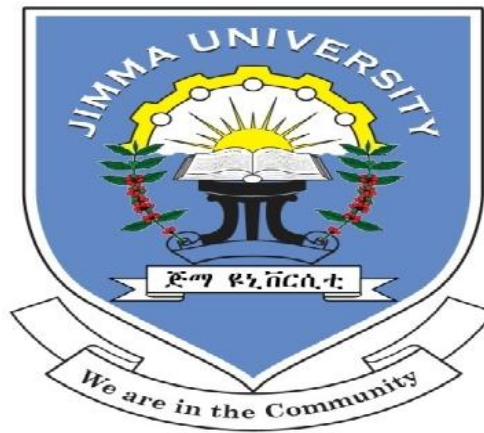


Utilization of Environmental Health Services of Urban Health Extension Program and associated factors in Debreabor Town, North West Ethiopia



By: Yilkal Tafere

A research thesis submitted to Jimma University, College of Public Health and Medical sciences, department of Epidemiology, in partial fulfillment of the requirement for Masters of Public Health in Epidemiology

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By: Yilkal Tafere

Advisors:-

- 1. Mirkuzie Woldie (MD, MPH)**
- 2. Henok Assefa (BSc.,MSc)**

Abstract

Background: *Studies in a number of countries have shown that wherever indiscriminate waste disposal is high, infant and child mortality rates are high. Although utilization of environmental health services is an important indicator for measuring success of the health extension program; data on environmental health services of urban health extension program are scarce in the study area and elsewhere in Ethiopia.*

Objective: *To assess utilization of environmental health services of urban health extension program and associated factors in Debretabor town, Amhara region, Ethiopia.*

Methods: *A community based cross sectional study was conducted in Debretabor town from September 1-30, 2013. A total of 422 households were included in the study using systematic sampling technique. Data were collected using structured questionnaire and analyzed using SPSS version 16.0. Degree of association between independent and dependent variables was assessed with a 95% confidence level and p-value less than 0.05 was used to detect statistical significance. The findings of quantitative data were triangulated with the qualitative one.*

Result: *In this study 69.8% and 65.5% of households practiced proper solid and liquid waste management mechanisms respectively. Ninety three point five percent of households have latrine. Among the households with latrines, 76.5 % of the respondents have hand washing devices. Graduated as model family was predictor for availability of latrine and hand washing facilities (AOR= 3.18, 4.94) respectively. Income was found to be predictors for liquid waste management (AOR=1.82), and availability of latrine (AOR=3.70). House ownership was found to be predictor for availability of latrine (AOR=8.46). Educational status of respondents was found to be predictors for liquid waste management (AOR=1.83) and availability of latrine (AOR= 2.65). Financial problems, lack of water, lack refreshment training, were mentioned as reasons for not utilization of environmental health services of urban health extension program.*

Conclusion: *Solid and liquid waste management practices were lower than from the target set in the health extension program implementation manual at least 75% of the package should be implemented. Latrine coverage was relatively lower from the national target of 100%, still there are households that use open defecation. Educational status, house ownership, income and graduated as model family were main factors affecting environmental health services. Improving socio economic status of households, provision of continuous advice and technical support at household level on the utilization of environmental health service are recommended.*

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ACRONYMS/ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
CDC	Centers for Disease Control
CHPs	Community Health Providers
CLTSH	Community Led Total Sanitation and Hygiene
CSA	Central Statistical Agency
EDHS	Ethiopian Demographic and Health Survey
ETB	Ethiopian Birr
HEW	Health Extension Worker
HH	Household
HMIS	Health Management Information System
HP	Health Post
HSDP	Health Sector Development Program
IEC	Information, Education and Communication
JMP	Joint Monitoring Programme for Water Supply and Sanitation
MDG	Millennium Development Goal
MMR	Maternal Mortality Ratio
MOH	Ministry Of Health
PHC	Primary Health Care
UHEW	Urban Health Extension Worker
USAID	United States Agency for International Development
VIP	Ventilated Improved Pit latrine
WHO	World Health Organization

Chapter One: Introduction

1.1. Background

Urban health services are a type of services given for urban communities to prevent health problems and it is more beneficial to prevent adverse health outcomes when it is sought early (1). Creating and sustaining proper waste management practices is an essential part for improved human health, safe environment and sustainable development (2).

Unsafe water supply and poor sanitation contributes a significant share of the world's hospital bed occupancy. The majority of the burden affects Asia and Africa, where 2.2 million people die annually from diseases associated with inadequate sanitation (3). In most of developing countries including Ethiopia waste management practices are poor .Human waste is a major pollutant of water sources. Sanitation Coverage in Ethiopia remain low (60%) even considerable efforts is made by the government and partner organizations. In general, hygiene and sanitation related health risks are common problems and associated with low sanitation coverage (2)

Ethiopian Government is addressing environmental health services as part of multi years (20 years) rolling Health Sector Development Program (HSDP). The Health Extension Program (HEP), which is extensively under implementation, is one of the major pillars of the health service delivery system in Ethiopia. It is getting momentum and global recognition as an effective strategy for substantially improving the health status of the community and it is the main vehicle for scaling up equitable access to preventive essential health services in both rural and urban population (4, 5).

Ethiopian population has poor health status, low income and education level especially among the women, inadequate access to sanitation facilities contribute to the burden ill health. The health challenges facing Ethiopia are substantial. Maternal mortality ratio in Ethiopia is (MMR) 676/100,000 live births. This indicates that need for accelerating the expansion of primary health care facilities and training of HEWs in order to attain universal health coverage as set by millennium development goal (6).

The government of Ethiopia implementing the rural HEP was adapted for the urban setting. Among the four packages of interventions primary areas Environmental health components are expected to affect urban population more. For urban setting the government chooses to use clinical nurses as UHEWs and provide them with additional pre-service three months of training and prepare them to work at the household level on health prevention and promotion (7, 8, 9).

HEWs main task is to transfer knowledge and skill to the families using three approaches: The first approach, HEWs select and train model families that have been involved in other development work that have the acceptance and credibility of the community, as early adopters of desirable practices to become role models to diffuse health messages leading to the adoption of the utilization of health extension services by the community. In the second approach, HEWs communicate health messages by involving the community from the planning stage all the way till the evaluation. In the third approach, HEWs provide different services (7, 9).

UHEW's are expected to spend most of their time on regularly visit each household providing support on implementation of environmental health packages of UHEP in urban settings and provide promotive, preventive and selected curative services. Urban environments are more likely to see large differences in socioeconomic status, high risk behaviors. In Ethiopia as elsewhere in developing countries, urban dwellers often lack basic sanitation and utilities such as water. Lack of basic infrastructure can exacerbate rates of infectious disease and unhygienic environment (10, 11). Hence, we are interested in not merely providing physical access, but also ensuring that health extension services are used by the community

1.2. Statement of the problem

Indiscriminate defecation and improper excreta disposal are principal determinants for both morbidity and mortality. The use of a sanitary facility is closely linked to appropriate hygiene behavior. It is estimated that more than five million people die each year from diseases related to inappropriate waste disposal (12). The disease burden associated with poor sanitation and hygiene is estimated to account for 4.0% of all deaths (13). Moreover, 88% of diarrheal diseases are attributed to unsafe water supply, inadequate sanitation, and poor hygiene (14). In the 48 countries designated as the least developed by the United Nations, 1 in 4 people practice open defecation and 1 in 10 use surface water for drinking and household use (15).

In developing countries waste management often emerges as a problem that endangers human health and the environment. To make matters worse, waste management usually has a low priority on the political agenda of such countries, as they are struggling with other important issues such as unemployment (16). A massive disease burden is associated with deficient hygiene and sanitation and is largely preventable with proven, cost-effective interventions (17).

In the last few years in many areas of Ethiopia urban population growth is increasing. Urban areas are among the worst in both solid and liquid waste management because of this health related problems are rising. Much of these wastes, which lead to high rates of disease and death, are caused by lack of adequate excreta disposal facilities and inadequate solid waste collection and disposal service. As communities expand and population increase, the situation will grow worse and the need for safe, sustainable and affordable sanitation technology at HHs level will be more critical. Although urban sanitation facility figures generally are exceeding rural, it is widely known that the poor, unplanned, densely populated areas are underserved. This density therefore poses a greater risk of contamination than thinly populated rural areas. Limited sanitation options and high demand are compounded by poverty and limited space, creating a major challenge unmet waste disposal needs of the urban poor who resort to high-risk disposal practices (11, 18)

The HEP was designed and implemented in recognition of the fact that the major factor underlying the poor health status of the country's population is the lack of empowerment of households and communities to promote health and prevent disease. The Government of Ethiopia recognizes that the delivery of public health information and services in urban settings to be less than optimal and has been working to develop an Urban Health Extension Package building on the success of the rural HEP and HEWs are working at the kebele level in to promote safe excreta disposal system in households (HH) (19, 20).

Although the government of Ethiopia tries to solve urban health problems through UHEP; there are issues in waste management practices that affect urban population, only 14 % urban population has access to an improved toilet facility (9).

In Ethiopia, even though progress was made in reducing child mortality from 123 deaths of under five years of children per 1,000 live births in 2005 (21) to 88 deaths per 1,000 live births in 2011 (6), children in the country still suffer from diarrheal diseases. According to Ethiopian demographic and health survey, the two week prevalence of diarrheal diseases was 13% among of children under five years of age (6).

To improve Environmental health services throughout Ethiopia, the National Sanitation Strategy establishes the goal of 100% latrine coverage (22). The construction of sanitation facilities is underway in all parts of the country since the introduction of the HEP by the ministry of health. Because of growing concerns of environmental health related risks from the towns of the country, it is essential to perform community based studies that will support better understanding of the problems. Based on these contexts, the present study was conducted with regard to utilization and associated factors of environmental health services of UHEP implemented in Debretabor town, Northwest Ethiopia

Chapter Two: Literature Review

2.1 Measuring Environmental health service utilization

A study done in Jimma zone on HEP revealed that 68.4% of households (HHs) dispose solid waste on the open field. 54.0% HHs had private pit latrines with superstructure while 10.2% HHs use open defecation. Another study on the sanitation practice among model families of the HEP in Wolayta and Kembata Tembaro Zones indicate that waste disposal pits are usually prepared for temporary purposes and fill quickly. (23, 24)

A study conducted in Jimma zone, 2009, showed that 53.4% of the respondents sometimes wash their hands with soap after using the toilet and 33.4% of the respondents always wash their hands with soap after visiting the latrine, 13.2% of HHs did not practice hand washing with soap after visiting the latrine at all (23). A study from a rural school in Ethiopia showed that 36.2% of students wash their hand using soap before meals and only 14.8% reported that they wash their hand after visitnf toilet. Another study in SNNPR; indicate that 77% HHs reported that discussion was made mostly on latrine utilization during home visit of HEWs (25, 26)

A research conducted in Rural Ethiopia, revealed that most respondents had a favorable opinion of the performance and social behavior of HEWs. About 42 % of respondents had heard about community health providers (cHPs), and half (49.6%) of them had been visited by cHPs. The most common service received from vchPs was health education 43.8 % (27, 28).

A study conducted in the District of Bahir Dar Zuria, Ethiopia shows that 58.4% of HHs had pit latrines and 62.0% were functional. The availability of latrines was twice higher in HHs with an income of 5000 or more Ethiopian Birr per year (AOR 1.55) than those who hand an income less than 5000 Birr per year; the availability of latrines was two fold higher in HHs visited by health workers at least three times a month (AOR 2.29) than those that received no visits (29).

2.2.0. Factors associated with environmental health services utilization of UHEP

2.2.1 Community related factors

A study done in Dukem town, Ethiopia, 2011 shows that 274 (70.1%) of households (HHs) used improved private toilets. 55% of HHs had latrine. 29.9% HHs had used unimproved toilet facilities. The reasons given for the lack of latrines were: 37.6% reported that the house is rented, 26.5% cited financial problem, and 23.9 % mentioned lack adequate space and 11.1% indicated the unsuitability of land to construct latrine and 1.7 % lack of construction materials. From the HHs that had their own private latrines, 21.9 % were shared. Availability of private toilet was significantly associated with private house ownership ($p < 0.05$) (30).

