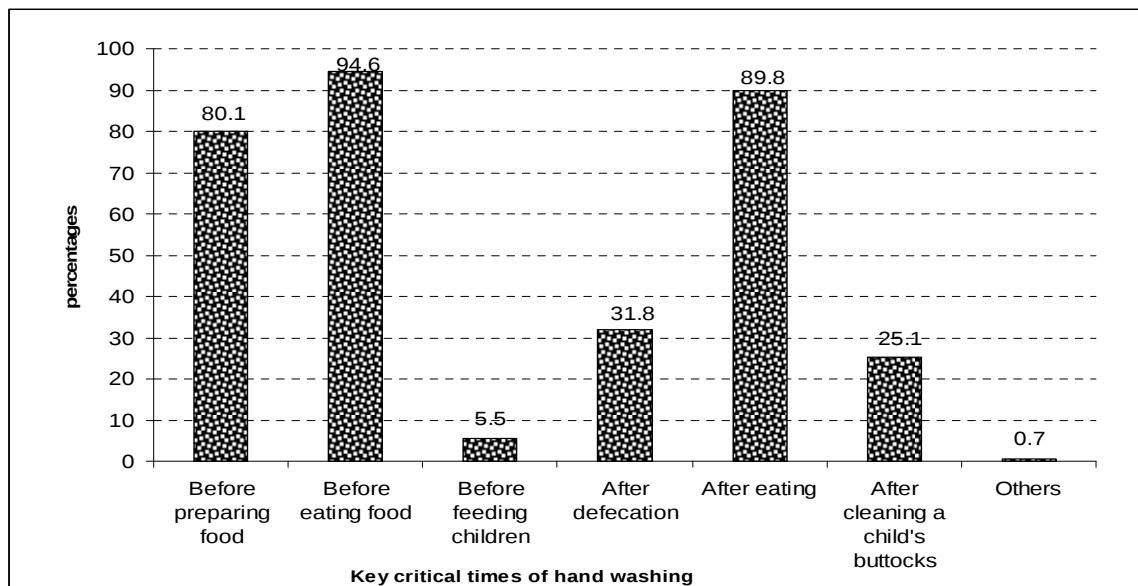


Figure 4: Mothers/caretakers handwashing practices at key critical times, Awi zone, west Amhara region, April, 2010.

Respondents frequency of handwashing with soap prior to one day of the interview was 320 (75.8%) atleast in one critical times and the rest 102 (24.2) never used soap to wash their hands (Table 5). However, 157 (37.2%) of the respondents used soap frequently for other purposes such as washing their clothes (44.6%), contact with oily foods (30.6%), washing of body (24.2%),after sweeping animals dung (22.3%), and other purposes like washing utensils (6.4%) (Figure 5).

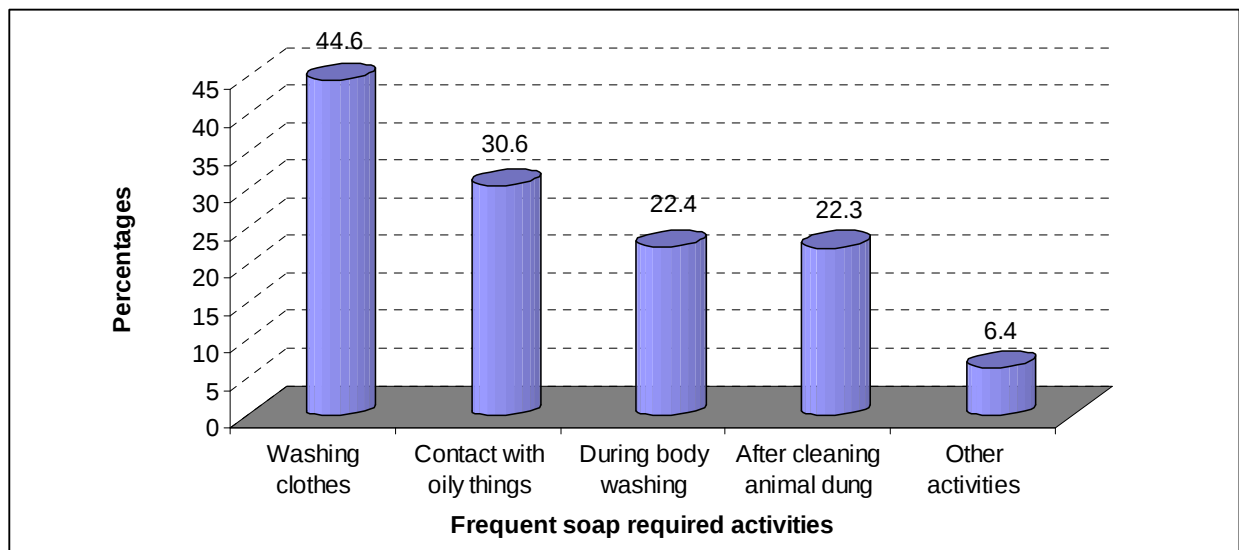


Figure 5: Activities on which respondents usually used detergents during washing, Awi zone, West Amhara Region, April, 2010.

Two hundred forty two (57.3%) of the respondents were practiced to wash their hand after defecation. Among those who used soap during hand washing after defecation were 206 (48.8%) and the rest washed with only plain water or not washed at all or washed sometimes.

During data collection 121 (28.7%) of the households observed to have a bar of soap in the home on the day of assessment and the majority (71.3%) of respondents did not have any soap during assessment. Concerning personal hygiene the majority 254 (60.2%) of the respondents took body bath every week and 327 (77.5%) of mothers/caretakers short trimmed and cleaned their finger nail (Table 5).

Table 5: Water handling and personal hygiene practices related to under five diarrheal diseases ,
Awi zone, West Amhara region, April, 2010.

Characteristics (n=422)	Frequency	Percent
Frequency of washing storage container		
Always before fetching	371	87.9
Every other day	40	9.5
Weekly	11	2.6
Types of cover material used		
Tighten container cover	148	35.0
Leaves /grasses/ Plastic/festal/ Cup/can	264	62.6
No cover at all	10	2.4
Methods of withdrawal water from storage container		
Pouring	109	25.8
Dipping	289	68.5
Both	24	5.7
Mothers wash hands after defecation		
Always	242	57.3
Sometimes	180	42.7
Respondents often use to wash hands after defecation with		
Soap and water	206	48.8
Water only	216	51.2
Frequency of hand washing with soap per day at critical junctures		
Not used soap	102	24.2
Use soap ≥ 1 times per day	320	75.8
Mother's hand washing practices after cleaning the child anus		
Wash with water only	217	51.4
Wash with soap and water	192	45.5
Wipe hands with rag or leaves/grasses	7	1.7
Others	6	1.4
Cleanliness of mother's finger nail		
Short trimmed and cleaned	327	77.5
Clean but not short trimmed	63	14.9
Not cleaned not short trimmed	32	7.6
Respondents interval of taking body bath		
< 1 week	254	60.2
1-2 weeks	88	20.9
2-4 weeks	41	9.7
> 1 month	39	9.2

6.4 Child demographic characteristics and childcare practices

In 422 study households there were a total of 502 under five children, of these, 309 (61.6%) in highland and the rest 193 (38.4%) in lowland rural areas of the study districts. Out of the total 502 children, 422 were included as index children in the study. Among those about 234 (55.5%) were below the age of 24 months. The mean (SD) age of index children was 26.3 (16.2) months (Table 6). The index children were equal by sex. The majority 374 (88.6%) of the index children were born in home and one hundred sixty seven (39.6%) children had four and above birth order. At the time of the survey 368 children whose age was 9 months and above had got immunized for measles were 242 (67.7%) by history and 103(28%) by checking card but the rest 23(6.3%) did not immunized.

Out of the total 422 mothers 69 (16.4%) breast fed their children exclusively. Two hundred twenty-five (53.3%) fed their child other types of food in addition to the breast milk. Out of the total 353 mothers/caretakers 182 (51.9%) who started supplementary feeding for their children before the child reached 6 months, and 171 (48.4%) after the age of 6 months. From children started supplementary feeding, two hundred thirty two (65.5%) of the children fed by their hand and 151 (42.7%) fed by their mothers hand.

At the time of the survey, of the 422 mothers/caretakers, 22 (5.2%) had history of diarrhea within fourteen days of interview. The two-week period prevalence rate for under five index children in the study area was 87 (20.6%)(Table 6). Regarding actions taken by mothers/caretakers whose children got diarrhoea at the time of the survey, fifty one (58.6%) took their child to the nearby health post or other health institution to seek medical help but 18 (20.7%) did nothing to manage the diarrhoea.

Tables 6: Child demographic, childcare practices and health factors in relation to childhood diarrhoea morbidity, Awi zone West Amhara region, April, 2010.

Characteristic	Frequency	Percent
Index child age in months (n=422)		
0-6	49	11.6
7-11	50	11.8
12-23	76	18.0
24-35	81	19.2
36-59	166	39.3
Place of birth (n=422)		
Health institution	48	11.4
Home	374	88.6
Breast feeding(BF) status (n=422)		
Exclusive BF	69	16.4
Partial BF	225	53.3
Not BF	128	30.3
Initiation of supplementary feeding (in months)(n=353)		
< 4	77	21.8
5-6	105	29.8
>6	171	48.4
Feeding methods (n=353)		
Spoon	8	2.3
Cup and spoon	17	4.8
Cup/bottle	31	8.8
Mothers hand	151	42.7
Himself	232	65.5
Maternal diarrheal morbidity in last two weeks (n=422)		
Yes	22	5.2
No	400	94.8
Childhood diarrhoea in the last two wks period (n=422)		
Present	87	20.6
Absent	335	79.4

The index child in the age category of 12-23 months is highly affected by diarrhea with proportion of 26.4% whereas children less than 1 year and greater than 2 years were least affected age group (Figure 6).

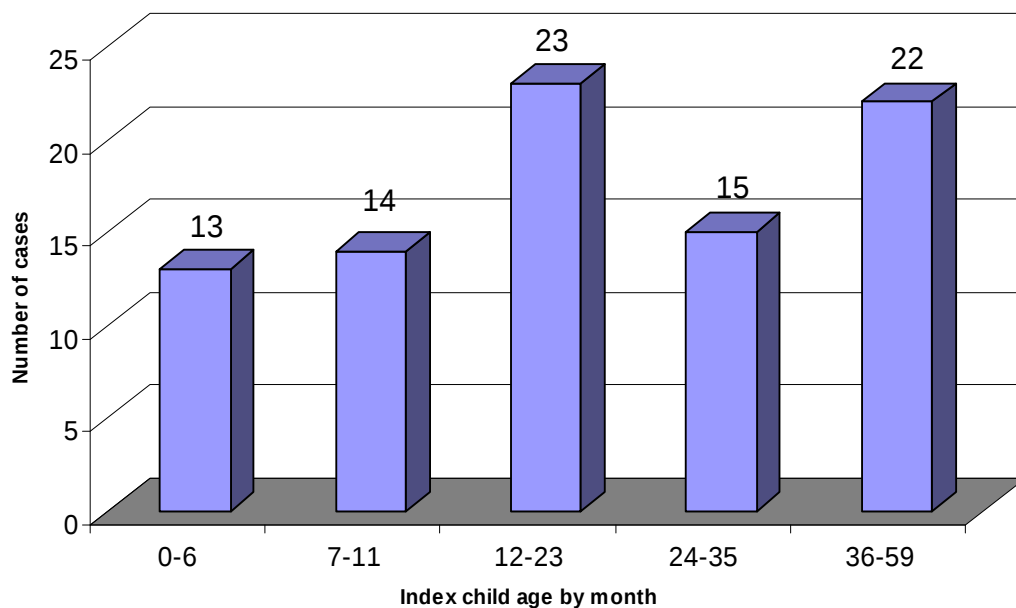


Figure 6: Distribution of index child childhood diarrhea by age category in rural areas of Awi zone, West Amhara region, April, 2010.

6.5 Bivariate analysis

The selected socio-demographic characteristics of the households' variables such as family size, marital status, educational status, religion, and ethnicity were failed to show statically significant association with childhood diarrheal morbidity whereas childhood diarrhoeal morbidity was significantly associated with maternal and child age. Those children who are born to mothers older than forty years of age were 2.5 times more likely to have diarrhoea than children who are born to mothers in the age category of 18-24 years of age [COR: 2.50,95% CI (1.09,5.73)]

Statistical significance was observed with the age of index children less than two years old. Children aged 0–6 months had more than twice, 7–11 months more than two and half times and 12–23 months about three times higher odds of experiencing diarrhoea than children aged 36 – 59 months [OR: 2.36, 95% CI: (1.01, 5.49); OR: 2.55, 95% CI: (1.11, 5.82); and OR: 2.84, 95% CI: (1.36, 5.81)], respectively.

