ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

IMPLIMENTATION OF URBAN HEALTH EXTENSION PROGRAM: HYGIENE AND ENVIRONMENTAL HEALTH PACKEGES IN ADDIS KETEMA SUB CITY, ETHIOPIA.

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ASSURANCE OF PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific ethical and technical conduct of the research project and for provision of required progress reports as per terms and conditions of the Research Publications Office in effect at the time of Grant is forwarded as the result of this application.

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ACRONYMS and ABBREVIATIONS

- AAU Addis Ababa University
- CLTS Community led total sanitation
- EDHS Ethiopian Demography and Health Survey
- HEP Health Extension Program
- HSDP Health Sector Development Program
- MHH Model House Hold
- MOH Ministry of Health
- NGOs Non-governmental Organizations
- UHEP Urban Health Extension Program
- UHEW Urban Health Extension Worker
- WHO World Health Organizations

Abstract

Introduction: Health Extension program is 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. Although the government is trying to solve urban health problems through UHEP, still there are challenges and/or problems in waste management, access to sanitary facilities, safe and adequate water supply causing about 60-80 % of health problems.

Objective: To assess the implementation status of urban health extension program of hygiene and environmental health packages in Addis Ketema Sub City, Addis Ababa.

Methods: Community based cross-sectional study design using quantitative and qualitative methods was conducted from September, 2016 to June, 2017 in Addis Ketema Sub City, Addis Ababa. For quantitative data a total of 765 households was selected using multi stage sampling procedure and qualitative data obtained through key informant interview of purposively selected participants. The quantitative data entered and analyzed using SPSS version 20.0 and qualitative data analyzed by thematic method manually.

Results: The overall level of implementation of hygiene and environmental health packages are 34.7 %. Age group with 36-45,46-55 and above 55 years old respondents were 99.7%,99% and 97% less likely implement [AOR=0.003,95%CI=0.001-0.057],[AOR=0.01,95%CI=0.00-0.041], [AOR=0.01,95%CI=0.009-0.15] compared to the age group 26-35 years. Female household respondents 7.3 times more likely to implement the hygiene and environmental health packages than the male respondents [AOR=7.3, 95%CI=3.211-6.157]. Monthly income between 501-1000 Eth Birr have 6.8 times more likely to implement than households income less than 501 Eth birr [AOR=6.80,95%CI=2.35-10.31].

Conclusion and recommendation: the level of implementation was low. There were variations in the level of implementation among the packages. Community resistance for the program, Governmental constraint and very poor supportive supervision are the main reasons for low implementation status of environmental health packages. Community ownership and involvement, continues supportive supervision and further study is important for better implementation.

1. Introduction

1.1 Background

Globally, since 1990, 1.6 billion people have gained access to safe drinking water and 1.1 billion have gained access to improved sanitation facilities. There has been a great deal of investment and notable progress has been made (1). Lack or inadequacy of reliable water supply, sanitation services and personal hygiene have been the main cause for high prevalence of diarrhea and other related diseases causing death of millions of children in many countries in which the majority of people who face the problem, live in Asia and Africa (2). It is estimated that more than five million people die each year from diseases related to inappropriate waste disposal (3). The disease burden associated with poor sanitation is estimated to account for 4.0% of all deaths (4). Moreover, 88% of diarrheal diseases are attributed to unsafe water supply, inadequate sanitation, and poor hygiene. Sanitation Coverage in Ethiopia remains low, 60%, even though considerable efforts are made by the government and partner organizations. In general, sanitation related health risks are common problems and associated with low sanitation coverage. Creating and sustaining proper waste management practices is an essential part for improved human health, safe environment and sustainable development. In most of developing countries including Ethiopia waste management practices are poor (5).

The main objective of HEP is to improve access and equity of service providing at village/kebele level, targeting households particularly women/mothers; focusing on sustained preventive health actions and increased health awareness. It also serves as effective mechanism for shifting health care resources. Therefore, HEP is considered as the most important institutional framework for achieving the MDGs (6). The government of Ethiopia adapted the rural HEP for the urban setting since 2009. Among the four main packages of interventions, environmental health components are expected to affect urban population more. For urban setting the government chooses to use clinical nurses as urban health extension workers (UHEWs) with provision of additional three months pre-service training on health prevention and promotion activities (7).