Finding of the study in Dukem town shows that only 24.8% HHs used safe waste water disposal facilities. The remaining 75.2% used improper waste water disposal methods. Availability of safe liquid waste disposal facility was significantly associated with private house ownership (30).

Fifty three point three percent of HHs used a safe solid waste disposal method. Of the safe method of collection and disposal, 100(25.6%) of the HHs used private waste collectors, 66 (16.9%) HHs used private waste pit, 19 (4.9%) HHs used communal waste pit outside the premises and 19 (4.9%) HHs used composting of wastes for gardening within premises. 183 (46.8%) HHs used open field disposal. Similar study shows that 69.1% of the respondents washed their hands with soap after visiting toilet facility (30).

Hand washing with soap (or a substitute) and water after contact with stools can reduce diarrhoeal disease by 35% or more. Eye and skin infections can be reduced with more frequent face and body washing. A combined safe water supply, sanitation and hygiene can reduce diarrhoea by 65 percent. (22)

According to the study conducted in Jimma zone rural areas-In-depth interview participants witnessed that improvements have been observed after the arrival of the HEWs particularly in relation to acceptance of latrine construction and use by the community .It is difficult to identify which determinants are most influential in the decision to utilize environmental health services. Culture, economics, access and knowledge are all among the extensive list of factors influencing utilize environmental health services (10, 23)

Utilization of health care services is affected by different factors. A study done on the assessment of HEP attempted to identify and measure factors that contribute to differentiation in the utilization of health care services suggests that these factors are culture, socio-demographic , economic status, accessibility, family size, education, work status and health services issues are identified as the major causes of poor utilization of primary health care services (31, 32).

A research conducted in Amhara and SNNPR, Ethiopia, 2008; revealed that as HEWs began their efforts to implement the HEP, the communities were often resistant to preventive health care interventions. To overcome the lack of community understanding of the HEP objectives and the role of the HEWs, the HEWs worked closely with community health workers (CHWs) to win community confidence during home visits and other activities .According to the study conducted on HEP implementation in Jimma zone rural areas revealed that HHs rated the contribution of the HEWs for the environmental health packages practices as 38.2% good, 38.1%. Very good, 14% poor, 9.5% of the HHs said their contribution is rated it as excellent (23, 33).

The issue of education in the context of health care seeking behavior would be reasonable to assume that it would have a positive effect on their health. Studies show that maternal health education is consistently and strongly associated with all types of health behavior and use of maternal health care services to be higher among more educated mothers. Educated mothers are more likely to seek health care services than less educated women (34).

A study conducted in Damboy woreda, SNNPR; on Knowledge of respondents towards environmental Health Packages indicate that 88% HHs responded correctly the components of environmental packages, 87.7% HHs responded correctly the critical times to wash hands, 93.8% HHs had latrine facility. The reasons given for unavailability of their own toilets were nature of loose soil formation and low income of the respondents. Almost all or 99.7% toilets were private. Out of the total HHs toilets, 5.1% were not utilized properly and 3.0% toilets were not functional during visit. Hygienic condition of toilets was rated as 13.44% poor, 42.41% fair and 44.15% good(26).

According to study on 444 HHs of Kersa woreda, Eastern Ethiopia, showed that regarding solid waste storage, only 30 (6.9%) of the HHs had temporary storage in their compound. Of these 10 (33.3%) used dug pits. From a households assessed for presence of excreta disposal systems, only 156 (36.4%) reported that they have latrine; while 272 (63.6%) were without latrine. Out of the total 156 respondents who indicated the availability of latrine; 13 (8.3%) had hand washing facilities near the latrine. The study participants were also asked about their hand washing practice after handling of solid wastes. The majority, 379 (85.9%) reported that they regularly wash their hands after they handle solid waste (35)

2.2.2. Health extension workers related factors

The creation of equitable health system is not an end by itself, but it is a basic requirement to achieve better health outcomes. Although the HEP is a new initiative it brought positive achievements and has faced challenges as well. A study conducted on working condition of HEW in Ethiopia shows that, there was no strong follow-up mechanism between the health posts and health centers. According to the study conducted on health extension package implementation in Jimma zone rural areas, HEWs work with almost all social, cultural, religious and administrative structures available in the kebele to effect community involvement action for health (23, 36,37).

A study on the extent of implementation of environmental health extension packages in Damboya woreda, SNNPR revealed that 97.7% respondents mentioned by name the HEWs who were deployed in health post. A Survey conducted in Amhara region by USAD /HIP Hygiene Improvement Project Shows that majority of respondents suggested that the HEWs being females is more appropriate and almost all respondents reported that HEWs played a key role in the implementation of environmental health services related activities, including constructing latrines, educating the community on personal hygiene, latrine use, handwashing and safe handling of water (26.38).

HEWs are required to spend 75% of their time conducting outreach activities by going house to house. HEWs are expected to help households, latrine construction and solid waste disposal and they should communicate health messages by involving the community from the planning stage all the way through the process evaluation. (7)

USAID-funded survey in Ethiopia to identify best practices, gaps and challenges of UHEP shows that HEWs have directed the majority of their services to the households. One consistent issue that was raised is that either through their own interest or perhaps because of client demand, HEWs are not implementing the full set of environmental sanitation packages as originally envisioned. None of the topic of food hygiene was raised. According to some of the supervisors, health centers staff did not value the contribution of the HEPs because they did not trust the professionals to have done it correctly HEWs: Major factors that limited HEW performance include inadequate training and lack of transportation (9, 33).

A survey conducted by USAID/HIP Hygiene Improvement Project in Amhara region 2011 shows that Knowledge about hand washing junctures crucial to reduce diarrheal disease increased significantly, but promoting the practice remains a challenge. Many more people are apt to wash their hands for food handling purposes rather than for reasons related to fecal matter. While self-reported hand washing practices have increased significantly; this is not substantiated by the presence of hand washing stations with needed supplies. Spot checks indicated a 3 percent drop in the presence of water in hand washing facilities (38)

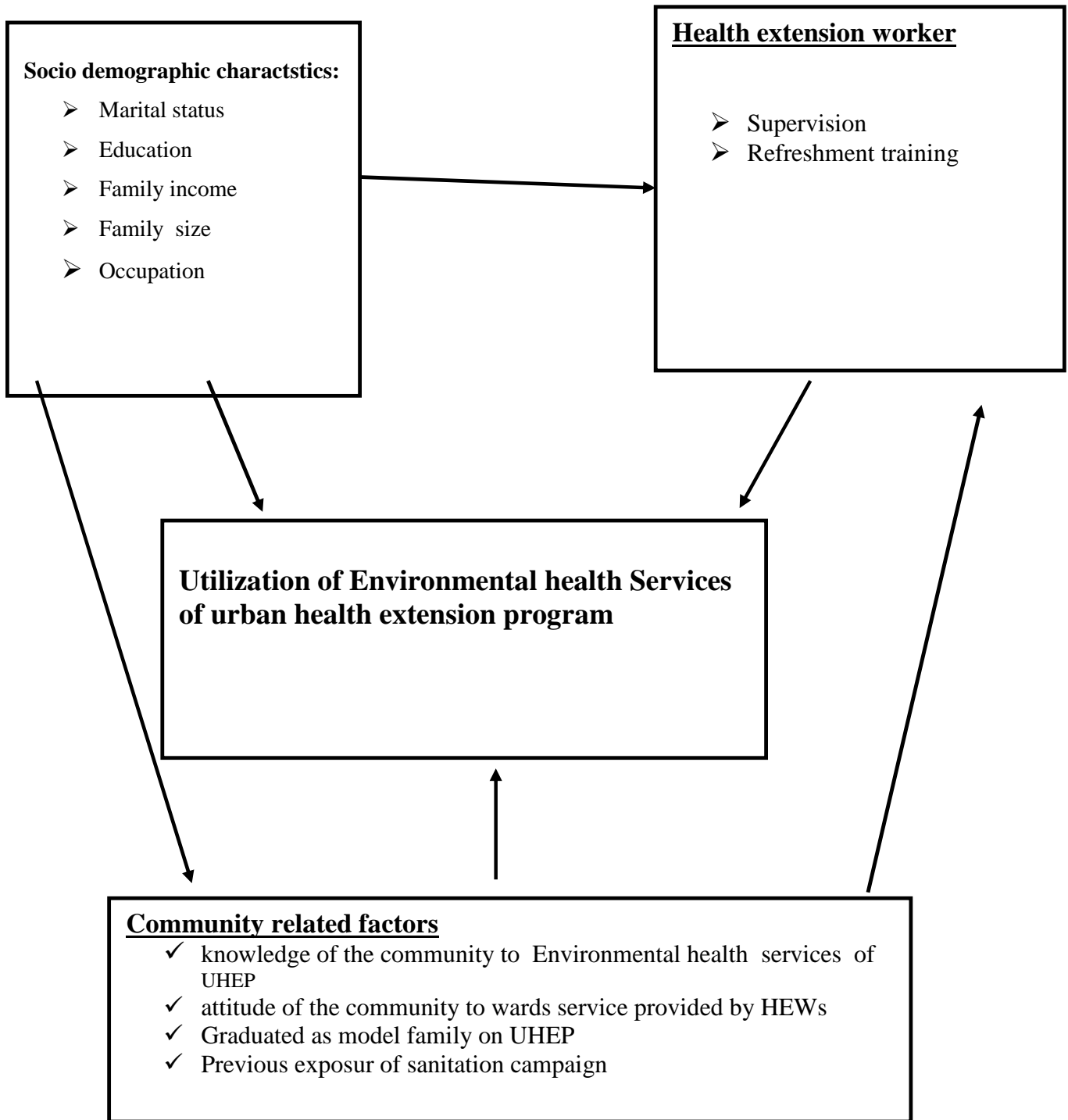


Figure 1: Conceptual Framework for Utilization of Environmental Health Services of the UHEP and associated factors in Debretabor Town, North West Ethiopia; 2013

(Sources: Developed by principal investigator based on literature review)

2.2 Significance of the study

Urban health service extension program is a newly introduced community based approach. Environmental health services are given attention in the government policies, strategies and plans; information is needed on the utilization of services from the population. In Ethiopia, Even though few studies were done on HEP in rural areas on environmental health service utilization, Since the Urban Health extension package inception in 2009, as a pilot program up to now little is known about the implementation of environmental health services of UHEP in the proposed study area, Debretabor town, Northwest Ethiopia.

Community based study on utilization of environmental health services of UHEP will be instrumental to address these issues. Therefore, the result of this study will help to examine the, availability and utilization of the environmental health services and facilities. It will also help to assess the progress made and challenges faced by implementers and come up with base line information to help decision makers, program managers and health planners at all levels and NGOs and other interested organizations.

Chapter three Objectives

General objective

- To assess utilization of environmental health services of urban health extension program and associated factors in Debretabor town, Amhara region, Ethiopia.

Specific objectives

1. To identify the availability of proper waste disposal methods among HHs of the town
2. To determine the availability of latrine among households of the town
3. To determine availability of hand washing facility near the toilet among HHs of the town.
4. To identify factors associated with utilization of environmental health services of UHEP

Chapter Four: Methods and Materials

4.1 Study area and period

The study was conducted in Debre tabor town, south Gondar zone, North West Ethiopia from September 1-30/2013. Debre tabor town is the capital of south Gondar zone and is located at 665 km north of Addis Ababa. It has four kebeles. Based on the 2007 national census conducted by CSA of Ethiopia, the town has a total population of 44490. In the town, there are about 12789 households and currently 15 UHEWs are deployed. There are three governmental health centers, one general hospital, four health posts and three private clinics

4.2. Study design

Community based cross sectional study was conducted.