Table 7: Households' selected socio-demographic factors in relation to childhood diarrhoeal morbidity in Awi zone west Amhara region, April, 2010.

Characteristics	Occurrence of diarrhea		COR (95%CI)
	Yes	No	
Index child Age in months(n=422)			
< 6	13 (26.5%)	36 (73.5%)	2.36 (1.01,5.49)*
7 – 11	14 (28.0%)	36 (72.0%)	2.55 (1.11,5.82)*
12 – 23	23 (30.3%)	53 (69.7%)	2.84 (1.36,5.81)*
24 – 35	15 (18.5%)	66 (81.5%)	1.49 (0.68,3.22)
36 – 59	22 (13.3%)	144 (86.7%)	1.00
Maternal age			
18-24	17 (17.2%)	82 (82.8%)	1.00
25-29	25 (22.3%)	87 (77.7%)	1.38 (0.69,2.75)
30-34	19 (16.2%)	98 (83.8%)	0.94 (0.46,1.91)
35-39	12 (22.6%)	41 (77.4%)	1.41(0.62,3.23)
≥ 40	14 (34.1%)	27 (65.9%)	2.50 (1.09,5.73)*

*statistically significant at P<0.05

Table 8 presents selected environmental health characteristics of the households in relation to under-five diarrhoeal morbidity. From the environmental health condition variables included, housing floor type, living domestic animal in the same room, household size, refuse disposal, accessibility of water sources, availability of handwashing facilities and climatic zones did not show significant association with under-five diarrhoeal morbidity.

Availability of latrines in the household [COR: 2.47, 95% CI: (1.51, 4.02)] were significantly associated with under five diarrheal morbidity. Respondents who had no traditional pit latrine were two and half times more likely to expose their children for diarrhea compared to those who have latrine. An association also has been found in those households where observable faeces had been seen around the compound. The children living in those households where visible feces had been observed were more than two times likely to have diarrhea than households with no observable feces in their backyard [OR: 2.13, 95% CI: (1.08,4.18)].

Statistically significant association was also found between under-five childhood diarrheal diseases and use of unprotected water source. The risk of occurrence of childhood diarrheal in households using unprotected water sources for drinking and domestic purpose was 1.6 [OR: 1.64, 95% CI :(1.02, 2.63)] and 1.75 [OR: 1.75, 95% CI : (1.0,3.06)] times higher than in those households using protected sources of drinking water respectively.

Table 8: The occurrence of childhood diarrhoea related to the selected environmental factors, Awi zone, west Amhara region, April, 2010.

Characteristics	Occurrence of diarrhea		COR (95% CI)
	Yes	No	
Latrine available(n=422)			
Available	48 (16.0%)	252 (84.0%)	1.00
Not available	39 (32.0%)	83 (68.0%)	2.47 (1.51,4.02)*
Feces around the yard (observational) (n=300)			
Visible feces	16 (25%)	48 (75%)	2.13 (1.08,4.18)*
No visible feces	32 (13.6%)	204 (86.4%)	1.00
Source of drinking water (n=422)			
Protected	40 (17.0%)	195 (83.0%)	1.00
Unprotected	47 (25.1%)	140 (74.9%)	1.64 (1.02,2.63)*
Water source for domestic purpose other than drinking (n=422)			
Protected	19 (14.7)	110 (85.3)	1.00
Unprotected	68 (23.2)	225 (76.8)	1.75 (1.0,3.06)*
Distance to water source/round trip/ (n=422)			
< 30 minutes	59 (19.0%)	252 (81.0%)	1.00
≥ 30 minutes	28 (25.2%)	83 (74.8%)	1.44 (0.86,2.41)
Climatic zone (n=422)			
highland	47 (18.3%)	210 (81.7%)	1.00
lowland	40 (24.2%)	125 (75.8%)	1.43 (0.88,2.30)

*statistically significant at $P < 0.05$

Respondents' awareness and attitude regarding risk factors of childhood diarrheal morbidity related to water, sanitation and personal hygiene were assessed. No association was found between any of the respondents' knowledge and attitude questions respect to risk factors for childhood diarrhea.

The observed and self response practices of mothers were assessed. An association has been found in the types of covering materials used in the transportation or storage of drinking water. Respondents who did not use covering materials and those who used leaves or grasses or plastic as covering were more than 4 [OR: 4.27, 95% CI: (0.91,19.30)] and 2 [OR: 2.01, 95% CI: (1.12,3.61)] times more likely contaminate water than those who used tightened container cover respectively. Regarding type of drinking water storage containers, frequency of washing storage container, methods of drawing water and use of separate material for drawing water did not show statistically significance.

Statistical significance was found between latrine utilization and the occurrence of childhood diarrhea and the risk was more than two times higher [OR: 2.12, 95% CI: (1.25, 3.58)] in those respondents who used open defecation than those respondents who used to defecate in the latrine. The occurrence of childhood diarrhea was also more likely to be reduced in respondents who washed their hands with soap atleast once in key critical times per day than respondents who did not use soap during their hand washing per day [OR: 1.67, 95% CI: (1.01, 2.81)].

According to this study the occurrence of diarrhea was significantly associated with those mothers who always practiced hand washing after defecation as compared those mothers who sometimes or did not wash their hands after defecation [COR: 1.78, 95% CI: (1.08,2.95)].

An association also has been found in mothers personal hygiene of taking shower time interval [OR: 2.26, 95% CI: (1.01, 5.01)] by respondents and finger nail not trimmed and cleaned [COR: 2.24, 95% CI: (1.10, 4.55)] were significantly associated with childhood diarrhea morbidity.

Disposal methods of children feces, availability of soap in the home during observation, and flies infestation in the home did not show significant association with under-five diarrheal morbidity.

Table 9: The occurrence of childhood diarrhoea related to the selected water handling, sanitation, and personal hygiene practices of the respondents, Awi zone, West Amhara region, April, 2010.

Characteristics (n=422)	Occurrence of diarrhea		COR (95%CI)
	Yes	No	
Types of cover material used			
Tightened container cover	20 (13.5%)	128 (86.5%)	1.00
Leaves /grasses/festal	63 (23.9%)	201 (76.1%)	2.01 (1.12,3.61)*
No cover at all	4 (40%)	7 (60%)	4.27 (0.91,19.30)*
Mothers wash hands after defecation			
Always	40 (16.5%)	202 (83.5%)	1.00
Sometimes	47 (26.1%)	133 (73.9%)	1.78 (1.08,2.95)*
Frequency of hand washing with soap per day			
Not used soap to wash	28 (27.5%)	74 (72.5%)	1.67 (0.99,2.81)*
>1 times	59 (18.4%)	261 (81.5%)	1.00
Cleanliness of mother's finger nail			
Short trimmed and cleaned	64 (20)	256 (80)	1.00
Clean but not short trimmed	9 (14.3)	54 (85.7)	0.66 (0.31,1.42)
Not cleaned not short trimmed	14 (35.9)	25 (64.1)	2.24 (1.10,4.55)*
Latrine utilization			
always	37 (15.8%)	197 (84.2%)	1.00
sometimes	15 (23.1%)	51 (76.9%)	1.59 (0.81,3.14)
Never used	35 (28.5%)	88 (71.5%)	2.12 (1.25,3.58)*
Respondents interval of shower taking			
< 1week	46 (18.1%)	208 (81.9%)	1.00
1-2 weeks	19 (21.6%)	69 (78.4%)	1.25 (0.65,2.36)
2-4 weeks	9 (22.0%)	32 (78.0%)	1.27 (0.52,3.02)
> 4 weeks	13 (33.3%)	26 (66.7%)	2.26 (1.01,5.01)*

* Statistically significant

Table 10 presents maternal childcare practices in relation to diarrheal morbidity. Time of initiation of supplementary feeding was significantly associated with childhood diarrheal morbidity. The odds of having diarrhea in children who started supplementary feeding before the age of 4 months were about two and half times higher than the odds in children who were initiating supplementary feeding above six months of age, [OR: 2.42, 95% CI: (1.22, 4.77)].

Significant association also observed between mothers and children diarrheal morbidity, and the risk of occurrence of childhood diarrhea was more than 5 times higher [OR: 5.20, 95% CI: (2.01, 13.57)] in respondents presenting diarrhea than the respondents who did not have diarrhea.

The occurrence of childhood diarrhea had no significant association with place of birth, birth order, and current breast feeding status, feeding methods and measles vaccination (Table 10).

Table 10: Selected maternal childcare practices in relation to childhood diarrhoea morbidity in Awi zone of West Amhara region, April, 2010.

Characteristics	Occurrence of diarrhea		COR (95%CI)
	Yes (%)	No (%)	
Initiation of supplementary feeding (in months) (n=353)			
≤ 4 months	24 (31.2%)	53 (68.8%)	2.42 (1.22, 4.77)*
5-6 months	20 (19%)	85 (81%)	1.25 (0.63, 2.48)
>6 months	27 (15.8%)	144 (84.2%)	1.00
Maternal diarrheal morbidity (n=422)			
Yes	12 (54.5%)	10 (45.5%)	5.20 (2.01, 13.57)*
No	75 (18.8%)	325 (81.3%)	1.00

* Statistically significant at $P < 0.05$

6.6 Multivariate analysis

To avoid an excessive number of variables and unstable estimates in the subsequent model, only variables that were significantly associated at the bivariate analysis of $P < 0.05$ were further examined by using stepwise logistic regression technique by taking conceptual framework into account (43) (Figure 1).

The multivariate analysis was done by considering the conceptual framework hierarchically that is significant variables from socio-demographic at first model, socio-demographic and environmental variables in the second model and socio-demographic, environmental, and maternal hygiene and childcare practices in the final model (Table 11).

From the socioeconomic variables entered in the first step of the analysis index child age remained significant in all steps (Table 11). According to this study, statistical significance was observed with the age of index children less than one year in the first and disappeared in rest steps where as children aged 12–23 months were significant at all steps. The children in the age of 12-23 months were 6.5 times more likely to have diarrhea than children aged 36 – 59 months [AOR: 6.48, 95% CI: (2.23,18.84)] after adjusted with all significant variables.

Environmental variables significant in bivariate analysis disappeared in all steps of the multivariate analysis. In this study early initiation of supplementary feeding and maternal history of diarrhoea remained as significant risk factor. Initiating supplementary feeding before 4 months was about 4 times risk of having childhood diarrhea than those children initiating supplementary feeding after 6 months [AOR: 4.03, 95%CI: (1.32,12.31)]. The odds of having diarrhoea in children who lived in households where their mother presenting diarrhea were about 16 times more likely to have diarrhea as compared to those children who lived in households where their mothers did not have diarrhea [OR: 15.96, 95% CI: (2.27,112.33)]. However, selected maternal hygienic practices such as water handling, latrine utilization personal hygiene had no significant association with childhood diarrhea after controlling the effects of variables showed significant association in the bivariate analysis.

Table 11: Stepwise logistic regression of the relative effect of socio-demographic, environmental health and maternal hygiene practices on the occurrence of childhood diarrhoea, Awi zone, West Amhara region, April, 2010.