Urban health services are type of services given for urban communities to prevent health problems including problems related to low sanitation coverage. Although the government of Ethiopia is trying to solve urban health problems by implementing urban health extension

program, still there are problems in waste management practices (3). Urban health extension program in Addis Ababa started in 2009 by employing 1500 health extension worker and 230 Supervisors. A total of 264,000 Households graduated with urban health extension program (8). The government is trying to address environmental health services as part of multi years (20 years) rolling Health Sector Development Program (HSDP). The Health Extension Program, which is extensively under implementation since 2009, is one of the major pillars of the health service delivery system in Ethiopia (3, 9). So, it is essential to perform community based studies that will support better understanding of the problems and opportunities related to implementation of UHEP.

1.2 Statement of the problem

According to the World Health Organization (WHO); unsafe water supply, inadequate sanitation, and insufficient hygiene practices account for an estimated 9.1 percent of the global burden of disease and 6.3 percent of all deaths (10). The growing problem of improper disposal and management of human and household waste is still causing adverse effects on the health of the residents. The Liquid waste disposal is also an unresolved and mounting health problem in Addis Ababa. Sanitation problem of Addis Ababa is one of the worst in the country. For instance 26 percent of the houses and the majority of slum-dwellers, have no toilet facility, and thus use rivers, ditches and open spaces (11). Sanitation provision in Addis Ababa is grossly deficient, as in most cities in sub-Saharan Africa: most people do not have access to a hygienic toilet; large amounts of faecal waste are discharged to the environment without adequate treatment. It is estimated that over 80% of Addis Ababa's population lives in slum districts with very poor housing construction quality (12). One of the most poorly serviced, densely populated areas in the city is Addis Ketema Sub City. Over 60% of the residents of the Addis Ketema area use shared latrines and 25% have no toilet facilities. The shared latrines, sandwiched in between houses in collapsing superstructures, are overused and overflowing with raw sewage (13).

The poor achievements in environmental health service coverage's over the past decades are attributed to various socio-economic factors and weak implementation practices that are detached from policies. Impacting on both the internal and external environment is believed to bring changes in the current sanitation status (6). Although the government of Ethiopia is trying 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 and latrine coverage remains low (60%)(3, 9). Despite the commitment of government, however, problems related to waste management in the towns are still public health concerns (14). So, it is essential to perform study that gives good insight on the problem and opportunities to implement environmental health packages of urban health extension program.

1.3 Rationale of the study

Urban health extension program is one of the major pillars of the health service delivery system in Ethiopia. Despite this commitment, however, problems related to waste management in towns are still public health concerns (14). Because of growing concerns of environmental health related risks from the towns of the country, and at household and community level, several challenges have been reported in the implementation of the UHEP. Sanitation problem is common in the sub city due to slum area and low socio economic status of the population, factors influencing the implementation of environmental health extension packages were not studied well (15). It is essential to conduct community based studies that will support better understanding of the problems.

1.4 Significance of the study

Ethiopia's Urban Health Extension Program is an innovative government plan to ensure health equity by creating demand for essential health services through the provision of health information at a household level and access to services through referrals to health facilities (8). The study will help Addis Ababa Health Bureau and Addis Ketema Sub City Health Office to solve the problem of hygiene and environmental sanitation package implementation. And it will find out the implementation status of environmental health packages of urban health extension program and support better understanding of the problems and opportunities. The study will also inform necessary public action to be taken and serve as base line for further research.

2. Literature review

2.1 Over view of urban health extension program

HEP is a community- based health service delivery program whose educational approach is based on the diffusion model, which held that community behavior is changed step by step: training early adopters first, then moving to the next group that is ready to change. Those resistant to change would gradually be conditioned to change because of changes in their environment (16). For urban setting the government chooses to use clinical nurses as urban health extension workers (UHEWs) with provision of additional three months pre-service training and to work at the household level on health prevention and promotion activities. The primary aim of the health extension program is to provide packages of preventive and promotive services targeting households particularly mothers and children to reduce morbidity mortality and disability, using strategies such as enhancing community participation, collaboration of different sectors and commitment of all players, through strengthening supportive supervision (17).