4.3 Populations

4.3.1 Source population:

All households in Debretabor town

4.3.2 Study Population

Selected households found in Debretabor town during the study period

For the qualitative study- Thirteen key informants (8 UHEWs ,3 health center heads,1 UHEWs supervisor and 1 woreda health offic head) were involved in the in-depth interview

Inclusion criteria; *Individual household heads (preferable female) that lives in the town for at least 6 months and above, during the study period was included*

4.4. Study variables

Independent variables

Marital status, Educational status, Religion, Family size, Monthly family income, knowledge and attitude of respondents to UHEP, graduated as a model family, Exposure for sanitation campaign,

The dependent variable

Utilization of Environmental Health services of UHEP measured by:

- Availability of proper solid waste disposal facilities/system
- Availability of proper waste water disposal facilities/system
- Availability of latrine
- Availability of hand washing facility near the latrine

4.5. Sample size and Sampling technique

4.5.1. Sample size determination

Sample size was calculated using single population proportion formula. By taking the proportion of households used safe solid waste disposal method. The value of P is taken from a study done in Dukem Town, Ethiopia, which is safe solid waste disposal coverage is 53.3% , 95% confidence interval is taken by setting alpha at 5% . Based on this

$$n = \left[\frac{(Z / 2)^2 (P (1-P))}{d^2} \right] = \left[\frac{(1.96)^2 (0.533 (0.467))}{0.05^2} \right] = 383$$

By adding 10% of the sample size for non respondents, the final sample size became **422**.

To support the quantitative study, in-depth interview with 13 participants: 1 health extension supervisor, 8 UHEW (2 from each kebele), 3 health center heads was conducted.

4.5.2 Sampling technique

The sample size was allocated proportional to the size of households in each kebele. The number of households was taken from each kebele administrative office. The sampling interval of households in each kebeles was determined by dividing the total number of households to the allocated sample size. The initial interviewed households were selected by lottery method from the sampling interval nearest to each kebele administrative offices, using a number between one and sampling interval. After selecting the first household, the subsequent households were selected using systematic sampling technique. If there were no respondents (household heads) around in the selected HHs in two visits the next household was interviewed till the number of sample size achieved. For the qualitative study purposive sampling was used.

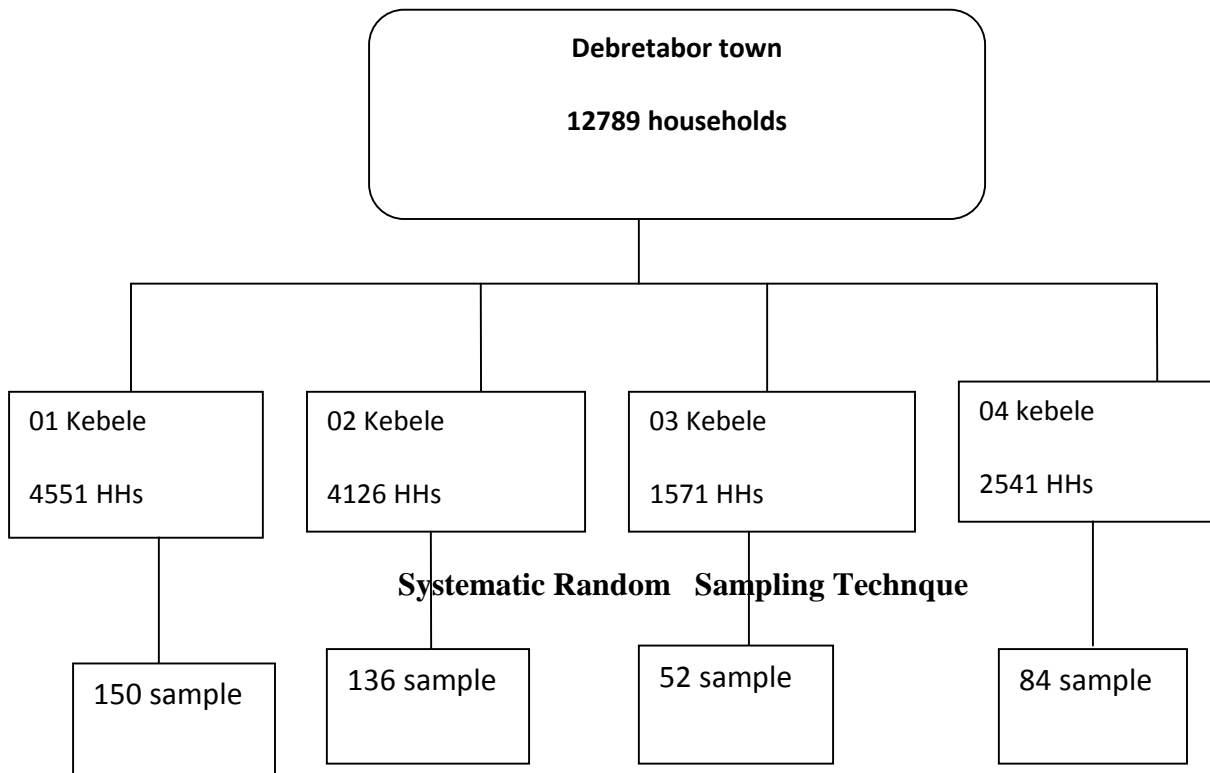


Fig 2: Schematic presentation of sampling technique for the utilization of environmental health services of UHEP and associated factors in Debretabor Town

4.6. Data collection tools:

After review of different literature, questions that could address the objectives of the study were gathered. The questions and statements were arranged in to major sections like background information, general questions on environmental health services and respondent's knowledge on environmental health services of UHEP. The in-depth interview was contained questions which tried to explore ideas of health care providers, on different levels, regarding the problems on utilization of environmental health services of UHEP. The questionnaire was translated in to the local language, Amharic by language expert.

Pre-Test: Prior to data collection, the questionnaire was pre-tested at Woreta town on 5% of the total sample size. Following the pre-test some modifications were made.

4.7. Data collection method and personnel

Eight female diploma nurse data collectors and one supervisor who is health officer were recruited. The supervisor co-ordinated the activities of interviewers and checked the completeness of the questionnaire each day. The data collectors collected information from the respondents by face-to-face interview. If the selected respondent was not found at home during the first visit, one additional visit was undertaken by data collectors. In-depth interview of UHEWs and woreda health office head, HEW's supervisor and health center heads were conducted based on predesigned open ended questions after the quantitative data were collected. Both tape recorder and note book were used.

4.8. Data analysis:

After data collection, the data were coded and entered in to Epi data version 3.1 and exported to SPSS version16. The data were also cleaned for inconsistencies. Descriptive statistics were used to describe the study population in relation to relevant variables. The degree of association between dependent and independent variables was assessed using crude and adjusted odds ratio with 95% confidence interval, at 0.05 significant level. Bivariate analysis was used to identify independent variables ($p < 0.25$), which explain the dependent variable that would be retained for multiple logistic regressions. Multivariable analysis was performed to identify independent variables associated with the outcome variables.

4.9. Data quality control

In order to ascertain the consistency of data the questionnaire was translated in to Amharic language and back in to English .Then it was pre tested on 5% of the sample population and correction was made. One day training was given for the data collectors and supervisor on the purpose and procedures of interviewing like polite approach, stating questions clearly, not giving any leading opinion and recording without expressing ones Opinions was emphasized. The data collectors, supervisor and principal investigator assessed completeness of the questions. The supervisor coordinates the activities of data collectors work each day for completeness and gave feedback. The data were entered in to Epi data version 3.1 to minimize error.

4.10. Ethical consideration

Ethical clearance was obtained from Jimma University, College of public health and medical sciences ethical committee review board. Official letter was submitted to Debre Tabor town health office. The objective of the study was explained to the identified study subjects. Any Information concerning them was kept confidential. The study subjects were kindly requested to be part of the study and were informed that it is their right to reject completely to participate or to stop at any time in the process, verbal consent was obtained from each participant

4.12. Dissemination plan

Result will be submitted and presented to Jimma University, college of public health and medical sciences, and department of Epidemiology and will be presented at final defence. After approval by the university, the findings will also be reported to Amhara Regional Health Bureau, Debretabor Town Health Office. Attempt will be made to publish in journals

4.13. Operational definitions

Proper solid waste disposal methods: if the households dispose their solid waste using at least one of the following options (Disposed within premises in private pit, Collected from home by private Collectors, Composing /Recycling /reuse, Burning within premises /buring or Disposed outside premises in communal waste pit)

Improper solid waste disposal methods: if the households disposed their solid waste within premises anywhere or outside premises anywhere

Proper liquid waste disposal methods: if the households dispose their domestic liquid waste (waste water) into Seepage pit or drain into closed sewer system

Improper liquid waste disposal methods: if the households dispose their domestic liquid waste (waste water) into premises yard anywhere or into street surface, empty space outside premises

Latrine available: Households who have access to any kind of latrine (Latrine with sub or superstructure and are likely to ensure separation of excreta from the immediate living environment.

Shared latrine: Sanitation facilities shared between two or more households (39).

Knowledge- A set of questions about utilization of environmental health service of UHEP was used to obtain the mean scores. The mean score was used to classify the knowledge level of the respondents in to three groups (high, moderate and low). Respondents who scored 75% of the correct answers were classified as high, 60-74% of correct answers were classified as moderate and who scored less than 60% of correct answers were classified as low level.

Attitude- Likert's scale was applied to measure the attitude. All individual answers to attitudinal questions was computed to obtain total scores and calculated for means. The mean scores were used to divide the participants into three groups; positive, neutral and negative. Respondents scored 65 -100 was considered as having positive, 51 - 64 as neutral and <=50 as negative attitudes.

Chapter Five: Result

5.1 Sociodemographic characteristics

A total of 422 households sampled in the town, 414 households have participated in this study, giving a response rate of 98.1%.

Of total study subjects 337 (81.4%) were females and 77 (18.6%) were males. The mean age of the respondent was 35.99 with ± 9.23 year standard deviation. Majority of respondents 281 (67.9%) were married, and 158 (38.2%) were housewives respectively. The mean family size of the households was 3.62. The majority of respondents 261 (63.0%) had household members of 2 to 3 (Table 1).

Regarding the ethnicity 401 (96.9%) of the respondent were Amhara and majority of the respondents 373 (90.1%) were Orthodox by religion. Of all the studied households 314 (75.8 %) were privately owned.

About Three hundred twenty six (78.7%) of the respondents were attended formal education. The results of the study showed that 179 (43.2 %) households were graduated as a model family. (Table 1)

Table 1: Socioeconomic and demographic characteristics of the respondents, Debretabor town, September 2013

Variables		Frequency	Percent (%)
Sex	Male	77	18.6
	Female	337	81.4
	Total	414	100
Ethnic group	Amhara	401	96.9
	Tigre	13	3.1
	Total	414	100
Marital status	Single	69	16.7
	Married	281	67.9
	Divorced	38	9.2
	Widowed	26	6.3
	Total	414	100
Religion	Orthodox	373	90.1
	Muslim	37	8.9
	**Others	4	1
	Total	414	100
Occupation	Merchant	101	24.4
	Private employee	52	12.6
	Government employee	91	22.0
	Housewife	158	38.2
	*Others	12	2.9
	Total	414	100

Educational level	Unable to read and write	45	10.9
	Read and write but (informal)	43	10.4
	1-6 grade	57	13.8
	7-8 grade	62	15.0
	9-10 grade	51	12.3
	above10th grade	156	37.7
	Total	414	100
House ownership			
	Private	314	75.8
	Rent from private	100	24.2
	Total	414	100
Family monthly income	1200 Eth. Birr	209	50.5
	> 1200 Eth. Birr	205	49.5
	Total	414	100
Graduated as model family	Yes	179	43.2
	No	235	56.8
	Total	414	100

**others-students and daily laborers, **others - Protestant, catholic*

5.2 Knowledge of the respondents related to Environmental health services of urban health extension program

Among 414 HHs, 390 (94.2%) of the respondents knew the presence of UHEWs in their kebele. Out of those knew the presence of UHEW 173(44.4%) described correctly the professional status of the UHEWs as a nurse. Based on their response to environmental health services of HEP, activity of the health extension workers related questions 278(67.1%) of the respondents had high level of knowledge (table 2).