Characteristics	COR (95%CI)	AOR (95%CI)		
		Model 1	Model 2	Model 3
Socio-demographic factors				
Maternal age				
18-24 [#] /≥40	2.27 (1.01, 5.18)*	2.26 (.98,5.24)		
Index child Age in months				
0-6 [#] /36-59	2.36 (1.01,5.49)*	2.53 (1.14,5.61)*	2.48 (0.75,8.24)	-
7-11 [#] /36-59	2.55 (1.11,5.82)*	2.56 (1.17,5.59)*	2.22 (0.69,7.12)	3.23(0.75,13.88)
12-23 [#] /36-59	2.84 (1.36,5.81)*	3.12 (1.58,6.19)*	4.70 (1.95,11.33)*	6.48 (2.23,18.84)*
Socio-demograph + Environmental variable				
Latrine available				
Available [#] / Not available	2.47 (1.51,4.02)*	-	-	-
Feces around the yard				
yes/ no [#]	2.13 (1.08,4.18)*		1.57 (0.74,3.33)	1.13 (0.42,3.07)
Source of drinking water				
Protected [#] / Unprotected	1.64 (1.02,2.63)*		1.17 (0.52,2.55)	1.87 (0.67,5.25)
Water source other than drinking				
Protected [#] / Unprotected	1.75 (1.0,3.06)*		1.74(0.69,4.36)	2.7 (0.67,10.95)
Socio-demograph + Environnemental + maternal hygiene practices				
Types of cover material used				
container cover [#] / Leaves /grasses	2.01 (1.12,3.61)*			2.34 (0.78,6.97)
Mothers wash hands after defecation				
Always [#] / Sometimes	1.78 (1.08,2.95)*			-
Hand washing with soap at critical junctures				
Not used soap / used soap>1 times [#]	1.67 (0.96,2.90)*			2.18 (0.83,5.73)
Cleanliness of mother's finger nail				
Short trimmed [#] / not short trimmed	2.24 (1.10,4.55)*			0.91 (0.24,3.50)
Latrine utilization				
Always [#] / Never used	2.12 (1.25,3.58)*			0.56 (0.05,6.27)
Respondents interval of body bathing				
< 1week [#] / > 4 weeks	2.26 (1.01,5.01)*			3.01 (0.77,12.4)
Initiation of supplementary feeding				
≤ 4 months/>6 months [#]	2.42 (1.22,4.77)*			4.03 (1.32,12.31)*
Maternal diarrheal morbidity				
Yes/ No [#]	5.20 (2.01,13.57)*			15.96 (2.27,112.33)*

Reference group, * statistically significant at P<0.05

6.7 Focus groups discussion

Personal hygiene

Participants were asked to claim the reasons of hand washing. Some of the discussants in a focus group said:

“We wash our hands to prevent the entrance of dirty matter to the mouth during eating food”. Almost all of them believed that washing hands before eating is equally important after eating. Participants were asked when and at what occasion they used soap. Most of the discussants said *“... we used soap most of the time after cleaning animals dung or when our hand smells bad or touch oily things”*. Most of them agreed that the main reasons of washing hands were to looking clean to gain social acceptance. Most of the participants said;

“A person who washes hands regularly – looks smart, pretty, and highly respected by the community and the opposite looks untidy and they are not respected by others”.

One of the discussants said *“... there is habit and deep-rooted practice in our community to wash hands with water, especially before and after eating, but use of soap is rarely used”* and all agreed to say that *“even though health extension workers taught us to prepare hand washing facilities and its importance, no one had prepared it and even we used dipping of hands in the same bowl of water”*.

Water supply and storage

Majority of them used protected water source. But some mentioned as they are used an unprotected well and the river, even for drinking purposes. Most of them started to keep drinking water separately from water used for other purposes such as washing vessels and clothes in narrow necked jerican. Discussants said *“we used clay pots to fetch water and then transfer to jerican by dipping “.* Participants’ preference jerican for drinking water storage was to prevent the entrance of cups or other dipping utensils with dirty in to the water and the other reason is durability. *“...Plastic serves for long time than clay pots”*.

Some of the respondents believed that unless water is contaminated at the source it couldn’t be contaminated at home and most of them agreed to drink water if the water is free of any visible turbidity without further treatment.

Latrine availability, beliefs, and practices

The majority of the participants stated as they have functional traditional pit latrine. Except children less than 4-5 years all used latrine. Discussants were asked the importance of latrine and most of them said:

“We are very regret the past days when we were used to defecate every where because the chance of contact with feces during working in garden was very high” the others also said *“latrine is used to keep the compound clean and reduce flies infestation”*. One woman said *“...rather than keeping the compound free from flies, latrine helps me to take body bath when wanted”*.

Few of the discussants did not believe that there is any association between open field defecation and diarrhoeal diseases. On the other hand, most of them felt there might be an association with disease. The reasons stated for defecating in open areas were that some peoples resist the change and believed open defecation as tradition, to accumulate human faecal matter close to their dwelling as an unacceptable, and some individuals assumed latrine construction as very expensive.

Beliefs about diarrhoea

Beliefs about diarrhoea are similar to the four group discussants. Majority of discussants mentioned diarrhea as second to abdominal cramp as common health problem in their district.

Some of them believed that exposed to cold temperature, drinking dirty water and the majority said that eating left over food and due to flies, and few of mothers said feeding hot mothers milk and worms were mentioned as the causes of diarrhoea. A Significant number considered other factors Such as drinking dirty water , ingesting mud or animal dung , and house flies as causes of diarrhoea, whereas very few said that they did not know the exact cause. One woman said *“when the mother contracted with diarrhea the child will be sick with diarrhea”*

7. DISCUSSION

This study revealed that the importance of mothers'/caretakers' personal and household hygiene in preventing childhood diarrhea in rural communities of Awi-zone. Under five children have the risk of diarrhea during their young age. This may be the result of mothers' unhygienic practices in particular and poor household environment in general. Poor water handling and inappropriate disposal of faeces may also play an important role in the occurrence of childhood diarrhea.

Handwashing before preparing food and before eating food was mentioned by 96.4% and 84.6% of the respondents as key hand washing times respectively. This is higher than the survey showed in Amhara region that only 45.7% of mothers mentioned before preparing food as key critical time of hand washing (29). The findings were substantiated by focus group discussants that emphasized washing hands before food preparation in the study area was prevailing culture of the community. Washing hands before eating food (95 %) and before preparing food (80.1%) were mentioned by the respondents as common practice among key critical times. In FGDs which were also mentioned as invariably identified routine practice than other key times of handwashing. Washing hands before eating was higher than the findings found in Amhara region in which 63.1% washed their hands before eating (29). This implies that knowledge of critical times to wash hands is essential for people to practice the behavior.

The national surveys done in twelve districts by Ministry of Health, Environmental Health Department, showed the prevalence of washing hands after defecation was in the range of 30-70%(14). Consistent to this, the current study indicated knowledge of hand washing after mother's own defecation was 41.9%. But it was lower as compared to the findings showed in SNNP region of Mirab Abaya and Alaba which were 50% and 56% respectively (35). Similar studies which had done in Philippines and India also showed that hand washing after defecation was 81.2% and 91.3% respectively (20, 31). The difference may be due to variation in sample size and low coverage of hand washing facilities in the community. But this study is higher than studies had done in Peru only 11% and in Bangladesh only 8% of people were observed to wash hands after defecation (20, 27). When practices of mothers'/caretakers' who did not always hand washing after defecation was compared with those mothers who practice hand washing after

defecation, almost 2 times risk for the occurrence of childhood diarrhea [COR: 1.78, 95% CI: (1.08,2.95)]. This was also documented that children whose mothers fail to wash their hands after defecating are at much higher risk of contracting diarrhea (18). This implies those mothers' having low knowledge and poor practice on handwashing after defecation is important predictor of the occurrence of childhood diarrhea.

Studies in Amhara region, Ethiopia and Burkina Faso showed only 5.4% and 4 % responded to wash their hand after cleaning a child's buttocks respectively (25, 29). But the current study indicated one-fourth of the respondent washed their hand after cleaning their children's buttocks. This higher rate may be due to the implementation of health extension program in the area.

Only 50% of respondents knew importance of handwashing before feeding a child. But the practices of mothers' handwashing before feeding their children were only 5.5 %. It was at this time that the child was particularly vulnerable to the transmission of pathogens. But which is very low as compared to national survey showed in New Delhi that only 37% of the mothers did not wash their hands prior to feeding their children (44). This might be due to relatively small sample size or the difference in the background of study areas.

Washing hands using water and soap or an alternative cleansing agent during critical junctures is the most effective way to break the feces-oral route of disease transmission (29). The average number of times of respondents reported washing hands using soap the day prior to the survey was 1.8 times per day. Which was higher than the study showed in Amhara region of 0.9 (29). This study showed washing hands with soap or other cleansing agents atleast one times a day reduced the occurrence of childhood diarrhea by three-fourth [COR: 1.67, 95% CI: (0.96, 2.90)] as compared to wash hands with plain water. This is higher than literature reviews indicated in different countries washing hands with soap can reduce diarrhoea morbidity in the range of 30% to 47% (25, 28). This association suggests that better practice of using soap/ash may reduce the occurrence of childhood diarrheal morbidity especially if mothers adopt washing hands after key critical junctures. The result of this study might be biased due to desirability on the part of respondents who might tend to over-report utilization of soap or other cleansing agents.

Diarrhoea is associated with poor personal hygiene of mothers/caretakers (3). Mothers/caretakers taking body bath less frequently (more than a month) and did not keep their nail trimmed were statistically significant predictors of personal hygiene variables for the occurrence of childhood diarrhea. In this study 77.5% of mothers kept their finger nail clean and short. This result is higher than study in Bangladesh showed only 25% used to clean and cut their nails regularly (27). This enable mothers to keep their hands clean easily.

Knowledge of association of diarrhea with sanitation is important to take appropriate diarrheal diseases preventive actions. The majority of respondents knew human feces can transmit under five diarrheal diseases (57.8%). It was found to be higher than the findings of hygiene surveys conducted by Ministry of health, Environmental health department, indicated that more than 60% of respondents did not know any diseases transmitted through excreta and only 50 percent also believed that children's feces could transmit diseases (14). This finding was supported by the FGDs where the majority of discussants emphasized they did not believe association between open field defecation and diarrhoeal diseases and they also reasoned out defecating in open areas were an age-old custom and tradition and therefore dislike accumulating human faecal matter close to their dwelling in confined area. The finding also indicated the latrine coverage of the study areas was found to be 70.1%. This is similar to surveys conducted in SNNP of Alaba (68%) (35) but higher than the baseline survey indicated in Amhara region that showed only 36.6% of the households have access to sanitation facilities (29). Literatures insisted that even in areas where sanitation coverage is about 98% ,the only 2% remaining inadequate access to sanitation can contribute the occurrence of diarrheal disease in the range of 70-90% (30). Therefore, the coverage of latrine in this study is not in line of preventing occurrence of childhood diarrhea.

In bivariate analysis children in households without latrine and poor utilization of latrine were 2.5 and 2.1 times at risk of diarrhea respectively as compared to the counterparts. In consistent with similar study in Mecha District in West Gojjam Zone showed positive association that the absence of a latrine facility were increasing the risk of childhood diarrhea twice as compared to counter parts (45). Another similar study in Mirab Abaya and Alaba SNNR showed latrine utilization among mothers were 86.5% and 85% respectively (35). The current study, 55.5%, indicated lower latrine utilization as compared to previous studies. The difference might be due

to the previous studies had done in project assisted areas that could create better awareness on the community.

The present study has also shown the presence of faeces in the backyard of the houses had a significant association with the occurrence of childhood diarrhea [OR: 2.13, 95% CI: (1.08, 4.18)]. This finding is in conformity with the another similar study that indicated the risk of the occurrence of childhood diarrhoea was 3 times higher in the households with observable faeces in their yards than households with no observable faeces in their yards (9). This has an important implication that the mere presence of latrine facility does not have a great contribution for prevention excreta-related disease such as diarrhea but it is the proper utilization that had a vital importance. Moreover the presence of faeces around the compound might serve as a media of fly breeding and give chance for children to contact with feces during playing or crawling.

It is also observed that 60.7% of the households thrown their children's faeces safely into latrine and the rest throw into the compound that will make most of the children exposed to the diarrheal diseases, which is similar to study in Hulet Ejju Enessie district, Amhara regional state indicated 65.9% throwing faeces in the latrine (9). No significant association was observed between safely and unsafely disposal of children faeces, but different from what is case-control study in Burkina Faso and India showed that the unsafe disposal of child stools was associated with increase in the risk of diarrhoea morbidity 30-50% as compared to disposal in a latrine (25, 31).

In this study area the average per capita water daily consumption was 11 liters (11 L/d/p). Even though the recommended and water consumption rate did not meet the demand (20L/p/d) (46), it is quite higher than other pocket studies in different parts of Ethiopia showed the average water consumption per capita per day in the range of 4.6-7.7 litter per day per person (11, 34, 45). Findings from Nicaragua revealed inadequate water availability increased the occurrence of childhood diarrhea by 34% as compared to homes with plentiful availability of water (25). In this study area, based on the daily water consumption standards, the amount of water consumed by the respondents found to be no significant association with the occurrence of childhood diarrhea in this study area. However, significant association was observed between uses of protected and unprotected water sources and diarrheal morbidity. Similar to these finding,

different studies showed that poor quality of drinking water was the primary source of diarrhoeal diseases (25). This implies that the amount of water was not the determinant factor for the occurrence of childhood diarrhea in the study area.

Water handling and storage practices of mothers/caretakers were observed and 89% of the respondents covered their drinking water with different materials. The majority (62.6%) covered their water with any leaves/grasses/plastic materials. There is statistical significance that uncovered drinking water and covering with leaves/grasses/plastic were more than 4 [OR: 4.27, 95% CI: (0.91,19.30)] and 2 [OR: 2.01, 95% CI: (1.12,3.61)] times more likely contaminate water and cause childhood diarrhea than those who used container tightened container cover respectively. Similar studies revealed that use of tightened and clean container cover could prevent water contamination (33).