The health extension program has four major components comprising of sixteen packages. Environmental health service is one major component having four packages with specific objectives to be met and strategies to be followed. Environmental health component comprises: Water supply and food hygiene safety measure, solid and liquid waste management, proper handling and utilization of latrine and Personal hygiene and Healthy home and environmental sanitation. The environmental health packages are assumed to be having the highest impact to bring a significant change in the prevention and control of the major public health problems that are causes for morbidity, mortality and disability (18). As a strategy of this program households have been graduated as model families; female and male household heads were selected and given basic training on the 16 health extension packages for 96 hours. The graduated model families are expected to demonstrate practical changes in the use of health service program, environmental health, personal hygiene and serves as models to other community members. The strategy is based on the diffusion theory processed by which an innovation is communicated through certain channels over time among members of a social system (14).

2.2 Water supply and food hygiene safety measure

The World Health Organization estimates that, worldwide, there are 884 million people without access to safe water supply. This has a major impact on health. Globally, 4 billion cases of diarrhea occur every year and 88% of these can be attributed to unsafe water inadequate sanitation and poor hygiene (19).Several evidence show that hygienic food handling practices are identified as key preventive measures to break the transmission routes of water and sanitation related disease (20). The study conducted in Tigray Region shows that Poor hygienic condition of kitchens, poor washing practices of utensils, poor food handling practices, poor personal hygiene and low knowledge in food hygiene were identified as major causes for food contamination (21).

The EDHS survey in 2011 shows that more than half of the households in Ethiopia (54 percent) have access to an improved source of drinking water, with a much higher proportion among urban households (95 percent) than among rural households (42 percent). The most common source of improved drinking water in urban households is piped water, used by 87 percent of urban households. But in every 10 house holed 9 of them did not treat their drinking water (22).

2.3 Personal hygiene and Healthy home and environmental sanitation

Hands are contaminated in several different ways particularly when using a toilet. Hands are vehicles for transmission of diseases (23). Hand washing at critical times with soap and water removed germs and reduced diarrhea diseases by 35 % or more, also decreased prevalence of eye and skin infections (24). Face and hand washing of children and mothers are major component of global trachoma prevention and control strategies (25).

Both rural and urban population of Ethiopia lives in housing condition that does not meet requirements of WHO. Sharing rooms with animals, lack of windows, overcrowding, poor structures, lack of separate and vented cooking place and limited number of rooms are common practices (26). Ethiopian Demographic and Health Survey Report 2011 shows that 15.5% of the urban households have cement floor, over 67% of households have no bed room and only 6.2 % have 3 or more rooms for sleeping. Forty five percent of households use woods for cooking, 29 % cook their meals in a house while 49 % use a separate house for cooking and 85% of households use biomass for cooking which generates smoke that is unhealthy when inhaled (27).

Model family members are meant to support their neighbors in the positive practices of the UHEP, but this can be difficult to sustain at times. For example, in Shasamene, one model family member was experiencing difficulty in getting her neighbors to adapt certain sanitation practices, such as the disposal of solid waste (28). Poverty and income inequality are rising sharply in Ethiopian urban areas. About 80% of the poor and non-poor urban populations live in slums characterized by substandard housing and a lack of basic sanitation, services, and infrastructure so after taking theoretical part of the package they faced with economic and administrative challenge to full fill the standards to be model family (29).

2.4 Solid and liquid waste management

Waste management is a critical issue worldwide. Open, unregulated dumps are still the predominant methods of waste disposal in most developing countries Waste management is a growing public concern in Ethiopia (30).The cross sectional study conducted in 2014, at Debretabor Town show that about 70% of the households were found to have good solid waste management practices, but the study conducted in 2006, at Arada Sub Sity indicates that the community in Arada Sub City, (not all), do not have a concern in solid waste management. It further noted that there is improper use of public containers deliberately or unknowingly by some households. Also, there is lack of taking initiatives on the part of some households to participate in sanitary campaigns that are organized by kebeles and NGOs (31).