Table2: Environmental health services related Knowledge of the respondents on HEP in Debretabor town, September 2013

Variables	Frequency	Response (%)
Know the presence of UHEWs in the Kebele		
Yes	390	94.2
No	24	5.8
Total	414	100
Know the professional status of UHEWs		
Yes	173	44.4
No	217	55.6
Total	390	100
Mentioned component environmental health services of UHEP packages		
Yes	45	10.9
No	369	89.1
Total	414	100
Do you know activities of UHEWs		
Yes	177	42.8
No	237	57.2
Total	414	100
UHEP related Knowledge level		
Low	41	9.9
Moderate	95	22.9
High	278	67.1
Total	414	100

5.3 Attitude of the respondents towards environmental health services of urban health extension program

Majority of the respondents 373(90.3%) had positive attitude towards HEWs being female. Regarding to the home to home service delivery approach of the health extension workers 380(91.8%) of the respondents were in favor of it. Based on the respondents' attitude towards environmental health services of the urban health extension service, approach, and service providers 362 (87.4%) of the respondents had positive attitude (table 3).

Table 3: Attitude of the respondents towards Environmental Health services of UHEP in Debretabor town, Amhara Region, North West of Ethiopia, September 2013

Variables	Frequency	percent (%)
HEWs being female		
Positive	373	90.4
Neutral	21	5.1
Negative	20	4.8
Implementation of Environmental health services of HEPs improves family health		
Positive	375	90.6
Neutral	15	3.6
Negative	24	5.6
Attitude towards home visit		
Positive	380	91.8
Neutral	9	2.2
Negative	25	6.0
Attitude towards Environmental health services of HEP		
Positive	362	87.4
Neutral	4	1.0
Negative	48	11.6

5.4 Solid waste management practice

Regarding solid waste management practice 289(69.8%) of the household had good practice on solid waste management and 125(30.2%) had poor solid waste management practice (figure 3).

On top of this, one UHEW participated in the in-depth interview stated that

“...now a days the number of community members who use pit in their compound as means of solid waste disposal became increased but some of them dispose solid waste on open field.”

One hundred fifty nine (38.4%) HHs segregate solid waste before disposal, 361(87.2%) of HHs had temporary storage container at HH level. One hundred fifty five (37.4%) of HHs had exposure to sanitation activities in the last one year. Concerning to site of disposal, 153 (37.0%) of the respondents dispose their solid waste by burning within the premises, 97 (23.4%) were Disposed within private pit, 86 (20.8%) of HHs disposed their solid waste open field (figure 4)

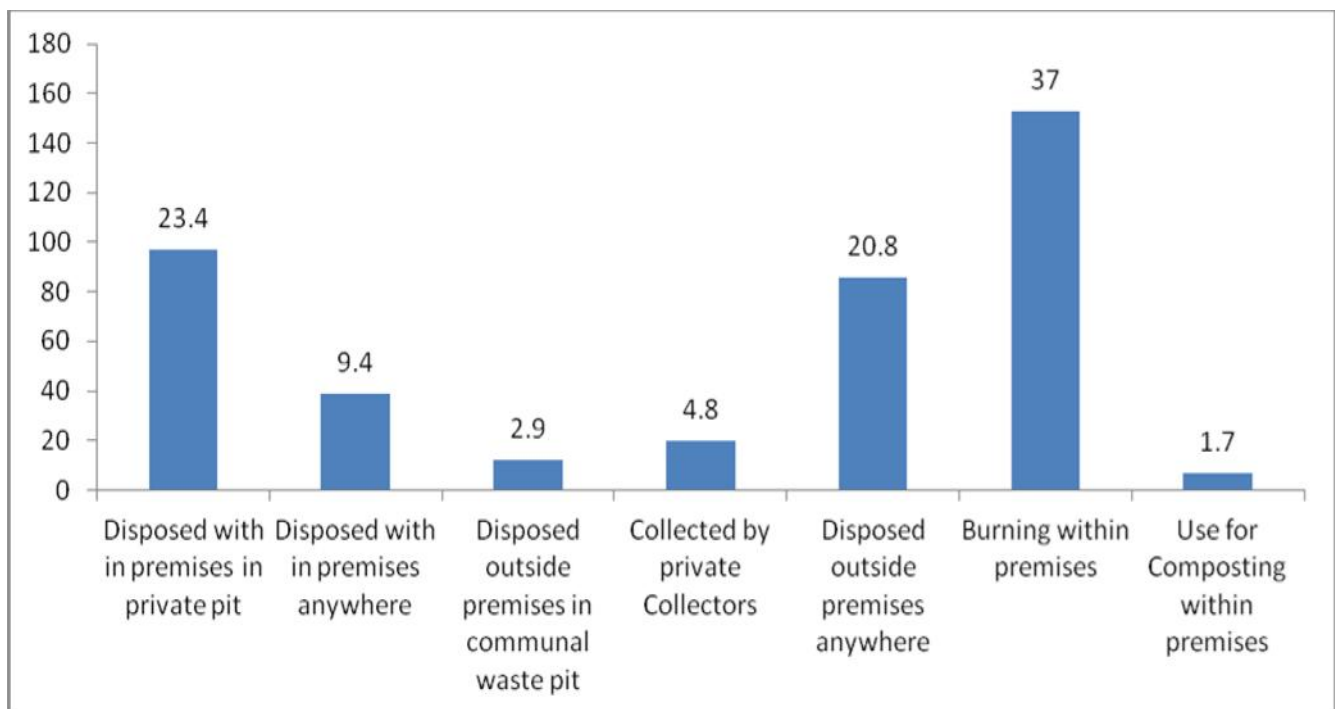


Figure 3: Solid waste disposal methods/sites used by the respondents in Debretabor town, Amhara Region, North West of Ethiopia, September 2013

The urban health extension supervisor who was engaged in in-depth interview explained that *“...UHEP is contributing more to enhance the knowledge of the Community towards waste management especially solid and liquid waste disposal have been radically increasing but the training that was given for three month for UHEWs is not enough. There is no refreshment training on environmental health packages.”*

Even though HEWs are trying to create awareness on solid waste handling at household level there is no waste disposal place in the town.

5.5: Liquid waste management practice

The finding of this study indicated that 270 (65.2%) of HHs practiced proper liquid waste disposal methods. The majority, 268 (64.7%) households have their own seepage pits and 236 (88.1 %) of these HHs - utilized seepage pits properly. The major types of liquid waste disposal methods used were 74 (17.9%) discharge their liquid waste in to street surface and 70 (16.9%) of the HHs discharge their liquid waste in to premises yard, (Table 4)

Table 4: Types of liquid waste disposal method by household, Debretabor town, September 2013

		Frequency	Percent
Where do you usually dispose your waste water	Seepage pit	268	64.7
	Drain in closed sewer system	2	0.5
	Discharge in to premises yard	70	16.9
	Discharge in to street surface	74	17.9
	Total	414	100.0
Do the HH utilized seepage pit properly	Yes	236	88.1
	No	32	11.9
	Total	268	100.0
Liquid wast management			
	Proper liquid waste management	270	65.2)
	Improper liquid waste management	144	34.8

It was also supported by the in-depth interview conducted with UHEWs. One UHEW stated that *“some of the community members did not implement environmental health services of UHEP by preparing seepage pit for liquid waste disposal. We should convince the community members by frequent home visit but the cost of transport to reach each HHs in order to communicate with the problem was not considered as an expense due to this reason we are not visit each household. Because working as urban health extension worker is very exhausting.”*

5.6: Availability of latrine

From the total 414 households, 387(93.5%) HHs do have latrine, among these 353(91.2%) of them have private latrine while the rest 34(8.8%) of the latrines were shared .Among the households who did not have their own toilet 21 (77.8%) of them used open field to defecate. The reasons given for not having their own latrine were 15(55.6%) financial problem, 12(44.4%) the house is rented and 4(14.8%) lack of adequate space. Regarding the type of latrine observed during survey was 350 (90.4%) pit latrine, 24(6.2%) ventilated improved pit (VIP) latrine, 13(3.4%) water carriage. Out of the total household toilets, 347 (89.7%) toilets were functional during visit. (Table 5)

Table 5: Availability of latrine among the respondents in Debretabor town, Amhara Region, North West of Ethiopia, September 2013

		Frequency	Percent (%)
Availability of toilet facility	Yes	387	93.5
	No	27	6.5
Do you share your private toilet with other households	Yes	34	8.8
	No	353	91.2
	Total	387	100.0
The status of latrine during the visit	Functional	347	89.7
	Not functional	40	10.3
	Total	387	100.0
Reasons for not having private latrine			
Lack of adequate space	Yes	4	14.8
	No	23	85.2
	Total	27	100
Land unsuitable to construct latrine	Yes	1	3.7
	No	26	96.3
	Total	27	100
Financial problem	Yes	15	55.6
	No	12	44.4
	Total	27	100

The house is rented	Yes	12	44.4
	No	15	55.6
	Total	27	100
If your HHs do not have private latrine, where do you usually use?	Open field	21	77.8
	Share neighbor toilet	6	22.2
	Total	27	100.0

One urban health extension professional participated in the in-depth interview explained that *“...most community members use pit latrine in their compound but still now some of the community members defecate on open field, when we go to their home for technical support they were not volunteer to show their latrines.”*

5.7 Availability of hand washing facilities

Three hundred twenty seven (79.0%) of the respondents reported as they washes their hand after using toilet .Among 387 HHs which had latrine, 296 (76.5%) of the HHs have hand washing devices near the toilet. Of 296 HHs with hand washing devices 240 (81.1%) of hand washing facilities had water at the time of visit. The respondents who had a latrine were asked the reasons for not having hand washing devices explained that, 71(78.0%) were due to lack of attention and 10 (11.0%) lack of material. (Table 6).

Table 6: Availability of hand washing facilities among the respondents in Debretabor town, Amhara Region, North West of Ethiopia, September 2013

		Frequency	Percent
Is there hand washing devices near the toilet	Yes	296	76.5
	No	91	23.5
	Total	387	100.0
If there is hand washing device near the toilet is there water for hand washing at the time of visit?	Yes	240	81.1
	No	56	18.9
	Total	296	100.0
Reasons for not having hand washing devices near the toilet	lack of attention	71	78.0
	lack of awareness	10	11.0
	lack of material	10	11.0
	Total	91	100.0
Reasons for not availability of water in hand washing devices at the time of visit	lack of attention	39	69.9
	lack of water	17	30.1
	Total	56	100.0
Do you wash your hand after toilet	Yes	327	79.0
	No	87	21
Hand washing	with detergent	242	58.5
	Without detergent	172	41.5

One urban health extension professional said

“...if members of a household did not wash their hand at critical time they will face excreta related diseases.”

As per the interview conducted with one HEW *“...Implementing environmental health services of UHEP is exhausting but the outcome is satisfactory in areas where the community implemented the packages. Even though we try to implement environmental health services of UHEP the government did not give a chance to upgrade our academic status.”*

Respondents were asked pertaining to their knowledge about the critical or the most important times for washing hands. The majority of the households reported that hand washing before eating food 395(95.4%), after eating food 354 (85.5%), after defecation 164(39.6%),before preparing food 286 (69.1%)

Table 7: Knowledge of the respondents to wash hand at critical time in Debretabor town, Amhara Region, North West of Ethiopia, September 2013

When do you think the critical time to wash your hand? (Multiple answer can be possible)		Frequency	Percent
Before eating food	Yes	395	95.4
	No	19	4.6
After eating food	Yes	354	85.5
	No	60	14.5
After going to toilet	Yes	164	39.6
	No	250	60.4
Before preparing food/cooking	Yes	286	69.1
	No	128	30.9
Before and after feeding children	Yes	26	6.3
	No	388	93.7
After cleaning children’s bottom	Yes	44	10.6
	No	370	89.4
When hands are dirty	Yes	144	34.8
	No	270	65.2

4.8 Predictors of utilization of environmental health services of urban health extension program

5.8 .1: Factors associated with solid waste management practice

To identify the important variables which are independently associated with solid waste management practice: The variables were included in the bivariate analysis and those variables (house ownership, graduated as model family, marital status) that turned out to be associated with solid waste management at the level of p-value ≤ 0.25 were selected for multivariable analysis.