Regardless of the quality of water at the source, storage practices influence water safety. Wide neck containers invites easily entrance of potential contaminants in to stored water (29, 35). In this study 289 (68.5%) of the respondents with drew water by dipped into the wide-mouthed stored drinking water pot with a cup held in the hand. Therefore, safer practices such as using cups with long handles or pouring or using narrow mouthed jerican or pots for drinking water must be encouraged.

In this study 50% of mothers believed that water could not be contaminated in the home from safe sources. Even though water is collected from a safe drinking source, it may become contaminated before use by poor fetching and storage practices (33, 34). The finding indicated 50% of the respondents did not know that childhood diarrhea could be caused contaminated water. This is inline with study in rural India that showed more than 50% of mothers lack knowledge of association between contaminated water and diarrhoeal disease (32). High knowledge was found in Gambia that 80% of the women interviewed knew that water can cause childhood diarrhea (33). The difference may be socio-demographic and environmental conditions or variability in sample sizes or study types.

Statistical significance was not observed between occurrence of childhood diarrhea and living in the same room with domestic animals or use of different roofing and flooring materials. However, study on domestic hygiene in developing countries showed children living in houses where domestic animals kept were 2.5 times more likely to suffer from diarrhoea incidence than houses without animals (25). Because animal faeces have been shown to harbor a number of organisms that may also be infective to children as well as the dung encourage fly proliferation. The significant association failed to this study, it might be due to the homogenous nature of many demographic, socio-economic, and environmental characteristics among inhabitants.

This study showed the two weeks period prevalence of diarrhea in under five children was 20.6%. This prevalence was lower than the findings in Guragie zone of SNNR (51.4%) and Nekemt town of Oromia zone (28.9%) (8, 11). But it is slightly higher as compared with the findings in Ethiopia Demographic and Health Survey report of 2005 Amhara region (14.6%) and the national (19%) (7) and Mecha District in West Gojjam Zone, Ethiopia(18%) (45). The difference in prevalence could be attributed to the difference in the method of data collection, socio demographic characteristics of study households, and the time of the study. In the present study, information on diarrhoeal morbidity was collected from one visit using a two-week recall period. Thus, this point should be taken into account in comparing the findings.

The occurrence of diarrhea is age dependent (40). In this study, children in the age category of 12-23 months of age were more than six fold at risk of having diarrhea than children in the age category of 36-59 months, [AOR: 6.48, 95% CI: (2.23,18.84)]. This is in line with DHS 2005 young children age 6-23 months are more prone to diarrhoea than children in the other age groups (7). Study in rural Egypt also showed that young children were found to have a 4.6 higher risk of recurrent diarrhea than older ones (19). Significant increase in diarrhoea prevalence in this age group reflects the combined effect of declining level of maternal acquired immunity; the introduction of food or liquid that may be contaminated with pathogens; and direct contact with human and animal excreta when the child starts to crawl.

It is well documented that maternal childcare and hygiene practices have important impacts on the occurrence of diarrhoea in children. In this study, maternal diarrhoeal morbidity status was

found to be significant predictors of diarrhoeal morbidity in children. The more than fifteen-fold increase [AOR: 15.96, 95% CI: (2.27, 112.33)] in the odds of getting diarrhoea in children whose mothers had diarrhoea may be explained by the fact that maternal hygienic practice is an important determinant of children health. This is so because mothers are food handlers of the family, and also they are usual childcare providers (47). This figure is higher than similar study in SNNR of Guragie zone and Amhara region of west Gojam zone which showed maternal diarrhea was fourth and fifth fold times risk for the occurrence of childhood diarrhea respectively (8, 45).

Breastfeeding is an effective means of protecting children from diarrhoeal disease. Early initiation of supplementary food (below the age of 4 months) was 4 [AOR: 4.03, 95%CI: (1.32, 12.31)] times at risk of having diarrhoea compared to children initiated supplementary feeding above 6 months. The strength of the association increased in multivariate than crude odds ratio. This is very important confounder of the occurrence of childhood diarrhea. National survey of Ethiopia Demographic and Health Survey report of 2005 suggested early initiation should be discouraged because it is usually associated with increased risk of diarrhoeal disease (7). Another study also indicated infants who are early fed other than breast was 2-3 times at greater risk of diarrhea than breast fed infants (39).

Strengths and limitations of the study

Strength

- The study is community based particularly addressing the vulnerable groups of the rural community which enable to design appropriate intervention.
- The study assessed mothers' knowledge, attitude and household hygiene practices. Therefore, it is supportive for the health extension program at household level.
- The information required for the study had been strengthened by using both quantitative and qualitative studies.
- Use of stepwise logistic regression technique helps to identify the most important risk factors for proper intervention control by controlling other mediating confounding factors

Limitation

- The present study is limited in that it did not incorporate direct follow up observation of the hygiene practices of the mothers for long time.
- Mothers' personal hygiene practices of handwashing and interval of body bathing was based on mothers' response (yes or no) to a question, there might be desirability of over reporting.
- The study as being conducted in dry season and at one point in time (cross-sectional), it does not redirect the seasonal pattern of childhood diarrhea and environmental conditions due to this the generalizability is limited to dry season.

8. CONCLUSION

This study concentrated on the environment of the households and on the hygiene practices of mothers/caretakers.

1. Majority of the respondents did not know the possibility of contamination of water at home if improperly handled. There is significant proportion that respondents did not believe that water could be contaminated in the home. With regard to sanitation significant proportion of respondents did not know open defecation could cause childhood diarrhea. Low awareness about water and sanitation related to childhood diarrhea prevails in the study communities; perhaps, it might be inadequate water and sanitation education provided.
2. Handwashing practices of mothers/caretakers were in good proportion of before preparing food, before eating and after eating food key critical times of handwashing. However, respondents' handwashing practices after defecation and after cleaning children's anus were very low. The habit of mothers/caretakers' washing hands with soap/ash after visiting or cleaning children's buttocks were not practiced well. Statistical significance also observed with those mothers who did not wash their hands after defecation were risk for the occurrence of diarrhea in their children.
3. The occurrence of diarrhoea in children is mainly related to household hygiene as well as their maternal practices. In the surveyed area high proportion of mothers used any grasses or leaves to cover their drinking water container and this caused water to be contaminated and caused childhood diarrhea. Open field defecation was also practiced among the respondents even those who possessed latrine facilities. This is probably the most serious reflection of the deep-rooted traditional practices concerning the disposal of excreta in the open field.
4. The maternal hygiene practices reflected on the children health. Those mothers having diarrhea were found to be direct significant predictor of the occurrence of childhood diarrhea. Children in the age category of 12-23 months were found to be significantly affected by diarrhea. Because children in this age directly exposed to the contaminated environment while crawling and the introduction of food or liquid that may be contaminated with pathogens.

9. RECOMMENDATION

Based on the findings of the study, the following recommendations are made:

1. The Government and non-government organization with the planners, and health policy makers in different levels should give more attention for the promotion of mothers'/caretakers' knowledge, attitude and practices about household and maternal hygiene , and child care at household level in order to achieve reduction of childhood diarrheal morbidity.
2. Promote information about the critical times for hand washing through health education and advocacy and provision of enabling technologies especially give attention on the low knowledge, attitude and practices about the need to wash hands after defecation and after cleaning the child's buttocks
3. There should be provision of safe water supply, latrine facilities, and domestic and personal hygiene education side by side.
4. In order to measure more accurate personal and household hygiene behaviour of mothers, further studies such as longitudinal and repeated direct observational methods should be done.

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I. ANNEXES

ANNEX-I. QUESTIONNAIRE (ENGLISH VERSION)

ID No-----

ADDIS ABABA UNIVERSITY FACULTY OF MEDICINE SCHOOL OF PUBLIC HEALTH

A QUESTIONNAIRE PREPARED TO ASSESS MOTHERS' KNOWLEDGE ATTITUDE AND HOUSEHOLD HYGIENE PRACTICES RELATED TO DIARRHEAL DISEASE AMONG UNDER FIVE CHILDREN IN RURAL SETTINGS OF AWI ZONE, WESTERN AMHARA REGION (Jan/Feb.2010)

[Instruction for the interviewer: Once you get the permission to enter in to the house, briefly and clearly explain the mother/caretaker why and how the household is selected for the study and the purpose of the study by reading the following informed consent sheet and the interview will continue only after the respondent will agree on the consent.]

A. Information sheet

Name of woreda_____kebele_____

Good morning/good afternoon; my name is _____. I am grade 12 completed student. I am selected to collect data for Kelemu Dessie who is doing a research as partial fulfillment for the requirement of Master in Public Health at Addis Ababa University, School of public health. The aim of this study is to assess maternal knowledge and hygiene practices of mothers related to diarrheal diseases in under five children in this kebele. To get this information, I am going to ask you some questions that are not difficult to answer. Since participants for this study are selected randomly of households that mothers having under five children, you are also selected as participant for this study. Your name will not be written in this form and will never be used in connection with any of the information you tell me. By doing so you will face no problem and you don't have to answer any questions that don't want to answer and you may end this interview at any time you want.

Your honest answer to these questions will help as in identifying knowledge gap, existing attitude about household hygiene and its relation to childhood diarrhea and the result will be used to help policy makers and other responsible bodies to design appropriate interventions or strategies so as to improve childhood diarrheal diseases burden in this area. We would appreciate your help in responding to our questions. The interview will take about 30 minutes. I hope having taken your time you will give me genuine information to all my questions. Any question which is not clear for you please ask me for clarification. Are you willing to participate in the interview?

☐ Yes, Go to the next page ☐ No, thank them, and interrupt the interview

B. Verbal consent form for the study participants

I have received sufficient information about the project; I have had opportunities to ask questions, these questions will be answered to my understanding and satisfaction, and participation in this project and has no any harm. I agreed voluntarily to this study and I understand that I have the right to withdraw at any time without any consequences. Therefore I agreed to participate in the interview.

Interviewer's name _____ Signature _____ date ____/____/____

Result of interview: 1. Completed 2. Partially completed. 3. Refused

Checked by supervisor: Name _____ Signature _____ Date ____/____/2010

If you have something to ask concerning the study, you can contact the principal investigator:

Name: Kelemu Dessie

Phone No: 0918029075

E-mail: dkelemu@yahoo.com

QUESTIONNAIRE FOR THE ASSESSMENT OF MOTHERS' KNOWLEDGE, ATTITUDE, AND HOUSEHOLD HYGIENE PRACTICES RELATED TO CHILDHOOD DIARRHOEA IN RURAL SETTINGS OF AWI ZONE.

Part I: Identification

001. Mother's ID number: _____
002. Woreda _____ kebele _____ Highland _____ lowland _____
003. Number of persons in the household: Male _____ Female _____ Total _____
004. Number of under-five children in the household _____
005. List all under-five children present in the household

S.No	Name	sex		Is there diarrhea in the last two weeks?	
		male	Female	Yes	No
1					
2					
3					

Part II: Socio- Demographic Characteristics of the Respondent

No.	Questions	Responses	skip
101	Relation of the respondent to the child	1. Mother 2. Caretaker	
102	Age of the mother/caretaker	_____ in Years	
103	Marital status of the mother/caretaker	1. Single 2. Married 3. Divorced 4. Widowed 5. Separated 99. Other (specify)-----	
104	Religion of parents/caretaker	1. orthodox 2. Muslim 99. Other (specify)-----	
105	Ethnic group of parents/caretakers	1. Agew 2. Amhara 99. other (specify)-----	
106	Educational level of mother/caretaker	1. Illiterate (can't read & write) 2. Can read and write 3. If grade specify-----	
107	Occupation of the mother/caretaker	1. Housewife 2. Student 3. Daily laborer 4. Merchant 99. Other, (specify) _____	
108	What is your average monthly income?	1. _____ Birr per month (estimate) 2. No response	
109	Does the family own radio?	1. yes 2. .No	

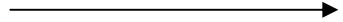
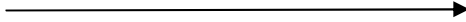
Part III. Environmental health conditions

No	Questions	Responses	skip
201	Type of roof material of the living house (answer by observation)	1. Thatched 2. Corrugated iron sheet 99. Other (specify) -----	
202	What is the material for the floor of the main living area? (check by observation)	1. earth 2. dung polished 3. reed/bamboo 99. others(specify)-----	
203	Do animals (dogs, hens, sheep, etc.) live in the same house where the members of the family live? (check by observation)	1. Yes  2. No	Q 205
204	How far from the house?(observation including the neighbor animals)	_____meters	
205	Is latrine available?	1. Yes 2. No 	Q209
206	How far is the distance between the latrine and the living house?	_____ meters	
207	Is feces seen around the pit-hole (or on the floor)? (OBSERVATION)	1. Yes 2. No	
208	Is feces seen around the house (or in the compound)? (OBSERVATION)	1. Yes  2. No	Q 210
209	If the family has no latrine, where do you dispose human waste?	1. Open field 99. Other (specify)	
210	How do you dispose refuse? (CIRCLE THAT ALL MENTIONED)	1. Open field 2. Pit 3. Farm field as fertilizer/compost 99. Other (specify) -----	
211	From where do you get water for drinking?	1. Protected well/spring 2. Unprotected well/spring 3. River 99. Other (specify) _____	
212	From where do family members get water other than drinking water?	1. river 2. Protected well/spring 3. Unprotected well/spring 4. pond 99. other(specify) _____	
213	How much minutes are needed to fetch water? (round trip)	1. < 15 2. 15-30 3. 30 and above	