One of the most important benefits of water, sanitation and hygiene is providing barriers to transmission from the environment to the human body of diarrheal disease, which is responsible for an estimated 21 percent of fatalities of under-fives in developing countries or 2.5 million deaths per year. The study also conducted in urban area of debretabor shows 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 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 (2,30).

2.5 House hold sanitation facility

An estimated 2.6 billion people or 39% of the world’s population lack access to improved facilities for the disposal of human excreta, such as a basic pit latrine, a toilet connected to a

septic tank or piped sewer system, or a composting toilet according to the WHO and UNICEF (33).

Even though Ethiopia shares ensuring adequate sanitation facilities as one of Millennium Development Goal with other countries only 54 percent of urban dwellers use improved toilet. And also there is the presence of a latrine in most households in urban area, only 55.8% of the family members use the latrine always and 14% of family members only use the latrine sometimes (34).The study conducted in Kolfe Sub City shows that hand washing facility near to latrine was more common among model households 210 (79.2%) than non-model households111 (21.5%). Proper refuse disposal was also more practiced by model households 249 (93.9%) as compared to non-model households 351 (66.3) (35). HEP has shown significant positive impacts on the health of communities, in disease prevention, family health, environmental hygiene and sanitation (13, 34).

Factors associated with implementation of environmental health package

Educational status of the community also played a great role for the implementation. A study done at west Gojjam that Diarrhea morbidity was significantly associated with both father and mother educational status (36).

Many UHE-Ps felt that their credibility was undermined because solving problems related to environmental sanitation was well beyond their capacity. For example, in parts of Addis Ababa, households have private latrines, but the number of municipal suction trucks that come to collect and dump the contents of pit latrines or septic tanks that fill up after years of use is inadequate and households often have to wait for the service. (13, 23).

Children who were born to low educated mothers were about six times more likely to have diarrhea than children of mothers who were highly educated, similarly father’s education has a significant association with childhood diarrheal, age group found between 20-24 are four times more likely satisfied by service provided by HEWs when compared to household respondents with age group 35years and above where as those household respondents Who were disagree with recruitment of HEWs from their own woreda and all HEWs being female are less likely satisfied with service provided by health extension workers when compared to those who were agree with recruitment of HEWs from their own kebele and all HEWs being female. This could be because of community may have low awareness about the recruitment of HEWs and about the program (37).

Low economic status of the population, cultural diversity of the population is greatly affecting the extent of implementation. Studies done at Mirab Abaya (SNNPR) 74% of the households were without latrines and about 14% of the toilets did not have superstructure due to low income status (38).

When health extension workers are out of work due to other engagements all routine activities including educational, promotional and training activities cannot continue with same inertia or all households and community level activities cease. Lack of motivation of health extension workers due to salary annual leave, maternity leave, and sick leave or in case of social matters as no one replaced them at that time (39). Different perception are faced from the community and there are wide disparities in levels of health knowledge, attitudes, and behaviors among urban populations in Ethiopia. The UHEP's 15 standard packages of health promotion and prevention have not been sufficiently adapted to the different urban contexts and different health needs and there is lack of government operational budget for UHEP (40).