House ownership and being graduated as model family had shown significant association, but marital status of the respondent was not significantly associated with solid waste management practice when entered in to multivariable analysis at significance level of p-value < 0.05 .

Respondents which have their own house have 1.77 times more likely to have proper solid waste management practice than those who have rent the house (AOR=1.77, CI: 1.08, 2.90). According to this study being graduated as model family on UHEP was found to be factor for proper solid waste management. Graduate as model family have 2.36 times more likely to have proper solid waste management practice than those who were not graduate as model family (AOR= 2.36, 95% CI=1.49,3.74) (Table 8)

Table 8: Association of socio-demographic and other characteristics of respondents with solid waste management in Debretabor town, Amhara, North West Ethiopia, Sep 2013

Variables	Solid waste management		COR (95% CI)	AOR (95% CI)
	Proper (%)	Improper (%)		
Owner ship of the house				
Private owned	229(72.9),	85(27.1)	1.80(1.12, 2.88)	1.77(1.08,2.90)*
Rented	60(60),	40(40)	1	1
Marital status				
Mairred	203(72.2),	78(27.8)	1	
©Other	86(64.7),	47(35.3)	0.70(0.45,1.1)	
Graduated as model family				
Yes	142(79.3),	37(20.7)	2.30(1.47,3.60)	2.36(1.49,3.74)**
No	147(62.6),	88(36.4)	1	1

*P-value < 0.05, **P-value < 0.001 © other- single, widowed, divorced

5.8 .2: Factors associated with liquid waste management practice

Bivariate analysis was carried out to assess the associated factors for liquid waste management practice at the HH level. According to the bivariate analysis respondent's marital status, income, ownership of house, Family size, previous exposure to sanitation activities, graduated as model family and educational status of the respondents show significant association. Adjustment of variables using multivariable analysis was carried out to predict variables that were associated with proper liquid waste management during the crude analysis.

In the table 9- below, Income, marital status, educational status, graduated as model family had shown significant association, but ownership of the house, exposure to sanitation activities and family size were not significantly associated proper liquid waste disposal practice when entered in to multivariable analysis at significance level of p-value < 0.05.

In this study, respondents that had an income of 1201 or more Eth. Birr per month were about two times more likely to practice proper liquid waste management than respondents with or less than 1200 Eth. Birr per month (AOR= 1.82 , 95% CI=1.13, 2.93). Respondents who are currently Married were also 1.92 times more likely to practice proper liquid waste management than others (AOR= 1.92, 95% CI=1.18, 3.11). Respondents who attended any level of education were about 2 times more likely to have proper liquid waste management practice than those who do not attend (AOR= 1.83, 95% CI=1.04, 3.22). Similarly households who were graduated as model family on HEP were more than 2 times more likely to practice proper liquid waste management when compared with respondents who were not graduated as model family on HEP (AOR= 2.18 , 95% CI=1.36, 3.51).(Table 9).

Table 9: Association of socio-demographic and other characteristics of respondents with liquid waste management in Debretabor town, Amhara Region, North West Ethiopia, Sep 2013

Variables	liquid waste management		COR (95% CI)	AOR (95% CI)
	Proper (%)	Improper (%)		
Owner ship of the house				
Private	218(69.4)	96(30.6)	2.10,(1.32, 3.32)	
Rent from Private	52(52.0)	48(48.0)	1	
Income (ETB)				
<=1200	114(54.5)	95(45.5)	1	
>1200	156(76.1)	49(23.9)	2.65 (1.74, 4.04)	1.82 ,(1.13, 2.93)*
Marital status				
Married	204(72.6)	77(27.4)	2.69(1.75,4.13)	1.92(1.18, 3.11)
©Other	66(49.6)	67(50.4)	1	
Educational status				
Never attended school	46(52.3)	42(47.7)	1	
Attended some school	224(68.7)	102(31.3)	2.01 (1.24, 3.24)	1.83,(1.04, 3.22)*
Exposure to sanitation activities				
Yes	113(72.9)	42(27.1)	1.75(1.13,2.70)	
No	157(60.6)	102(39.4)	1	
Family size				
<= 4	205,(61.6)	128,(38.4)	1	
>= 5	65,(80.2)	16,(19.2)	2.54(1.41,4.58)	
Graduated as model family				
Yes	134(74.9%)	45(25.1%)	2.17 ,(1.42, 3.32)	2.18 ,(1.36, 3.51)**
No	136(57.9%)	99(42.1%)	1	1

*P-value < 0.05

** P-value< 0.01

5.8 .3: Factors associated with availability of latrine

Bivariate analysis was carried out to determine variables predicting the availability of latrine among the study participants. During the bivariate analysis, house ownership, income, educational status, being graduated as model family were the variables that was found to be significantly associated with availability of latrine at significance level of p-value 0.25

All the variables which show significant association during the bivariate analysis were entered to multivariable analysis, house ownership, income, educational status, being graduated as model family show significant association at p-value < 0.05

Educational status also shows significant association with availability of latrine Respondents who attended any level of education were about 2.65 times more likely to have latrine than those who do not attended(AOR= 2.65; 95% CI= 1.06, 6.63). In this study, Respondents who had their own private house were 8.46 more likely to have latrine than those who rent the house (AOR=8.46; 95% CI=3.36, 21.33).

Similarly respondents who had an income of 1201 or more Eth.Birr per month were 3.70 more likely to have latrine than respondents with or less than 1200 Eth Birr per month (AOR=3.70; 95% CI=1.17, 11.71). Households who graduated as model family on HEP were 3.18 more likely to have latrine than respondents who were not graduated as model family on HEP (AOR, 3.18; 95% CI= 1.16, 8.67). (Table 10)

Table 10: Association of sociodemographic and other characteristics of respondents with latrine availability in Debretabor town, Amhara, North West Ethiopia, Sep 2013

Variables	Availability of latrine		COR (95% CI)	AOR (95% CI)
	Yes (%)	No (%)		
Owner ship of the house				
Private	307(97.8)	7(2.2)	10.96(4.48, 26.84)	8.46(3.36, 21.33)**
Rent from private	80(80.0)	20(20.0)	1	
Monthly income (ETB)				
<=1200	186(89.0)	23(11.0)	1	
>=1201	201(98.0)	4(2.0)	6.21(2.11, 18.30)	3.70(1.17, 11.71)*
Educational status				
Never attended school	76(86.4)	12(13.6)	1	
Attended some school	311(95.4)	15(4.6)	3.27(1.47, 7.28)	2.65(1.06, 6.63)*
Being graduated as model family				
Yes	173(96.7%)	6(3.4%)	2.81(1.12, 7.17)	3.18(1.16, 8.67)*
No	214(91.1%)	21(8.9%)	1	1

*P-value < 0.05

** P-value< 0.01

5.8 .4: Factors associated with availability of hand washing facility

Bivariate analysis was carried out to determine the most important variable predicting the availability of hand washing facilities near the latrine. During the bivariate analysis, house ownership, family size, and educational status and graduated as model family on HEP show significant association at p-value < 0.05 with availability of hand washing device. Adjustment of all the variables which show significant association during the bivariate analysis were made using multivariable analysis to predict variables that were associated with availability of hand washing device near the toilet. Family size and educational status of the respondents were not show significant association at p-value < 0.05 with availability of hand washing facility.

According to this finding there is significant association between house ownership and availability of hand washing facility. Respondents who had their own house were more than two times more likely to have hand washing facility than those who rent the house (AOR=2.11, 95% CI=1.27, 3.51). Similarly respondents who were graduated as model family on HEP were about five times more likely to have hand washing facility than those who did not graduated as model family on HEP(AOR, 4.94; 95% CI =2.90, 8.41). (Table 11)

Table 11: Association of sociodemographic and other characteristics of respondents with availability of hand washing facility near the toilet in Debretabor town, Amhara, North West Ethiopia, Sep 2013

Variables	Availability of hand washing facility		COR (95% CI)	AOR (95% CI)
	Yes (%)	No (%)		
Owner ship of the house				
Private	240(76.4)	74(23.6)	2.35 (1.46, 3.78)	2.11(1.27, 3.51)*
Rent from private	58(58.0)	42(42.0)	1	
Educational status				
Never attended school	68(77.3)	20(22.7)	1	
Attended some school	230(70.6)	96(29.4)	0.71(0.41, 1.22)	
Family size				
<=4	230(69.1)	103(30.9)	1	
>=5	68(84.0)	13(16.0)	2.34 (1.24, 4.43)	
Graduated as model family				
Yes	158(88.3%)	21(11.7%)	5.11 (3.02, 8.63)	4.94(2.90, 8.41)**
No	140(59.6%)	95(40.4%)	1	1

*P-value < 0.05

** P-value< 0.01

CHAPTER SIX: DISCUSSION

This study was conducted to assess utilization of environmental health services of urban health extension program and associated factors in Debretabor town, Amhara, North West Ethiopia. Since both quantitative and qualitative methods were employed, it can provide better insight of the utilization of environmental health services of UHEP in the study area.

Among 414 households 94.2% of the respondents knew the presence of HEWs in their kebele. But as it is stated by the National Urban Health Extension Package Implementation guide line, let alone not to know the presence of UHEWs, it was expected that within three years all of the households should become graduated as model family (11). Based on the HHs response to environmental health services of HEP related questions 67.1% HHs had high level of knowledge. The majority 87.4% of the respondents had positive attitude in respect to the attitudinal questions related to environmental health services of HEP. In the same way all the in-depth interviewees agreed that the community's attitude towards the HEP is improved. One interviewee said that *“previously throughout my home visit I frequently heard adults while they were telling to their children to tell me as there is no body present in the house and they closed their door but nowadays such situations are not common practices of most community members.”*

In this study, about 70% of the households were found to have good solid waste management practices. This finding is higher than the one reported from Jimma zone where 31.6% of households practice proper solid waste disposal methods (23). The discrepancy among this study findings might be the study population difference, the study conducted in Jimma zone include the rural areas, while the current study was conducted in urban area. Other possible reason might be, as it is mentioned by the in-depth interview participants, recently a one model woman to five other women net working are being implemented in the town. This method enables concerned bodies to transmit important information including proper solid waste management practices to the community in manageable manner.

The basic functional units of solid waste management start with onsite storage and handling of wastes. Proper waste handling at household level has positive implication on waste management. According to this study finding 87.2% of the HHs had temporary storage at household level. This finding is much higher than the finding of a study conducted in Kersa woreda 6.9% (35). This inconsistency might be due to the time gap (2008 and 2013) and/or study population difference (rural vs urban community) in Kersa study and the current study respectively. Another explanation for this might be the continuous awareness created by urban health extension workers.

This study demonstrated that the proportion of households who had proper liquid waste disposal system was found to be 65.2 %. This finding is higher than that of the research conducted in Kersa woreda where 6.3% and that of the study in Dukem town where 24.8% of the respondents had proper liquid waste disposal system (30, 35). The possible reason might be that the continuous advice and technical support of UHEWs and use of different structure created by ministry of health like health development army approach and model women network that may increase proper liquid waste disposal practices in this study area.

The findings of this study showed that 93.5% of the HHs had latrines. This result is almost similar with a study done in Damboy woreda, SNNPR, and Dukem town, Ethiopia 2011 that, 93.8% and 91.3% HHs had latrine facility respectively (26, 30). This similarity might be in both of the study areas the presence of health extension workers might contribute for the availability of latrine .Out of those who did not have their own latrines, about 77.8% of them were using open defecation. This indicates a need to sustainable and multistrategy promotion. The main reasons given for not having their own latrine were; financial problem, the house is rented, land unsuitable to construct latrine and lack of adequate space.