214	Type of water collection container commonly used	1. Pot 2. Jerry can 3. Plastic bucket 4. Iron bucket 99. Other	
215	Is water container located in area accessible to animals in the house (dogs, hens, sheep, etc)	1. Yes 2. No	
216	Capacity of the container, which you used to collect water this morning?	_____ Liters	
217	How many times did you collect water for drinking per day by this container?	_____times	
218	Do you have hand washing facilities? (observation)	1. yes 2. No _____→	Q301
219	If yes, observe the following items are present or not	1. Water only 2. Water with soap or ash 3. neither water nor detergent	
220	The site of hand washing facilities	1. Near the latrine 2. In the home 99. Other places (specify)---	
221	The types of handwashing facilities available	1. Tipy-tap 2. Pot/kettle 3. Jugs 4. oilcan/water bottle 99. Other(specify)	

PART- IV knowledge assessment questions

No	Questions	Responses	skip
301	Can contaminated water transmit under five diarrheal diseases?	1. Yes 2. No 88. I don't know } _____→	Q304
302	What type of water is responsible to cause diarrheal diseases (CIRCLE THAT ALL MENTIONED)	1.Any type of water 2. Faecally contaminated water 3. water contaminated by animals 99.other (specify)-----	
303	Where do you get the information that contaminated water could transmit diarrheal disease?((CIRCLE THAT ALL MENTIONED)	1.Broadcasting agency 2.Health workers 3.Community health promoters 99.Other (specify) -----	
304	Do you think safe water sources can be contaminated in the house during handling?	1. Yes 2. No 88. I don't know } _____→	Q306

305	If yes in what way it will be contaminated? (CIRCLE THAT ALL MENTIONED)	1.Unclean hands 2. unclean container 3.uncovered container 4. with drawing materials 5.insects/ rodents 99.Other/ specify-----	
306	Do you think faeces can transmit under five children diarrheal diseases?	1. Yes 2.No 3. I don't know } 	Q308
307	If yes, which types of feces resulting under five diarrheal diseases?	1.Children feces 2. Adult feces 3. All types of feces 88. I don't know	
308	Do you know that flies can transmit under five diarrheal diseases?	1. Yes 2. No  3. I don't know	Q310
309	If "Yes", can you mention the name of the diseases? (CIRCLE THAT ALL MENTIONED)	1. Diarrhoea 2. Typhoid fever 3. malaria 4. Trachoma 5. Do not know the names 99. Other (specify)-----	
310	How can childhood diarrheal diseases be transmitted from person to person? (CIRCLE THAT ALL MENTIONED)	1. Flies 2. Contaminated hands 3. Contaminated water/foods 4. Bad odor 88. I don't know 99.other (specify) -----	
311	To prevent childhood diarrheal diseases, when are the most important times to wash hands? (CIRCLE THAT ALL MENTIONED)	1. Before preparing food 2. Before eating or feeding children 3. After defecation 4. After cleaning child's anus 5. After eating food 99. other(specify)-----	

Part- V Attitude Assessment Questions

No	Questions	Responses	skip
401	Safe water sources can be contaminated during household handling	1. I agree 2. Undecided 3. I disagree	
402	Do you think that mothers' unwashed hands can transmit under five children diarrheal diseases?	1. I agree 2. Undecided 3. I disagree	
403	How much do you agree/disagree about the following statements:		
403.1	Mothers/caregivers should wash hands before preparing food	1. Always 2. Sometimes 3. Never	

403.2	Mothers/caregivers should wash hands before eating/feeding children	1. Always 2. Sometimes 3. Never	
403.3	Mothers/caregivers should wash hands after defecation	1. Always 2. Sometimes 3. Never	
403.4	Mothers/caregivers should wash hands after cleaning children's anus	1. Always 2. Sometimes 3. Never	
404	Do the children diarrhea caused by teething	1. I agree 2. Undecided 3. I disagree	
405	Living with domestic animals could transmit diarrheal diseases	1. I agree 2. Undecided 3. I disagree	

Part-V practice assessment questions

No	Questions	Responses	skip
501	What did you use to collect drinking water to the house yesterday? (CIRCLE THAT ALL MENTIONED)	1. Jerican 2. bucket 3. pots 99. Other (specify) -----	
502	How often do you clean this container? READ THE CHIECE	1. Always before fetching 2. Every other day 3. Weekly 4. Never at all 99. Other (specify)-----	
503	Is the water collection container has covered? (check by observation)	1. Yes 2. No	
504	What did you use to cover drinking water in the house yesterday?	1. container cover 2. covered with leaves/grass 3. Festal 4. not covered at all 5. Can /cup 99. Other (specify)-----	
505	What methods do you use to withdraw drinking water from container?	1. Pouring 2. Dipping 3. Both	
506	If the answer for Q505 is dipping, is the dipping material with handle? (observe)	1. Yes 2. No	
507	Is there a separate material for withdrawing drinking water from the container? <i>Ask the respondent to show you the material</i>	1. Yes 2. No	
508	Where do you put dipping and/or drinking utensils?	1. Table or shelves 2. Hang on wall 3. Put on water storage cover 4. Leave it inside 5. Floor 99. Other(specify)-----	
509	When do you wash dishes always?	1. Before eating 2. After eating 3. At both times	

510	Mother's wash their hands before or after doing certain activities. What do you think are the most important occasions? RECORD ALL MENTIONED (probe)	1. Before eating 2. After defecation 3. After eating 4. After cleaning the child's bottom 5. Before preparing food 6. Before feeding children (including breast feeding) 99. Other(specify) -----	
511	Do you always use soap when you wash your hands?	1. Yes -----> 2. No	Q 513
512	If not, on what occasions do you use soap to wash your hands?		
513	Do you wash your hands after defecation?	1. Always 2. Sometimes 3. Never ----->	Q515
514	What do you often use to wash your hands after defecation?	1. Soap and water 2. Water only 3. Not washed at all unless contact to soil 4. Other(specify)-----	
515	Is there soap/ash near the washing facility (observation)	1. Yes 2. No	
516	How many times have you used soap to wash your hands yesterday for your answer of Q 510?	----- (Frequency in Number)	
517	What is the condition of the mother's finger nails? (observation)	1. Short trimmed and cleaned 2. Clean but not short trimmed 3. Not cleaned not short trimmed	
518	The condition of latrine use	1. always 2. sometimes 3. never ----->	Q522
519	Who use the latrine frequently? (CIRCLE THAT ALL MENTIONED)	1. Adult males 2. Adult females 3. Students 4. Except children all family 5. All	
520	At what age do you suggest children should start using latrine?	-----years	
521	What are the reasons for not using the latrine by under five children? (CIRCLE THAT ALL MENTIONED)	1. Floor is not safe to sit down 2. Fear of fall down 3. Due to bad smell 4. The children's feces is not harmful 99. Other reasons (specify)-----	

611	What do you use to feed the child? (CIRCLE THAT ALL MENTIONED)	1. spoon 2. Cup/bottle 3. Cup and spoon 4. Mothers hand 5. Him/herself 99. Other (specify)	
612	Did the child receive measles vaccination?	1. Yes, (by history) 2. Yes, (by checking the card) 3. No 4. The age less than 9 months	
613	Did your child have diarrhoea the last two weeks? (define diarrhea for the interviewee)	1. Yes 2. No	exit
614	For how long did the diarrhoea last?	1. Less than 14 days 2. Greater than 14 days	
615	o How many times did the diarrhea start again o At what time interval start again within 14 days of start ?	_____times _____time interval for	
616	If the child has diarrhea the last two weeks, how many times a day he/she passes stool?	_____times	
617	What actions do you take to treat/stop the diarrhoea? (CIRCLE THAT ALL MENTIONED)	1. Take him/her to health institution 2. Take him/her to traditional healer 3. Increase feeding 4. Give him/her ORS 5. Give him/her cereal based fluids 6. Stop/decrease feeding 7. Home made treatment 99. Other (specify)	

Thank you!

Interviewer's name: ----- Signature -----date-----

Supervisor's name----- Signature -----date -----

Observations check-list

Kebele-----household code No: -----

Mark (✓) on the space provided

S.N	Hygiene practices	Observation results		Remark
		Yes	No	
1	Did Prepared or leftover food cover?			
2	Hands of child washed?			
3	Is the Cleanness of the child good?			
4	Is water vessels for drinking covered?			
5	Do water storage place clean?			
6	Is Eating utensils cleaned?			
7	Is living floor at onset of the observation cleaned?			
8	Is cleanliness of the compound cleaned?			
9	Are faeces on slab of latrine observed?			
10	Are Babies played with domestic animals during observation?			

Time of observation -----

Name of data collector-----sign. -----date -----/-----/2010

Supervisor's name -----sign. -----Date-----/-----/2010

Qualitative questionnaire

Informed Consent Form for Focus Group Discussions:

Woreda _____ kebele _____ date _____

Good morning?

My name is _____ my friend's name is _____. We are research team member of Addis Ababa University of school public health. Today we are here to discuss with you on mothers' knowledge, attitude, and household hygiene practices in related to under five diarrheal diseases. Other similar discussion will be held in other woredas as well.

The objective of the focus group discussion is to describe mothers' knowledge, attitude, and household hygiene practices and other environmental conditions and childhood diarrhea.

Your immediate health service providers of health extension workers select you because you are the most resourceful persons in your community. The discussion is held among mothers having under five children. We would like to assure you that the study is confidential. We will not keep a record of your name and address. But we will take note of our discussion with manually and tape recorder, which is accessed by only the principal investigator. You have a right to leave the discussion at any time, or to skip any question that you do not want to answer. Your active participation can make the study achieve the goals and will help as in identifying knowledge gaps, existing attitude about household hygiene and its relation to childhood diarrhea and the result will be used to help policy makers and other responsible bodies to design appropriate interventions or strategies so as to improve childhood diarrheal diseases burden in this area. Therefore, you are kindly requested to respond genuinely and voluntary with patience. The discussion will take about 45 minutes.

Do you have any question?

Are you willing to participate in the interview?

☐ Yes, Go to the next page

☐ No, thank them, and interrupt the interview

Name of note-takers: _____ signature _____ date _____

Result of the discussion: 1. Completed 2. Partially completed 3. Interrupted

Focus group discussion guideline

FGD identification number _____ kebele _____ Time of start _____

Number of participant of the group _____

Focus group discussion about mothers' knowledge, attitude, and hygiene practices and childhood diarrhea

1. What are the common under five children health problems in this kebele?
2. What do you do to improve this problem?
3. What are some ways to prevent transmission of childhood diarrheal diseases?
4. What do you think children get diarrhea?
5. What is/are your source sources of drinking water?
6. What are main points of water contamination?
7. How do you with-draw water from the storage?
8. What is the importance of washing hands?
9. When do you use soap to wash hands?
10. How many of you have latrine?
11. What is the importance of latrine?
12. How do you dispose your children feces?
13. Do you think you can be dirty even if you cannot see or smell the dirt?
14. Is there association between mother's personal hygiene and childhood diarrhea?
15. What are the problems of sharing houses with animals?
16. .Do you have any suggestions for improving maternal hygiene practices

End of time-----

Thank you!

ANNEX-II

QUESTIONNAIRE- AMHARIC VERSION

መለያ ቁጥር_____

በአዲስ አበባ ዩኒቨርሲቲ ሕክምና ፋኩልቲ

የህብረተሰብ ጤና ትምህርት ክፍል

በአማራ ክልል በአዊ ብሄረሰብ ዞን በግልና በቤት ውስጥ ንጽህና የእናቶችን ግንዛቤ'አመለካከትና እና ተግባራት ከአምስት ዓመት እድሜ በታች ባሉ ህጻናት ከሚከሰተው ተቅማት ጋር ያለውን ግንኙነት አስመልክቶ ለማጥናት የተዘጋጀ የቤት ለቤት መጠይቅ

[መረጃ ሰብሳቢ:-የሚከተለው አንቀጽ የፈቃደኝነት ማረጋገጫ ስለሆነ ለመልስ ሰጪው በትክክል የጥናቱን ዓላማ በማንበብና በማሰራደት ፈቃደኝነታቸውን ካረጋገጡ በኋላ መጠይቁን ይቀጥሉ]

ሀ) የመጠይቅ ተሳታፊዎች የመረጃ ቅጽ

የወረዳው ስም-----ቀበሌ-----

ጤና ይስጥልኝ ፤ እኔ-----እባላለሁ ፡፡ የ12ኛ ክፍል ተማሪ ነኝ ፡፡እዚህ የመጣሁት በአዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ትምህርት ክፍል የማስተርስ መመረቂያ ጽሁፍ አቶ ቀለሙ ደሴ ለሚያዘጋጁት ጥናት መረጃ ለመሰብሰብ ነው ፡፡

የጥናቱ ዓላማ በግልና በቤት ውስጥ ንጽህና የእናቶችን ግንዛቤ'አመለካከትና እና ተግባር ከአምስት ዓመት እድሜ በታች ባሉ ህጻናት ከሚከሰተው ተቅማት ጋር ያለው ግንኙነትን ለማወቅ ነው፡፡ ይህን ጥናት ለማፈራረም የሚያስፈልጉ መረጃዎችን ለማግኘት ቀላልና ግልጽ ሆኑ ጥያቄዎችን ልጠይቀዎት እፈልጋለሁ፡፡ መረጃውን ለማሰባሰብ በሚደረገው ዘዴ የሚፈለገውን መስፈርት አሟልተው ከተገኙት ውስጥ እርስዎ አንዱ መሆኑንም ልገልጽልዎት እወዳለሁ፡፡ ይህን መረጃ ሲሰጡኝ ስምዎ አይጻፍም ፤ የሚሰጡኝ መረጃ ከተጠቀሰው አላማ ውጭ ሌላ መረጃነት ተላልፎ አይሰጥም፤በእርስዎም ሆነ በቤተሰብዎ ምንም አይነት ጉዳት አያስከትልም፤መመለስ የማይፈልጉት ጥያቄ ከሆነ አለመመለስ ይችላሉ፤ቃለ መጠይቁ ካልተመቸዎት በማንኛውም ጊዜ ማቋረጥ ይችላሉ ፡፡

ለዚህ ጥናት የሚሰጡኝ መረጃ በዚህ ዞን እናቶች በግልና በቤት ውስጥ ንጽህና ያላቸውን ግንዛቤ'አመለካከትና እና ተግባራትን ክፍተት በመለየት ፤ ይህም ጉድለት ከአምስት አመት በታች ባሉ ህጻናት ላይ ለሚከሰተው የተቅመጥ በሽታ ምክንያት መሆኑን በማሳየት አስፈጻሚ አካላት እና ባለሙያዎች ትክክለኛ ፕሮግራም ለመቅረጽና እርምጃ በመውሰድ የህጻናትን ተቅማት ለመከላከል ያስችላል ፡፡ ስለዚህ እርስዎ ለዚህ ተግባር ለሚያርጉት አስተዋጽኦ የላቀ ምስጋናየን እያቀረብሁ ለዚህ ቃለ መጠይቅ 30 ደቂቃ ከእኔ ጋር እንዲቆዩ በአክብሮት እጠይቀዎታለሁ፡፡ ግልጽ ያልሆነለዎት ፤ለ መጠየቅ ይችላሉ ፡፡

ቃለመ መጠይቁን ለመቀጠል ተስማምተዋል ? ሀ) ተስማምቻለሁ ☐ ለ) አልስማማም ☐

ለ) የመጠይቅ ተሳታፊዎች የስምምነት ማረጋገጫ ቅጽ

ከላይ በተሰጠኝ መረጃ መሰረት ስለ ጥናቱ ዓላማና ምንነት ተገዝቤአለሁ። እነደተገነዘብሁት በመጠይቁ ያልገባኝን የመጠየቅ ፣ ያልፈለግሁትን ያለመመለስና በዚህ መሳተፍ ምንም ጉዳት አንደማያመጣ እንዲሁም በማንኛውም ጊዜ የማቋረጥ መብቴ የተጠበቀ መሆኑን ተረድቻለሁ። በመሆኑም በመጠይቁ መሰረት መረጃ ለመስጠት በእራሴ ፈቃድ የተሳተፍሁ መሆኔን ለመግለጽ እወዳለሁ።

የጠያቂው ስም _____ ፊርማ _____ ቀን _____ / _____ / _____

ያረጋገጠው ተቆጣጣሪ ስም _____ ፊርማ _____ ቀን _____ / _____ / _____

የመጠይቁ ወጤት፡- 1. ተሟልቷል 2. በክፍል ተሟልቷል 3. ባለመስማማት አላተካሄደም

ጥናቱን የሚመለከት ማንኛውም ጥያቄ ካለ የሚከተለውን አድራሻ ይጠቀሙ፡-
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በአማራ ክልል በአዊ ብሄረሰብ ዞን በግልና በቤት ውስጥ ንጽህና የእናቶችን ግንዛቤ'አመለካከትና እና ተግባራት ከአምስት ዓመት እድሜ በታች ባሉ ህጻናት ከሚከሰተው ተቅማት ጋር ያለውን ግንኙነት አስመልክቶ ለማጥናት የተዘጋጀ የቤት ለቤት መጠይቅ

ክፍል 1. መለያ

001. የእናትየዋ /የአሳዳጊዋ መለያ ቁጥር-----

002. አድራሻ :-ወረዳ-----ቀበሌ-----ደ.ጋ-----ቆላ-----

003.የቤተሰብ አባላት ብዛት :- ወንድ-----ሴት-----ድምር-----

004. ከአምስት አመት እድሜ በታች የህጻናት ብዛት-----

005. ከአምስት አመት እድሜ በታች የህጻናት ዝርዝር

ተ.ቁ	ስም	የታ		እድሜ	ባለፉት ሁለት ሳምንታት ውስጥ ህጻኑ ተቅማጥ ነበረው?	
		ወንድ	ሴት		አዎ	የለም
1						
2						
3						

ክፍል 2. ማህበራዊና ኢኮኖሚያዊ ሁኔታ መረጃዎች

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ይለፉ
101	መላሻ ከህጻኑ ጋር ያላት ግንኙነት	1. እናት 2. አሳዳጊ	
102	የናትየዋ/አሳዳጊዋ እድሜ	-----ዓመት	
103	የጋብቻ ሁኔታ	1. ያላገባች 2. ያገባች 3. የተፋታች 4. ባል በሞት የተለያት 5.የተለያዩ 99. ሌላ ካለ ይገለጽ-----	
104	የህጻኑ እናት/አሳዳጊ ወላጅ ሃይማኖት	1.ኦርቶዶክስ 2.ሙስሊም 99. ሌላ ካለ ይገለጽ-----	
105	የህጻኑ እናት/አሳዳጊ ወላጅ ብሄረሰብ	1. አገወ 2. አማራ 99. ሌላ ካለ ይገለጽ-----	
106	የህጻኑ እናት/አሳዳጊ ወላጆች የትምህርት ሁኔታ	1.ምንም ያልተማረ 2. ማንበብና መጻፍ የሚችል 3. ሌላ የት/ርት ደረጃ ካለ ይገለጽ-----	

107	የህጻኑ እናት/አሳዳጅ ወላጆች የስራ ሁኔታ	1. የቤት እመቤት 2. ተማሪ 3. የቀን ሰራተኛ 4. ነጋዴ 99. ሌላ ካለ ይገለጽ-----	
108	ወርሃዊ የቤተሰብ የገቢ መጠን	1.-----ብር 2. መልስ የለም	
109	ቤተሰቡ ሬዲዎ አለው?	1. አለው 2. የለም	

ክፍል 3. የአካባቢ ጤና አጠባበቅ ሁኔታ

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ይለፉ
201	የመኖሪያ ቤት ጣሪያ የተሰራበት (በመቃኘት የሚመለስ)	1. የሳር ክፍን 2. የቆርቆሮ ክፍን 99. ሌላ ካለ ይገለጽ-----	
202	የዋናው መኖሪያ ቤት ወለል የተሰራበት ቁሳቁስ ከምንድን ነው? (በመመልከት ይጥላ)	1. ጭቃ 2. እበት የተለቀለቀ መሬት 3. ቀርቀሃ የተነጠፈ 99. ሌላ ካለ ይገለጽ-----	
203	እንስሳት (ወሻበግ ወዘተ...) በቤት ውስጥ ከሰዎች ጋር አብረው ይኖራሉ ? (ቤቱን በመቃኘት የሚመለስ)	1 አዎ 2 አይኖሩም	ጥ 205
204	ከመኖሪያ ቤት ምን ያህል ይርቃሉ ? (የጎረቤትን እንስሳትን ጭምር ግምት ውስጥ በማስገባት ይታሰብ)	----- ሜትር	
205	ቤተሰቡ መጻዳጃ ቤት አለው ? (በመቃኘት ያረጋግጡ)	1. አለው 2. የለውም	ጥ. 209
206	መጻዳጃ ቤት ከመኖሪያ ቤት ያለው ርቀት ?	-----ሜትር	
207	አይነምድር ከመጻዳጃ ቤት ቀዳዳ ተዘረክርኮ ይታያል ? (በመቃኘት ያረጋግጡ)	1. አዎ 2. አይታይም	
208	በቤት አካባቢና በዙሪያው አይነ-ምድር ይታያል ? (በመቃኘት ያረጋግጡ)	1. አዎ 2. አይታይም	ጥ.210
209	ቤተሰቡ መጻዳጃ ቤት ከሌለው የት ነው ሚጸዳዳው ?	1. በመስክ 99. ሌላ ካለ ይገለጽ-----	
210	ደረቅ ቆሻሻን እንዴት ታስወግዳላችሁ ? (ከአንድ በላይ መልስ ማስመረጥ ይቻላል)	1. በመስክ በመበተን 2. በጉድጓድ በማጠራቀም 3. ለማዳበሪያነት በመጠቀም/ኮምፖስት 99. ሌላ ካለ ይገለጽ-----	
211	የመጠጠጥ ውሃ ከየት ታገኛላችሁ ?	1. ከተጠበቀ/ከተገነባ ጉድጓድ/ ምንጭ 2. ካልተጠበቀ/ካልተገነባ ጉድጓድ/ ምንጭ 3. ከወንዝ 99. ሌላ ካለ ይገለጽ-----	
212	ለመጠጥ ውሃ ከሚወለወው ሌላ ለሌላ አገልግሎት የምትጠቀሙትን ውሃ ከየት ታገኛላችሁ ?	1. ከወንዝ 2. ከተጠበቀ/ከተገነባ ጉድጓድ/ ምንጭ 3. ካልተጠበቀ/ካልተገነባ ጉድጓድ/ ምንጭ 4. ከኩሬ 99. ሌላ ካለ ይገለጽ-----	
213	በአንድ ጊዜ ደርሶ መልስ ውሃ ለማምጣት ምን ያህል ደቂቃ ይወስወዳል ?	1. < 15 ደቂቃ 2. 15-30 ደቂቃ 3. 30 ደቂቃ እና ከዚያ በላይ	
214	ቤት ውስጥ አዘውትረው ውሃ የምታጠራቅሙ በምንድን ነው ?	1 እንስራ 2. ጀሪካን 3. ባልዲ(ፕላስቲክ) 4. ባልዲ (ብረት) 99. ሌላ ካለ ይገለጽ -----	

215	የውሃ ማጠራቀሚያ ዕቃ ባለበት አካባቢ እንስሳት ይደርሱበታል?	1 አዎ 2 አይደርሱም	
216	ዉሃ የቀዱበት እቃ የሚይዘው የዉሃ መጠን ስንት ሊትር ነዉ ?	-----ሊትር	
217	በዚህ እቃ በቀን ምን ያህል ጊዜ ይቀዳሉ?	-----ጊዜ	
218	የተዘጋጀ የእጅ መታጠቢያ አለዎት;	1. አለ 2. የለም →	ጥ. 301
219	ለጥያቄ 218 መልሱ አለ ከሆነ በማየት አረጋግጥ	1. ዉሃ ብቻ 2. ዉሃ እና ሳሙና ወይም አመድ 3. ሁሉም የለም	
220	የእጅ መታጠቢያ የሚገኝበት አካባቢ	1. መጽዳጃ ቤት አቅራቢያ 2. መኖሪያ ቤት ዉስጥ 99. ሌላ ካለ (ይጠቀስ)-----	
221	የእጅ መታጠቢያ አይነት	1. አነቆርቋሪ/ታፒታፕ) 2. ማሰሮ 3. ጆግ 4. የዘይት ወይም የዉሃ ማሸጊያ ፕላስቲክ 99. ሌላ ካለ (ይጠቀስ)----- -	