Hand washing with soap (or a substitute) and water after contact with stools can reduce diarrhoeal disease by 35% or more (22). According to the finding of this study almost 80% of the respondents claimed to wash their hands after toilet use when asked. Practicing safe hygiene and sanitation requires constructing physical facilities as well as making behavioral

changes; normally, physical changes precede behavioral ones. Physical actions include; preparing hand washing facilities. While behavioral actions are utilization of hand washing facilities (2) .But actual hand washing behavior is difficult to assess since it is generally private

Among the HHs which had latrine, 76.5% of them have hand washing facilities. This finding is higher than the finding of study done in Bahirdar Zuriya district in which 6.2% and a study conducted in Kersa woreda 8.3% had hand-washing facilities near the latrine (29, 35). Even though the structures have been built and are available at the site, 8.9% hand washing facilities were without water at a time of visit. The minimum capacity of hand washing device should contain at least 3-5 litter water (2). However, some of the hands washing facilities were small size plastics which are not suitable for immediate use after toilet. It was also supported during in depth interview by health extension supervisor, he said that “...most of the hands washing facilities were not standardized .Culture and believes were the most important determinants for hand washing practices after toilet.”

The effect of other factors on utilization of environmental health services of UHEP (solid and liquid waste disposal, availability of latrine and hand washing facilities) was assessed.

House ownership was significantly associated with proper solid waste management practice. Those respondents who had their own house were about two times more likely to have proper solid waste management practice than those who rent the house. House ownership had also showed significant association with availability of latrine. Respondents who had their own house were 8.46 times more likely having latrine than those who rent the house. Similarly, in this study, house ownership of respondents was also found to be predictor of availability of hand washing facility. Respondents who had their own private house were 2.11 times more likely to have hand washing facility than those who rent the house. This finding is inline with the findings of a study done in Damboya Woreda, Dukem town and Kersa (26, 30, 35). The possible reason for similarity might be in both study areas since respondents had their own house it might be suitable to prepare safe solid waste disposal methods, construct latrine and prepare hand washing facilities by arranging their premises for each of the facilities. So that people can outweigh the benefits of

proper waste management practices, availability of latrine and hand washing facilities and they can keep the environment clean considering that they are living permanently in the area.

The effect of educational status on proper liquid waste management practice and availability of latrine were assessed. In this study, educational status of the respondents was found to have statistically significant association with proper liquid waste management practice. Those respondents who attended any level of education were about 2 times more likely to be in a household with proper liquid waste management practice than those who do not attend. Educational status of the respondents was also found to be an important predictor for availability of latrine. Respondents who were attended formal education were found to have latrine 2.65 times more likely than those who had no education. This might be explained by; education is more likely to develop capabilities of the respondents to make decisions regarding their own health. Similarly this could be due to education leads to increase awareness to bring behavioral change about the benefit of proper liquid waste management practice and availability of latrine.

Findings from this study showed that income of the respondents was found to have statistically significant association with proper liquid waste management practice. Those respondents who had an income of 1201 and more Eth. Birr per month were about two times more likely to practice proper liquid waste management than respondents with or less than 1200 Eth. Birr per month. Income of the respondents was also found to have statistically significant association with availability of latrine. Those respondents who had an income of 1201 and more Eth. Birr per month were 3.70 more likely to have latrine than respondents with or less than 1200 Eth. Birr per month. This report is consistent with the study done in Bahrdar Zuriya (29). The possible explanation for this might be that low income status may be the main determinant of other factors that may themselves be causal factor for liquid waste management practice and availability of latrine.

In this study, being graduated as a model family on UHEP has shown a significant association with proper solid waste management practice. Being graduated as a model family had 2.36 times more likely to have proper solid waste management practice than those who were not graduated as model family. Being graduated as model family on UHEP was also found to be factor for proper liquid waste management practice. Households who were graduated as a model family on UHEP were 2 times more likely to practice proper liquid waste management when compared with respondents who were not graduated as a model family on UHEP. Similarly being graduated as a model family on UHEP has also shown a significant association with availability of hand washing facilities. Households who were graduated as a model family on UHEP were about 5 times more likely to have hand washing facilities than those who did not graduated as a model family. The possible explanation for this might be that due to the fact that people can accept, adopt and utilize sanitation facilities (proper solid and liquid waste management and hand washing facilities) easily when they are motivated (recognized) as being a model family than mere advice. This might be an appropriate way of promoting feasible and easy interventions that have a major impact on the health of the households and community.

Findings reported in this study should be interpreted in mind keeping the following limitation:

- ✚ This study was focused only on four components of environmental health services of urban health extension program
- ✚ There could be social desirability bias
- ✚ There could be recall bias by respondents to address all relevant variables

Chapter seven: Conclusion and recommendation

7.1 Conclusion

In summary, solid waste management was not adequate as over one-quarter of households disposed their solid waste in open field and nearly four- in- ten households practically used impropere liquid waste disposal methods. In this study even though there was a higher percentage of latrine coverage in the studied households 100% latrine coverage was not achieved during the time of data collection. Over three- quarter of the latrines had hand washing facilities.

- ✓ House ownership and being graduated as model family were important predictors for proper solid waste management.
- ✓ Income , household's level of education, being graduated as a model family on UHEP were predictors for proper liquid waste management
- ✓ Educational status, house ownership , income, graduated as a model family on UHEP were predictors for availability of latrine
- ✓ Being graduated as a model family on UHEP and house ownership were found to be factors that influence availability of hand washing facilities
- ✓ Financial problem, lack of water, culture, lack of motivation of UHEW, lack of space, lack refreshments training, were cited as major shortcomings in the implementation of environmental health services of UHEP in Debretabor town.

7.2 Recommendations

The findings of this study have important implication for improving the implementation of environmental health services of UHEP, i.e. solid and liquid waste disposal, latrine and availability of hand washing facilities. Policy makers and health planners need to understand possible determinant factors at the household level which affects implementation of environmental health services of urban health extension program.

More specifically:

1. Amhara Regional Health Bureau

- Environmental health services of urban health extension program to work better, empowering the HEWs to play a greater role and supporting the program through all possible methods including refreshment training should be strengthening

2. Debre tabor Health office and health extension workers

- Proper solid waste management including waste reduction and recovery options should be promoted to minimize the adverse effects caused by open field disposal of solid waste
- Proper liquid waste disposal methodes of households by using low-cost technology options should be promoted to reduce indiscriminate liquid waste disposal.
- Emphasis should be given on availability of latrine and reducing environmental contamination by promoting total coverage of toilets and elimination of open defecation
- Availability of standardized and inexpensive handwashing facilities near the tiolet should be encouraged to facilitate handwashing at critical times.
- Lack of attention, culture and believe related factors were identified as factors affecting environmental health services of UHEP; Health education should be given on those factors that affect utilization of environmental health services

3. Debre tabor town administration office

- The Governmental and Non Governmental Organizations working on socioeconomic activities should give special emphasis on strengthening the income generating activities and support environmental health services in organized manner
- ◆ Finally the investigator of this study recommends a research in this area which include all other environmental health service components of urban health extension program

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ANNEX: Data collection instruments

ANNEX -I: THE ENGLISH QUESTIONNAIRE

Informed consent agreement

Verbal consent

Hello, my name is _____. I am going to conduct an interview with you on behalf of **Yilkal Tafere** a post graduate student at Jimma university, college of public health and medical science, department of Epidemiology. He is now conducting a research entitled "utilization of environmental health services of the urban health extension program and associated factors." You are kindly requested to be included in the study, which will have importance in improving urban health extension services. The interview will take about 30 minutes. No information concerning you, as individual will be passed in to another individual or institution without your agreement. Your participation is voluntary and you have the right not to participate fully or partially. The study has approval from Jimma University, college of public health and medical sciences. "May I continue?" If yes, continue interviewing. If no, thank and stop interviewing and go to the next Household .

01. Questionnaire code _____
 02. Kebele _____
 03. Name of the interviewer _____
- Signature - _____ date of interview - _____

Questionnaire for community survey

Questionnaire for the utilization of environmental health services of the urban health extension program and associated factors in Debretabor town, Amhara, Ethiopia, September 2013

I. Questions of Socio-demographic characteristics

000. Kebele

001. How old are you?years

002. Sex

1. Male

2. Female

003. Marital status:

1. Single

3. Divorced

2. Married

4. Widowed

004. Religion:

1. Orthodox

3. Protestant

5. Other (specify)...

2. Muslim

4. Catholic

005. Occupation:

1. Merchant

3. Government

4. House wife

2. Private employee

employee

5. Other (specify).....

006. Educational level

1. Unable to read and write

3. Highest grade completed-----

2. Read and write but (informal)

007. Family monthly income Eth.Birr

008. Family size: In number.....

009. Ownership of the house:

1. Private

2. Rent from private owner

II. Knowledge questions

010. Do you know the presence of HEWs in your kebele?

1. Yes

2. No

011. Do you know the professional status of UHEWs?

1. Yes (**If yes**, specify____) 2 No

012. How many packages are incorporated under UHEP?

1. Twelve

2. Fifteen

3. sixteen

4. Other (specify) -----

013. Would you mention components of environmental health packages of UHEP you remember

1. Latrine construction and utilization
2. Solid and liquid waste disposal
3. Food & Water Hygiene and safety
4. Personal & Environmental Hygiene
5. Other

014. What are the activities of urban health extension professionals?

- | | |
|-------------------------------------|------------------------------------|
| 1. Training on solid waste disposal | 4. Training on food hygiene |
| 2. Training on personal hygiene | 5. Training on latrine utilization |
| 3. Training on safe water supply | 6. If other specify)_____ |

III .Attitudinal Questions

015. Some people believe that the major health problems of the community can be solved by utilization environmental health packages of UHEP. Do you agree?

- | | | |
|-------------------|---------------|----------------------|
| 5. Strongly agree | 3. No opinion | 1. Strongly disagree |
| 4. Agree | 2. Disagree | |

016. What is your suggestion on urban health extension professionals being female?

- | | | |
|---------------------|------------------|-----------------------|
| 5. Very appropriate | 3. No opinion | 1. Very inappropriate |
| 4. Appropriate | 2. Inappropriate | |

017. What is your opinion concerning the quality of environmental health packages of UHEP implementation in your area?

- | | | |
|-------------------------------|-----------------|---------------------|
| 5. It is of very high quality | 3. Have no idea | 1. Very low quality |
| 4. High quality | 2. Low quality | |

018. Utilization of environmental health package of UHEP can bring change in one's family's health and significantly reduce the treatment cost. Do you agree?