ክፍል 4. የግንዛቤ መመዘኛ ጥያቄዎች

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ይለፉ
301	የተበከለ ዉሃ የህጻናት ተቅማጥ ሊያመጣ ይችላል ?	1. አዎ 2. አያመጣም } 88. አላዉቅም } →	ጥ. 304
302	ምን ዓይነት ዉሃ ነዉ የህጻናት ተቅማጥ ሊያመጣ የሚችል ? (ከአንድ በላይ መልስ ማስመረጥ ይቻላል)	1. ማንኛዉም ዉሃ 2. በሰገራ የተበከለ ዉሃ 3. በእንስሳት /አራዊት የተበከለ ዉሃ 99. ሌላ ካለ (ይጠቀስ)-----	
303	የተበከለ ዉሃ የህጻናት ተቅማጥ እንደሚያመጣ ማን ነገራችሁ ? (ከአንድ በላይ መልስ ማስመረጥ ይቻላል)	1.ከሬዲዮ 2. ከጤና ባለሙያዎች 3. ከጤና ሃይላት 99. ሌላ ካለ (ይጠቀስ)-----	
304	ከንጹህ ምንጭ የተቀዳ ዉሃ ቤት ከገባ በኋላ የሚበከል ይመስለዎታል ?	1. አዎ 2. አይበከልም } 88. አላዉቅም } →	ጥ.306
305	ለጥያቄ 304 መልስዎ « አዎ » ከሆነ እንዴት ሚበከል ይመስልዎታል ? (ከአንድ በላይ መልስ ማስመረጥ ይቻላል)	1. ባልታጠበ እጅ ሲነሳ 2. ንጹህ ባልሆነ እቃ ሲቀዳ/ሲጠራቀም 3. ያለክዳን ሲቀመጥ 4. ንጹህ ባልሆነ እቃ ሲጠለቅ / ሲቀዳ 5. በነፍሳት አማካኝነት 99. ሌላ ካለ (ይጠቀስ)-----	
306	አይነምድር የህጻናት ተቅማጥ ሊያመጣ ይችላል ?	1. አዎ 2. አያመጣም } 88. አላዉቅም } →	ጥ.308
307	ለጥያቄ 306 መልስዎ « አዎ » ከሆነ የትኛዉ የሰገራ ዓይነት ነዉ ሊያመጣ የሚችል ?	1. የህጻናት 2. የትልቅ ሰዎች 3. ሁሉም ዓይነት 88. አላዉቅም	

308	ዝንብ በሽታ ልታመጣ ትችላለች ?	1. አዎ 2. አታመጣም 88. አላውቅም } —————→	ጥ.310
309	ለጥያቄ 308 መልስዎ « አዎ » ከሆነ ምን ምን በሽታ እንደምታመጣ ቢጠቅሱልኝ ? (ከአንድ በላይ መልስ ማስመረጥ ይቻላል)	1. ተቅማጥ 2. ታይፎይድ 3. ወባ 4. ትራኮማ 88. ስማቸውን አላውቅም 99. ሌላ ካለ ይገለጽ-----	
310	የህጻናት ተቅማጥ ከበሽተኛ ወደ ጤነኛ እንዴት ይተላለፋሉ ? (ከአንድ በላይ መልስ ማስመረጥ ይቻላል)	1. በዝንብ አማካይነት 2. ባለታጠቡ እጆች 3. በተበከለ ምግብ/ዉሃ 4. በመጥፎ ሽታ 88. አላውቅም 99. ሌላ ካለ ይገለጽ-----	
311	የህጻናትን ተቅማጥ ለመከላከል ጠቃሚ የእጅ መታጠቢያ ጊዜያት መቼ መቼ ነዉ ? (ከአንድ በላይ መልስ ማስመረጥ ይቻላል)	1. ምግብ ከማዘጋጀት በፊት 2. ህጻናትን ከመመገብ በፊት 3. ከተፀዳዱ በኋላ 4. ህጻናትን ካጸዳዱ በኋላ 5. ምግብ ከበላሁ በኋላ 99. ሌላ ካለ ይገለጽ-----	

ክፍል 5. የአመለካከት መመዘኛ ጥያቄዎች

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ይለፉ
401	ከንጹህ ምንጭ የተቀዳ ዉሃ ቤት ዉስጥ ሊበከል ይችላል	1. እስማማለሁ 2. መወሰን አልችልም 3. አልስማማም	
402	በእናቶች ባለታጠቡ እጆች ምክንያት የህጻናት ተቅማጥ ይመጣል	1. እስማማለሁ 2. መወሰን አልችልም 3. አልስማማም	
403	ቀጥለዉ በተዘረዘሩ ሃሳቦች ምን ያህል ይስማማሉ		
403.1	እናቶች ምግብ ከማዘጋጀታቸዉ በፊት እጃቸዉን መታጠብ ያለባቸዉ	1. ሁልጊዜ 2. አልፎአልፎ 3. መታጠብ አያስፈልግም	
403.2	እናቶች ምግብ ከመመገባቸዉ በፊት እጃቸዉን መታጠብ አለባቸዉ	1. ሁልጊዜ 2. አልፎአልፎ 3. መታጠብ አያስፈልግም	
403.3	እናቶች ከተጸዳዱ በኋላ እጃቸዉን መታጠብ አለባቸዉ	1. ሁልጊዜ 2. አልፎአልፎ 3. መታጠብ አያስፈልግም	

403.4	እናቶች ህጻናትን ካጸዱ በኋላ እጃቸውን መታጠብ አለባቸው	1. ሁልጊዜ 2. አልፎአልፎ 3. መታጠብ አያስፈልግም	
404	የህጻናትን ተቅማጥ የሚያመጣው ጥርስ ማወጣታቸው ነው	1. እስማማለሁ 2. መወሰን አልችልም 3. አልስማማም	
405	ከቤት እንስሳት ጋር አብሮ መኖር የህጻናት ተቅማጥ ያመጣል	1. እስማማለሁ 2. መወሰን አልችልም 3. አልስማማም	

ክፍል 6. የተግባራት መገምገሚያ ጥያቄዎች

501	ትላንት ለመጠጥ የሚወለደው ወሃ በምን ዓይነት እቃ አመጡ? (ከአንድ በላይ መልስ ማስመረጥ ይቻላል)	1. ጀሪካን 2. ባልዲ 3. እንስራ 99. ሌላ ካለ ይገለጽ-----	ይለፉ
502	ይህን እቃ መቼ መቼ ያጥቡታል? (ምርጫዊ ይነበብላቸዋል)	1. ከመቅዳቱ በፊት ሁልጊዜ 2. በየሁለት ቀኑ 3. በየሳምንቱ 4. እጅ ስለማያስገባ አይታጠብም 99. ሌላ ካለ ይገለጽ-----	
503	ለመጠጥ አገልግሎት የሚወለደው ወሃ ተከድኗል? (በመቃኘት ያረጋግጡ)	1. አዎ 2. አልተከደነም	
504	ትላንት ለመጠት የሚወለደው ወሃ ምን ከደኑት;	1. በእቃው መክደፏ 2. ሳር/ቅጠል 3. ፈስታል/ፕላስቲክ 4. አልተከደነም 5. ጣሳ 99. ሌላ ካለ ይገለጽ-----	
505	ለመጠጥ የሚሆን ውሃ ከማጠራቀሚያ ዕቃው እንዴት ነው የሚቀዱት	1. በመቅዳት 2. በመጥለቅ 3. በሁለቱም	
506	ለጥያቄ 505 መልሱ « በመጥለቅ » ከሆነ የመቅጃው እቃ መያዣ አለው ?	1. አዎ 2. የለም	
507	ወሃ የሚጠለቅበት/የሚቀዳበት የተለየ እቃ አለ ?	1. አዎ 2. የለም	

508	የሚጠለቅበት እቃ የሚቀመጠው የት ነው ? (በምልክታ ያረጋግጡ)	1. ጠረጴዛ ወይም መደርደሪያ 2. ግድግዳ ላይ በማንጠልጠል 3. ከወሃ እቃ ላይ 4. ውስጥ መተው 5. ወለል ላይ 99. ሌላ ካለ ይገለጽ-----	
509	የምግብ እቃውን አዘውትረው የሚያጥቡት መቼ ነው ?	1. ከመመገብ በፊት 2. ከተመገቡ በኋላ 3. በሁለቱም ጊዜያት	
510	እናቶቼህ እጃቸውን አንድ ስራ ከማከናወናቸው በፊትና በኋላ ይታጠባሉ። ትላንት እጅዎን መቼ መቼ ታጠቡ ? (አማራጭ መልሱን አያንብቡ) (እንዲዘረዝሩ ያግባቡ) (ከአንድ በላይ መልስ ማስመረጥ ይቻላል)	1. ከምግብ በፊት 2. ከተጸዳዳሁ በኋላ 3. ምግብ ከበላሁ በኋላ 4. ህጻናትን ካጸዳዳሁ በኋላ 5. ምግብ ከማዘጋጀት በፊት 6. ህጻናትን ከመገባሁ በኋላ(ጡት ማጥባትን ጨምሮ) 99. ሌላ ካለ ይገለጽ-----	
511	እጅዎን ሲታጠቡ ሁልጊዜ ሳሙና ወይም አመድ ይጠቀማሉ ?	1. አዎ  2. አልጠቀምም	ጥ.513
512	መልስዎ ‘ሁልጊዜ አልጠቀምም’ ከሆነ ሳሙና ወይም አመድ የሚጠቀሙ ምን ስራ ሲያከናውኑ ነው ነው ?	----- -----	
513	ከተጸዳዱ በኋላ እጅዎን ይታጠባሉ ?	1. ሁልጊዜ 2. አልፎ አልፎ 3. አልታጠብም 	ጥ. 515
514	መልስዎ ‘ 1 ወይም 2 ‘ ከሆነ በምን ይታጠባሉ ?	1. በወሃና በሳሙና/አመድ 2. በወሃ ብቻ 3. ካልተነካካሁ በስተቀር አልታጠብም 99. ሌላ ካለ ይገለጽ----- -	
515	ከእጅ መታጠቢያ አካባቢ የሚጠቀሙበት ሳሙና/አመድ አለ ?	1. አዎ 2. የለም	
516	ትላንት እጅዎን በሳሙና/በአመድ ምን ያህል ጊዜ ታጠቡ ?	-----ጊዜ	
517	የእናት የእጅ ጥፍር ሁኔታ ምን ይመስላል?	1. የተቆረጠ እና ንጹህ 2. ንጹህ ሆኖ ያልተቆረጠ 3. ንጹህና የሌለውና ያልተቆረጠ	

518	የመጻዳጃ ቤት አጠቃቀም ሁኔታ	1. ሁልጊዜ 2. አልፎአልፎ 3. ተጠቅመን →	ጥ. 522
519	ከቤተሰብ አባላት አዘዉትሮ መጻዳጃ ቤት የሚጠቀም ማነዉ? (ከአንድ በላይ መልስ ማስመረጥ ይቻላል)	1. ትላልቅ ወነዶች 2. ትላልቅ ሴቶች 3. ተማሪ ልጆች ብቻ 4. ከህጻናት በስተቀር ሁሉም ቤተሰብ 5. ሁሉም	
520	ልጆች መጻዳጃ ቤት በስንት አመታቸዉ እንዲጠቀሙ ትመክራላችሁ ?	በ-----ዓመታቸዉ	
521	ልጆች መጻዳጃ ቤት የማይጠቀሙበት ምክንያት ምንድን ነዉ ? (ከአንድ በላይ መልስ ማስመረጥ ይቻላል)	1.ወለሉ ንጹህ ስላልሆነ 2. እንወድቃለን ብለዉ ስለሚፈሩ 3. መጥፎ ሽታ ስላለዉ 4. የልጆች ዓይነ-ምደር ችግር ስለማያመጣ 99. ሌላ ካለ ይገለጽ-----	
522	መጻዳጃ ቤት መጠቀም ያልጀመሩ ልጆችን ሰገራ እንዴት ታስወግዳላችሁ?	1. መጻዳጃ ቤት ዉስጥ በመጣል 2. ከመኖሪያ ቤት ዉጭ የትም ቦታ መጣል 3. መሬት ቆፍሮ መቅበር 4. ችግር ስለማያመጣ ከተጸዳዱበት ቦታ መተዉ 99. ሌላ ካለ ይገለጽ-----	
523	ህጻናትን ካጸዳዱ በኋላ እጅዎን እንዴት ያጸዳሉ?	1. በዉሃ ብቻ መታጠብ 2. በዉሃና በሳሙና 3. እጅን በድራቶ ወይም በሳርና ቅጠል መጥረግ 4. የእጅ ታጦችን በዉሃ ማስነካት 99. ሌላ ካለ ይገለጽ-----	
524	እርስዎ ገላዎን በምን ያህል ጊዜ ይታጠባሉ;	1. □□ሳምንቱ 2. በየሁለት ሳምንቱ 3. በየወሩ 4. ከ1 ወር በላይ 5. አላስታዉ□□ 99. ሌላ ካለ ይገለጽ-----	
523	ዝንብ በመኖሪያ ቤት በብዛት ይታያል;	1. አዎ 2. አይታይም	

ክፍል 7 ስለ ሕጻኑ አጠቃላይ መረጃ

ከዚህ በታች ያለው መጠይቅ የሚሞላው ተቅማጥ ስለያዘው ፅፃን ወይም በቤትውስጥ ተቅማጥ የያዘው ፅፃን ከሌለ በፅድሜ አነስተኛ ለሆነው ቅፃን ወይም አንድ ብቻ ከሆነ ያለዉ ሕጻን ይጠየቃል ::

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ይለፉ
601	የህጻኑ እድሜ	-----ወር	
602	የህጻኑ ጾታ	1.ወንድ 2. ሴት	
603	ህጻኑ የተወለደዉ የት ነዉ ?	1. ጤና ድርጅት 2. ቤት ዉስጥ	

604	ስንተኛ ልጅዎ ነው ?	1. 1ኛ 2. 2ኛ 3. 3ኛ 4. 4 እና ከዚያ በላይ	
605	እርስዎ ባለፉት ሁለት ሳምንታት ውስጥ ተቅማጥ ነበረዎት ?	1. አዎ 2. የለም	
606	ህጻኑ ከተወለደ ጀምሮ ጡት ጠብተዋል ?	1. አዎ 2. የለም →	ጥ.608
607	ለምን ያህል ጊዜ ጡት ብቻ ጠባ ?	-----	
608	አሁን ባለበት ሁኔታ ህጻኑ የሚመገበው ምንድን ነው ?	1. ጡት ብቻ → 2. ጡትና ተጨማሪ ምግብ 3. ከጡት ሌላ ምግብ ብቻ	612
609	ህጻኑ ተጨማሪ ምግብ የጀመረው ከስንት ወር በኋላ ነው ?	ከ-----ወር በኋላ	
610	ሕጻኑ የሚወስደው ምግብ በተለየ እቃ ይዘጋጃለታል? (በምልከታ አረጋግጥ)	1. አዎ 2. የለም	
611	ህጻናትን ለመመገብ ምን እቃ ትጠቀማላችሁ?(በመቃኘት ያረጋግጡ) (ከአንድ በላይ መልስ ማስመረጥ ይቻላል)	1. ማንኪያ 2. ኩባያ/ጡጡ 3. ኩባያና ማንኪያ 4. በእጄ 5. እራሱ ይበላል 99. ሌላ ካለ ይገለጽ-----	
612	ህጻኑ የአንክሊስ ክትባት ወስዷል ?(ከ9 ወራት በላይ ከሆነ)	1. አዎ (በቃል) 2. አዎ (ካርድ በማየት) 3. የለም 4. 99 ወር አልሞላውም	
613	ባለፈት ሁለት ሳምንታት ውስጥ ህጻኑ ተቅማጥ ነበረው ? (ተቅማጥ የሚለውን ማብራሪያ አስረዳ)	1. አዎ 2. የለም →	ወ.ጣ
614	ተቅማጡ ለምን ያህል ጊዜ ቆየ	1. < 14 ቀን 2. ≥ 14 ቀን	
615	በ14 ቀን ውስጥ ተቅማጡ ለስንት ጊዜ ተደጋገመ ? በስንት ቀን ልዩነት ?	ለ-----ጊዜ ተደጋገመ በ-----ሰዓት ልዩነት	
616	በ14 ቀን ስንት ጊዜ ያስቀምጠው ነበር ?	-----ጊዜ	
617	ተቅማጡን ለማቆም ምን እርምጃ ወሰዱ ?	1. ወደ ህክምና ወሰድሁ 2. ወደ ባህል ህክምና ወሰድሁ 3. ምግብ/ፈሳሽ አብዝቶ እንዲበላ አደረግሁ 4. ህይወት አድን ገዢ ሰጠሁት 5. ቤት ውስጥ ፈሳሽ አዘጋጅቼ ሰጠሁት 6. ፈሳሽ እንዲያበዛ አደረግሁት 7. ቤት ውስጥ መድሃኒት ገዢ ሰጠሁት 99. ሌላ ካለ ይገለጽ-----	

አመሰግናለሁ !!

የመረጃ ሰብሳቢው ስም-----ፊርማ-----ቀን-----/-----/-----

የተቆጣጣሪው ስም -----ፊርማ-----ቀን-----/-----/-----

በመቃኘት የሚሞላ ፔክ ሊስት

ቀበሌ-----የቤቱ መለያ ቁጥር-----

የ(✓) ምልክት በመልስ መስጫው ቦታ ይጠቀሙ

ተ.ቁ	ተጋባራት	የምልክታዊ ሁኔታ		
		አዎ	አይደለም	ተጨማሪ ማብራሪያ
1	የተዘጋጁ ወይም የተረፉ ምግቦች ተከድነዋል			
2	የህጻኑ እጅ ንጹህ ነው?			
3	የህጻኑ የንጽህና አያያዝ በጥሩ ሁኔታ ነው?			
4	የመጠጥ ውሃ ማጠራቀሚያ ተከድኗል			
5	የውሃ ማጠራቀሚያ እቃ ባለበት አካባቢ ጽዳቱ የተጠበቀ ነው?			
6	የመመገቢያ እቃዎች ንጹህ ናቸው?			
7	የመኖሪያ ቤት ወለል ንጹህ ነው?			
8	የግቢው ንጽህና የተጠበቀ ነው?			
9	ዓይነምድር በመጸዳጃ ቤት ተዘረክርኮ ይታያል?			
10	ህጻናት ከቤት እንስሳት ጋር ይጫወታሉ?			
	ቅኝቱ የተካሄደበት ሰዓት:-----			
	የመረጃ ሰብሳቢው ስም-----ፊርማ-----ቀን-----/-----/-----			
	የተቆጣጣሪው ስም -----ፊርማ-----ቀን-----/-----/-----			

የቡድን ወይይት ማዋያያ ቅጽ

የፈቃደኝነት ማረጋገጫ ቅጽ

የወረዳው ስም-----ቀበሌ-----የቡድኑ መለያ ቁጥር-----

እንደምን አደራችሁ/ዋላችሁ ?

ስሜ-----እባላለሁ::የስራ ባልደረባዬ ----- ይባላል :: እዚህ የመጣነው በአዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ጤና ትምህርት ክፍል የማስተርስ መመረቂያ ጥናታዊ ጽሁፌን ለማዘጋጀት መረጃ ለመሰብሰብ ነው ::

የጥናቱ ዓላማ በግልና በቤት ውስጥ ንጽህና የእናቶችን እውቀት ፣ ዝንባሌ እና ተግባር ከአምስት ዓመት እደድሜ በታች ባሉ ህጻናት ከሚከሰተው ተቅማጥ ጋር ያለው ግንኙነትን ለማወቅ ነው :: የዚህ አይነት የቡድን ወይይት በተመሳሳይ ሁኔታ በሌሎችዎረዳዎች ይካሄዳል:: እናንተ ከህብረተሰቡ መካከል ስለ ጉዳዩ በቂ መረጃ ትሰጣላችሁ ተብሎ በጤና ኤክስቴንሽን ባለሙያዎች ስለታመነላችሁ ተመርጣችኋል :: ይህን መረጃ ስትሰጡ ስምዎ አይጻፍም ፤ የምትሰጡን መረጃ ከተጠቀሰው አላማ ውጭ ለሌላ መረጃነት ተላልፎ አይሰጥም ፤ መመለስ የማትፈልጉትን ጥያቄ ወይም የወይይት አጀንዳ መተው ትችላላችሁ :: ወይይቱ ካልተመቸዎት በማንኛውም ጊዜ ማቋረጥ ትችላላችሁ ::ይህን መረጃ ለመዘገብ ማስታዎሻ መጻፍና መቅረጽ-ድምጽ እንጠቀማለን ::

ለዚህ ጥናት የሚሰጡኝ መረጃ በዚህ አካባቢ እናቶች በግልና በቤት ውስጥ ንጽህና ያላቸውን ግንዛቤ ፣ ዝንባሌ እና ተግባራትን ክፍተት በመለየት ፣ ይህም ጉድለት ከአምስት አመት በታች ባሉ ህጻናት ላይ ለሚከሰተው የተቅመጥ በሽታ ምክንያት መሆኑን በማሳየት አስፈጻሚ አክላት እና ባለሙያተኞች ትክክለኛ ፕሮግራም ለመቅረጽና እርማጃ በመውሰድ የህጻናትን ተቅማት ለመከላከል ያስችላል :: እያንዳንዳችሁ ለዚህ ተግባር የምታደርጉት አስተዋጽኦ የላቀ ምስጋናችንን እያቀረብን ወደ 45 ደቅቃ ሊወስድ ይችላል :: ግልጽ ያልሆነ ሃሳብ ካለ መጠየቅ ትችላላችሁ ::

ወይይቱን ለማካሄድ ተስማምታችኋል ? ሀ) ተስማምተናል ☐ ለ) አልስማማኝም ☐

የዘጋቢ ☐ ስምና ፊርማ 1. -----ቀን---/-----/-----

የወይይቱ ወጪት :- 1. ተሟልቷል 2. በከፊል ተሟላቷል 3. አልተካደም

አመሰግናለሁ !!

የቡድን ዉይይት መነሻ ነጥቦች

የዉይይት መለያ ቁጥር-----ቀበሌ -----ቀን ---/---/-----

የተሳታፊ ብዛት-----ጾታ :ወንድ-----ሴት-----

በግልና በቤት ዉስጥ ንጽህና የእናቶችን ግንዛቤ : ዝንባሌ እና ተግባራት ከአምስት ዓመት እደድሜ በታች ባሉ ህጻናት ከሚከሰተዉ ተቅማጥ ጋር ያለዉ ግንኙነትን አስመልክቶ የሚካሄድ የቡድን ዉይይት

1. በዚህ ቀበሌ የህጻናት የጤና ችግር ምንድን ነዉ?
2. ይህን የጤና ችግር ለመቅረፍ ከእናንተ ምን ይጠበቃል?
3. የህጻናት ተቅማጥ እንዴት መከላከል ይቻላል?
4. ህጻናት የተቅማጥ በሽታ ለምን ይይዛቸዋል;
5. ለመጠጥ የሚሆን ዉሃ ከት ታገኛላችሁ ;
6. ዉሃ እንዴት ይበክላል ;
7. ዉሃን ከማጠራቀሚያዉ እንዴት ትጠቀማላችሁ
8. እጅን መታጠብ ጠቀሜታዉ ምንድን ነዉ?
9. እጃችሁን በሳሙና መታጠብ የሚያስፈልገዉ መቼ ነዉ ?
10. መጸዳጃ ቤት ስንቶቻችሁ አላችሁ?
11. የመጸዳጃ ቤት ጠቀሜታ ምንድን ነዉ?
12. የህጻናትን ሰገራ እንዴት ታስወግዳላችሁ ?
- 13.ቆሻሻ በአይን ካልታዩ ወይም ካልሸተተ በስተቀር ቆሻሻ ነዉ ማለት ይቻላል;
- 14.የእናቶች የግል ንጽህና ጉድለት ለህጻናት ተቅማት መንስኤ ሊሆን ይችላል?
- 15.እንስሳት ከሰዉ ጋር አብሮ መኖር ምን እግር ያስከትላል?
- 16.የእናቶች የግልና የቤት ዉስጥ ንጽህና ከህጻናት ተቅማጥ ጋር ያለዉን ግንኙነት አስረዳ
- 17.ስለ እናቶች የቤት ዉስጥ ንጽህና አያያዝና አጠባበቅ አስመልክቶ የምትሰጡት ሃሳብ ካለ?

ጊዜያችሁን ሰዉታችሁ ስለሰጣችሁን ጠቃሚ መረጃ ካልብ እናመሰግናለን !!

ሰዓት-----

ANNEX -III

LETTERS FOR DECLARATION

I, the under signed, declared that this is my original work, has never been presented in this or any other University, and that all the resources and materials used for the thesis, have been fully acknowledged.

Name: Kelemu Dessie Bizuneh

Signature: _____

Date: _____

Place: Addis Ababa University, Ethiopia

Date of submission: July, 2010

This thesis has been submitted for examination with my approval as University advisor.

Name: Abera Kumie (MD, MSc, PhD)

Signature: _____

Date: _____