- | | | |
|-------------------|---------------|----------------------|
| 5. Strongly agree | 3. No opinion | 1. Strongly disagree |
| 4. Agree | 2. Disagree | |

019. What is your suggestion on UHEWs coming to your home?

- | | | |
|---------------------|------------------|-----------------------|
| 5. Very appropriate | 3. No opinion | 1. Very inappropriate |
| 4. Appropriate | 2. Inappropriate | |

- 4. Collected by private Collectors
- 5. Disposed outside premises anywhere
- 6. Burning within premises
- 7. Composing within premises
- 8. Other (specify)

031. What problems do inappropriate solid waste disposal causes? [MULTIPLE RESPONSES ARE ALLOWED, DO NOT READ ANSWERS]

- 1. Causes diarrhoea and other diseases
- 2. Bad smells (odour)
- 3. Clogging of canals/drains
- 4. Causes nuisance to the community
- 5. Contaminate water sources
- 6. No problem
- 7. Don't know
- 8. Other (specify) ____

032. Where do you usually dispose your domestic liquid waste? [CHECK ONE]

- 1. Seepage pit
- 2. Drain in closed sewer system
- 3. Discharge into premises yard
- 4. Discharge into street surface or empty space outside premises
- 5. Other (specify)

033. If your answer is seepage pit, does the household utilized properly? (Observe)

- 1. Yes
- 2. No

034. Does your household have private toilet facility? 1. Yes 2. No

035. If Qn 034 is NO, what is the main reason(s) for not having/building toilet facility?

[MULTIPLE RESPONSES ARE ALLOWED, DO NOT READ]

- 1. Lack of adequate space
- 2. Land unsuitable to construct latrine
- 3. Financial problem
- 4. Lack of permission for construction
- 5. The house is rented
- 6. No importance
- 7. Other (specify)

036. If your household do not have private latrine, what do you usually use?

- 1. Open field
- 2. Share neighbor toilet
- 3. Other specify-----

037. If Qn 034 is Yes, What types of toilet facility?

- 1. Dry pit latrine
- 2. VIP latrine
- 3. Water carriage
- 4. Other____

038. Do you share your private toilet with other households? 1. Yes 2.No

039. If Qn 038 Yes, How many household shares the toilet -----

040. Is the latrine kept hygienic or clean? [OBSERVATION]

1. Yes

2. No

3. No toilet

041. The status of toilet during the visit

1. Functional

2. Not functional

042. What do you think is the benefit of having a latrine? [MULTIPLE RESPONSES ARE ALLOWED, DO NOT READ ANSWERS]

1. Improved hygiene/cleanliness

5. More privacy

2. Avoid bad smell

6. Prevents disease

3. Reduce environmental contamination

7. Do not feel its importance

4. Minimizes open defecation

8. Don't know 9. Other (specify) _____

043. When do you think the critical time to wash your hand? [DO NOT READ THE ANSWER (CIRCLE ALL THAT APPLY)]

1. before eating food

5. before and after feeding children

2. after eating food

6. after cleaning children's bottom

3. After going to toilet

7. When hands are dirty

4. Before preparing food/cooking

8. Other (specify)

044. Do you wash your hand after visiting toilet?

1. Yes 2. No

045. Is there handwashing devices or other local container materials near the latrine? [OBSERVE ONLY] 1. Yes 2. No

046. If Qn 045 is 'No'. What are the reasons? -----

047. If Qn 045 is yes is water available for hand washing at the time of visit? 1. Yes 2. No

048. If Qn 045 is No, explain your reasons? -----

049. What do you usually use to wash your hands?

1. Water only

3. Water and other cleaning agents

2. Water and soap

4. Other (specify)

050. Do you have any exposure to sanitation activities in the last one year in the community?

1. Yes

2. No

2.4 In depth Interview guide line for health extension workers

Code no _____

1. Have you done base line survey in your kebele on Environmental health packages of HEP? If so with whom did you do it?
2. What do you say about community's level of awareness, and attitude about Environmental health packages of HEPs and its implementation process?
3. How was the priority setting process of your kebeles health problem?
4. What about the planning process? Who participated, and how?
5. How do you spend hours of the day?
6. What challenges did you face in the implementation process of environmental health packages of HEP?
7. How did you solve those challenges?
8. Who supported you in the implementation process of environmental health packages of HEP? What was their contribution?
9. Could you tell me the nature of supervision provided; its content, frequency, timeliness, feed- back provided, quality.....
10. Did you get feed- back for your report? If yes within how many days? What about its quality?
11. What do you want to be in the future?
12. In which area do you think you need refreshment training?
13. Is there any other point we missed but very important to improve environmental health packages of HEP implementation status?

THANKYOU

2.4 In-depth interview guide line for key informant health staffs directly participating in the implementation of the UHEP

Responsibility of the individual _____

code _____

1. How does environmental health packages of the UHEP going on?
2. What type of support are you providing to the HEW? Are you satisfied with the support you are providing? If not why? Do you think that the HEWs satisfied with support you provided to her? If yes what could be the indicators?
3. What are the opportunities related to environmental health packages of the UHEP implementations? What about the threats?
4. Do you think that the opportunities on Environmental health packages of HEP utilization efficiently? What are the indicators?
5. How was the supervision, monitoring and evaluation process? Do you think that you are in the right track? If not why? If yes what are the indicators?
6. What do you say about community's level of awareness, and attitude about environmental health packages of the UHEPs and its implementation process?
7. How do you express the contribution of other sectors on implementation of environmental health packages of the UHEP?
8. What challenges did you face in the implementation process of environmental health packages of the UHEP?
9. How did you solve those challenges?
10. Is there any other point we missed but very important to improve environmental health packages of the UHEP implementation status?

THANKYOU

ANNEX -II: THE AMHARIC QUESTIONNAIRE (የአማርኛ መጠይቅ)

በጅም ዩኒቨርሲቲ የማህበረሰብ ጤና እና ህክምና ሳይንስ ኮሌጅ በከተማ ጤና ዘርፍ የከተማ የአካባቢ ጤና አጠባበቅ የአገልግሎቶች አጠቃቀም እና ወሳኝ አብዥኖች ለማጥናት የተዘጋጀ መጠይቅ ነው።

በፈቃደኝነት ላይ የተመሰረተ የጋራ ስምምነት ቅጽ

ጤና የስፕላኝ ስሜ -----ይባላል አሁን የመጣሁት በጅም ዩኒቨርሲቲ በኢ.ፒ.ዲ.ሚ.ዎሎጅ ትምህርት ክፍል የማስትሬት ዲግሪ ተማሪ ሆኑት አቶ ይልቃል ታፈረ በከተማ ጤና ኤክስቴንሽን ዘርፍ የአካባቢ ጤና አጠባበቅ የአገልግሎት አጠቃቀም እና ወሳኝ አብዥኖች ላይ ለሚያካሂዱት የመመረቂያ ምርምር ስራ መረጃ ለመሰብሰብ አንዳንድ ጥያቄዎችን ልጠይቀዎት ነው።

ስለሆነም በከተማ ጤና አገልግሎት የአካባቢ ጤና አጠባበቅ አገልግሎቶችን ለማሻሻል አስፈላጊ በሆነው ጥናት ዎስጥ ለመካተት ፈቃድዎ እንዲሆን በትህትና እጠይቀዎታሁ። ቃለ መጠይቁም ሰለሳ ደቂቃ ያክል የሚወስድ ነው። በመሆኑም ሥለሚሰጡን መረጃም ሆነ ከእርስዎ ፈቃድ ወጭ ለሌላ ግለሰብም ሆነ ድርጅት እንደማይተላለፍ በቅድሚያ ላረጋግጥልዎ እዎዳለሁ። በጥናቱ የሚሳተፉት በፍቃድዎ ሲሆን ሙሉ በሙሉ ወይም በከፊል ያለመሳተፍ መብት አለዎት ። ይህ ጥናት በጅም ዩኒቨርሲቲ ማህበረሰብ ጤና ና ህክምና ሳይንስ ኮሌጅ ፍቃድ ያለው መሆኑን ላረጋግጥልዎ አፈልጋለሁ። በቃለመጠይቁ ላይ ለመሳተፍ ፈቃደኛ ነዎት?

ምላሹ አዎ ከሆነ መጠይቁ ይቀጥል ምላሹ አዎ ካልሆነ ተጠያቂውን በማመስገን ቃለ መጠይቁ በማቅረጥ ወደ ሌላ ቤተሰብ ሂድ

- 01. የመጠይቁ መለያ ቁጥር _____
- 02. ቀበሌ _____
- 03. የጠያቂው ስም _____ ፊርማ _____
- 04. መጠይቁ የተደረገበት ቀን _____

የማህበረሰብ ቅኝት መጠይቆች

በኢትዮጵያ አማራ ክልል በደብረታቦር ከተማ የከተማ ጤና ኤክስቴንሽን የአካባቢ ጤና አጠባበቅ አገልግሎቶችን አጠቃቀም እና ወሳኝ አብዥኖችን ለመገምገም የተዘጋጀ መጠይቅ ፡ ሴፕቴምበር 2013

የማህበራዊ ኢኮኖሚያዊ ሁኔታ መጠይቅ

001. እድሜዎ ስንት ነው? _____ ዓመት

002. ፆታ

- 1. ወንድ 2. ሴት

003. የጋብቻ ሁኔታ

- 1. ያላገባ 3. ፈት
- 2. ያገባ 4. ባል/ሚስት የሞተበት

004. ሀይማኖት

- 1. ሙስሊም 3 ፕሮቴስታንት
- 2. ኦርቶዶክስ 4. ሌላ (ይገለጽ).....

005. ሥራዎ ምንድን ነው

- 1. ነጋዴ 4. የቤት እመቤት
- 2. የግል ድርጅት ሠራተኛ 5. ሌላ(ይገለጹ).....
- 3. የመንግስት ሰራተኛ

006. የትምህርት ደረጃ ምን ያህል ነው?

- 1. ማንበብና መጻፍ የማይችል/የመትችል 3. የደረሱበት መደብኛ ከፍተኛ የትምህርት ደረጃ-
- 2. ማንበብና መጻፍ የሚችሉ ግን መደብኛ ያለሆነ

007. የቤተሠብዎ ወርሃዊ ገቢ ስንት ነው? _____ ብር

008. የቤተሰብ ብዛት ስንት ነው? ብቁጥር _____

009. የሚኖሩበትን ቤት ባለቤተነት

- 1. የግል 2. በግለሠብ በክረይ

II. የዕውቀት ጥያቄዎች

010. እርስዎ በሚኖሩበት ቀበሌ የጤና ኤክስቴንሽን ባለሙያዎች መኖራቸውን ያውቃሉ?

- 1. አወቃለሁ 2. አላወቅም

011. የከተማ ጤና ኤክስቴንሽን ባለሙያዎች ስላላቸው የሙያ ደረጃ ያውቃሉ?

- 1. አዎን (ይገለጹ _____) 2. አላወቅም

012 በከተማ ጤና ኤክስቴንሽን ፓኬጆች ስር ምን ያህል ፓኬጆች ይካተታሉ?

- 1. አስራ ሁለት 2. አስራ አምስት

3. አስራ ስድስት

4. ሌላ-----

013 ከሚያስታውሷቸው የከተማ ጤና ኤክስቴንሽን ፕሮግራሞች የአካባቢ ጤና አጠባበቅ አገልግሎት መካከል የሚያስታውሷቸውን ቢጠቅሱልኝ

- 1. የመጻዳጃ ቤት አሰራር እና አጠቃቀም
- 2. የደረቅነ ፍሳሽ ቆሻሻ አወጋገድ
- 3. የምግብና ዉሃ ንጽህና

- 4. የግልና የአካባቢ ንጽህና
- 5. ሌላ-----

014. የከተማ ጤና ኤክስቴንሽን ባለሙያዎች የስራ ድርሻ ምንድን ነዉ?

- 1. የደረቅ ቆሻሻአወጋገድ ስልጠና መስጠት
- 2. ስለግል ንጽህና አጠባበቅ ስልጠና መስጠት
- 3. ስለ ዉሃ ንጽህና አጠባበቅ ስልጠና መስጠት
- 4. ስለ ምግብ ንጽህና አጠባበቅ ስልጠና መስጠት

- 5. ስለ መጻዳጃ ቤት አሰራርና አጠቃቀም ማሰልጠ
- 6. ሌሎች ካሉ ባክዎን ይግለጹ

III አቋማዊ ጥያቄዎች

015. አነዳንድ ሰዎች «የአካባቢ ጤና አጠባበቅ አገልግሎቶችን ተግባራዊ በማድረግ ወሳኝ የሆኑትን የህብረተሰብ የጤና ችግሮች መፍታት ይቻላል ይላሉ» ርስዎ ይስማማሉ?

- 5. ፍፁም ስማማላሁ
- 4. ስማማላሁ
- 3. የምሰጠው ሀሳብ የለኝም

- 2. አልስማማም
- 1. በፍፁም አልስማማም

016. የከተማ ጤና ኤክስቴንሽን ባለሙያዎች ሴት በመሆናቸው ያለዎት አስተያየት መዉ?

- 5. እጅግ ጥሩ የሆነ የድጋፍ አስተያየት
- 4. ጥሩ የሆነ አስተያየት
- 3. ምንም አስተያየት የለኝም

- 2. ጥሩ ያልሆነ አስተያየት
- 1. እጅግ ጥሩ ያልሆነ አስተያየት

017. በከተማ ጤና ኤክስቴንሽን የአካባቢ ጤና አጠባበቅ አገልግሎቶች የአተገባበር ጥራት በተመለከተ የለዎት አመለካከት ምንድነዉ?

- 5. ከፍተኛ ጥራት አለዉ
- 4. ጥራት አለዉ
- 3. ምንም ሀሳብ የለኝም

- 2. ጥራቱ ዝቅተኛ ነዉ
- 1. በጣም ዝቅተኛ ነዉ

018. ከተማ ጤና ኤክስቴንሽን ፕሮግራሞች የአካባቢ ጤና አጠባበቅ አገልግሎቶች ባግባቡ መተግበር የቤተሰብን ጤና ከማሻሻሉም በላይ የህክምና ወጭን በከፍተኛ ደረጃ ይቀንሳል። እርስዎስ በዚህ ሃሳብ ላይ ያለዎት አመለካከት ምንድን ነዉ?

- 5. በጣም እስማማላሁ
- 4. እስማማላሁ
- 3. ምንም አስተያየት የለኝም

- 2. አልስማማም
- 1. ፍፁም አልስማማም

019. የከተማ ጤና ኤክስቴንሽን ሰራተኞች ቤትዎ ድረስ መምጣታቸዉ ላይ ምን አስተያየት አለዎት?

- 5. በጣም እስማማላሁ

- 4. እስማማላሁ

- 3. ምንም አሰተያየት የለኝም
- 2. አልሰማማም

1. ፍፁም አልሰማማም

IV. በከተማ ጤና ኤክስቴንሽን ፕሮግራም የአካባቢ ጤና አጠባበቅ አገልግሎቶች አተገባበር ና ለመተግበር ያለውን መነሻነት በተመለከተ የቀረቡ ጥያቄዎች

020. በለፈ.ወ. አንድ ዓመት ውስጥ የከተማ ጤና ኤክስቴንሽን ባለሙያዎች ቤተሰብዎን ጎብኝተዉ ጣዉቃሉ?

- 1. አዎን
- 2. አይዉቁም

021 መልስዎ «አዎ» ከሆነ በየሰንት ጊዜዉ ይጎበኛሉ?

- 1. በየሳምንቱ
- 2. በየአስራአምስት ቀኑ
- 3. በየወሩ
- 4. በየሁለት ወሩ
- 5. በአመት
- 6. ጎብኝተዉ አይዉቁም

022 ለጥያቄ ቁ 020 መልስዎ አዎ ከሆነ ከጤና ኤክስቴንሽን ባለሙያዎች ጋር ከሚከተሉት ውስጥ በየትኛዉ ላይ ተወያያችሁ? (ከአንድ በላይ መምረጥ ይችላሉ)

- 1. የውሃ አቅርቦትንና ጥራትን በተመለከተ
- 2. የመፀዳጃ ቤት ግንባታና አጠቃቀምን በተመለከተ
- 3. የምግብ ንጽህና እና ጥንቃቄን በተመለከተ
- 4. የግል ንጽህናን በተመለከተ
- 5. ሌሎች ካሉ ባክዎን ይግለፁ

023. ባለፈዉ አንድ አመት በጤና ኤክስቴንሽን ባለሙያዎች ከሰጡዎት ምክር ውስጥ ተግባራዊ አድርገዉ ያዉቃሉ?

- 1. አዎን
- 2. አላዉቅም

024. ለጥያቄ ቁ023 መልስ «አዎን» ከሆነ ምን ዓይነት የጤና ኤክስቴንሽን ፓኬጆች ተግባራዊ አድርገዋል?

- 1. የመፀዳጃ ቤት ግንባታ
- 2. የመፀዳጃ ቤት አጠቃቀም
- 3. የደረቅ ፍሳሽ ቆሻሻ አወጋገድ
- 4. የግልና የአካባቢ ንጽህና አጠባበቅ
- 5. የፍሳሽ ቆሻሻ አወጋገድ
- 6. የምግብ ንጽህና አጠባበቅ
- 7. የውሃ ንጽህና አጠባበቅ
- 8. ሌሎች -----

025. በከተማ ጤና ኤክስቴንሽን አገልግሎቶች ላይ ሞዴል ቤተሰብ ተብለዉ ተመርቀዋል

- 1. አዎ
- 2. አልተመረኩም

026. አብዛኛዉን ጊዜ የመጠጥ ዉሃ የምትጠቀሙት ከምነድን ነዉ? (ካንድ በላይ ካለ ይመረጡ)

- 1. ከቧንቧ
- 2. ከተጠበቀ ጉድጉድ
- 3. ከተጠበቀ ምንጭ
- 4. ካልተጠበቀ ምንጭ ከጉድጉድ
- 5. ካልተጠበቀ ከጉድጉድ
- 6. ከሌላ (ይገለጹ)

027. በቀን በቤተሰብ ደረጃ ምን ያህል ዉሃ ይጠቀማል? -----

028. በቤተሰብ ደረጃ የደረቅ ቆሻሻ ማጠራቀሚያ እቃ አለ?

- 1. አዎ
- 2. የለም

029. በቤተሰብ ደረጃ የደረቅ ቆሻሻ ደረቅ ቆሻሻን በየዓይነቱ ለይተዉ ያስቀምጣሉ ?

1. አዎ

2. አይደለም

030. ምን ዓይነት የደረቅ ቆሻሻ አወጋገድ የጠቀማሉ ?

- 1. ሰብስቦ በቤት ጓሮ ጉድጓድ ዉስጥ መድፋት
- 2. ሰብስቦ በግቢ ውስጥ በየታዉ መጣል
- 3. ሰብስቦ ከግቢ ዉጭ በጋራ በተዘጋጀ ጉድጓድ ውስጥ መጣል
- 4. የደረቅ ቆሻሻን በሚሰበስቡ ግለሰቦች መስጠት

- 5. ሰብስቦ ከግቢ ውጭ በየቦታዉ መጣል
- 6. በግቢ ዉስጥ ሰብስቦ ማቃጠል
- 7. በግቢ ዉስጥ ለኮምፖስት መጠቀም
- 8. ሌላ ይጠቀስ

031. ደረቅ ቆሻሻን ባግባቡ ካላስወገድን ምን ዓይነት ችግር ሊያስከትል ይችላል?(ከአንድ በላይ መልስ ሊመልሱ ይችላሉ)

- 1. ተቅማጥ እና ሌሎች በሽታዎች
- 2. መጥፎ ሽታ
- 3. የዉሃ ቦዮችን ይዘጋል
- 4. ማህበረሰቡን ይረብሻል

- 5. የዉሃ መገኛ ቦታዎችን ይበክላል
- 6. ምንም ችግር የለም
- 7. አላዉቅም
- 8. ሌላ -----

032. ከቤት ዉስጥ የሚወጣዉን ፍስሽ ዉሃ ብዙዉን ጊዜ የት ነዉ የሚደፉት?(አረጋግጥ)

- 1. በፍሳሽ መስረጊያ ጉድጓድ ዉስጥ
- 2. በፍሳሽ ማስወገጃ ቦይ ዉስጥ
- 3. በግቢ ዉስጥ ጓሮ መድፋት

- 4. ከግቢ ዉጭ በመንገድ ወይም ባዶ ቦታ ላይ መድፋት
- 5. ሌላ

033. ለጥያቄ ቁ 032 መልስዎ በፍሳሽ መስረጊያ ጉድጓድ ዉስጥ ከሆነ ጉድጓዱን በአግባቡ ይጠቀሙብታል?

1. አዎ

2. የለም

034. መፀዳጃ ቤት አለዎት?

1. አዎ

2. የለም

035. ለጥያቄ ቁ.034 መልስዎ የለም ከሆነ ምክንያትዎን የግለጹ

- 1. የቦታ እጥረት
- 2. ቦታዉ መፀዳጃቤ ለገንባት አስቸጋሪ መሆን
- 3. የማቴሪያል /የገንዘብ ዕጠረት
- 4. ፈቃድ አለማግኘት

- 5. ቤቱ የኪራይ መሆን
- 6. ምንም ጥቅም ስለሌለዉ
- 7. ሌላ-----

036. ለጥያቄ ቁ.034 መልስዎ የለም ከሆነ የት ነዉ የሚጸዳዱት?

1. በየሜዳዉ

2. ከጎረቤት ጋር አብሮ

3. ሌላ ይገለጽ--

መጠቀም

037. ለጥያቄ ቁጥር 034 መልሰዉ አዎ ከሆነ ምን ዓይነት መጻዳጃ ቤት ነዉ

- 1. የተለምዶ መጻዳጃ ቤት
- 2. ሽታአልባ መጻዳጃ ቤት

- 3. በዉሃ የሚሰራ
- 4. ሌላ ይገለጽ-----

038. ለጥያቄ ቁጥር 034 መልስዎ አዎ ከሆነ የመጻፍያ ቤቱን የሚጋሩ ሌሎች ቤተሰቦች አሉ

- 1 አዎ
- 2. የለም

039. ለጥያቄ ቁ. 038 መልስዎ አዎ ከሆነ ስንት ቤተሰቦች ይጠቀሙበታል-----

040. ለጥያቄ ቁጥር 034 መልስዎ አዎ ከሆነ የመጻፍያ ቤቱ የንጽህና ሁኔታ ምን ይመስላል

- 1. ጥሩ
- 2 መካከለኛ
- 3 ዝቅተኛ

041. በጉብኝት ወቅት የመጻፍያ ቤቱ ሁኔታ (ለመጠቀሚያው ማረጋገጫ. ትኩስ አይነምድር፣ ሽንት እና ንጹህ ወለል ተመልከት) 1. ባግባቡ ይጠቀማሉ 2. ባግባቡ አይጠቀምም

042. መጻፍያ ቤት መኖሩ ምን ጥቅም አለው. (ከአንድ በላይ መልስ መመለስ ይቻላል)

- 1. ንጽህናን ያሻሽላል
- 2. መጥፎ ሽታን ይቀነሳል
- 3. የአካባቢ ብክለትን ይቀነሳል
- 4. በየሚዳወ. መጻፍያትን ይቀነሳል
- 5. ገመናን ይሸፍንልናል
- 6. በሽታን ይከላከላል
- 7. ምንም ጥቅም አለው ብይ አላምንም
- 8. አላውቅም
- 9. ሌላ---

043. እጃችን የምንታጠብባቸው ወሳኝ ዚያቶች መቸመቻ ናቸው. ብለው ያስባሉ?

- 1. ምግብ ከመመገባችን በፊት
- 2. ከምግብ በኋላ
- 3. መጻፍያ ቤት ከተጠቀምን በኋላ
- 4. ምግብ ከማዘጋጀታችን በፊት
- 5. ህጻናትን ከመመገባችን በፊትና በኋላ
- 6. ህጻናትን ካጸዳዳን በኋላ
- 7. እጃችን በቆሽሽ ጊዜ
- 8. ሌላ---

044. መጻፍያ ቤት ከተጠቀሙ በኋላ እጅቆን ይተጠባሉ?

- 1. አታጠባለሁ
- 2. አልታጠብም

045. በመጻፍያ ቤቱ አካባቢ የእጅ መታጠቢያ አለ? (ተመልከት)

- 1. አለ
- 2. የለም

046. ለተራቁጥር 045 መልስዎ የለም ከሆነ ምክንያቱን ይግለጹ-----

047. ለ045 መልስዎ አለ ከሆነ በጉብኝቱ ወቅት ለእጅ መታጠቢያ የሚያገለግል ዉሃ ነበር?

- 1. አለ
- 2. የለም

048. ለተራቁጥር 045 መልስዎ የለም ከሆነ ምክንያቱን ይግለጹ-----

049. ብዙውን ጊዜ እጅዎን የሚታጠቡት በምንድነው?

- 1. በዉሃ ብቻ
- 2. በዉሃና በሳሙና
- 3. በዉሃና በሌላ መታጠቢያ
- 4 ሌላ---

050. ባለፈው አንድ አመት ዉስጥ የአካባቢ ጤና አጠባበቅ አገልግሎት ስራዎችን ከማህበረሰቡ ጋር በመሆን አስተባብረው ያወቃሉ

- 1. አዎ
- 2. የለም