Conceptual framework

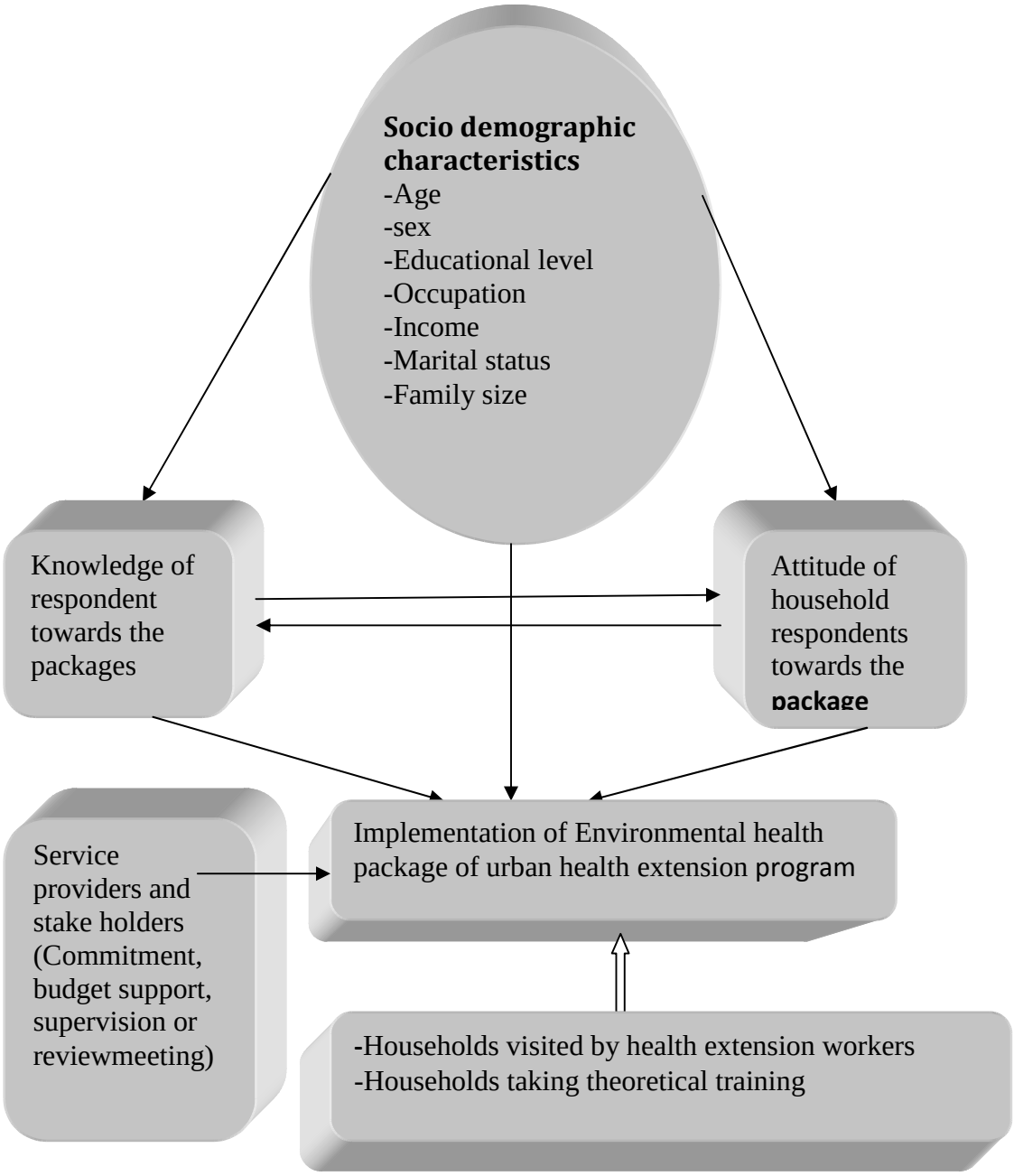


Figure1: Conceptual frame work on the implementation level of hygiene and environmental health package of urban health extension program at households level, Addis Ketema sub city, Addis Ababa: Dec,2016. (Source – Urban Health Extension Program Implementation Manual)

3. Objectives

3.1 General objective of the study

3.1.1 To assess the implementation status of urban health extension program of hygiene and environmental health packages in Addis Ketema Sub City, Addis Ababa.

3.2 Specific objectives

3.2.1 To assess implementation status of hygiene and environmental health extension packages at house hold level

3.2.2 To identify factors associated with the implementation of hygiene and environmental health packages

3.2.3 To explore challenges and opportunities in implementation of UHEP Environmental health packages

4. Methods

4.1. Study area and Period

The study area is Addis Ketema Sub City which has 10 woredas and located at the center of Addis Ababa. It has a population of 304, 694, with a total area of 863 hectare. The sub city has also 74,215 households from this 36,487 graduated in urban health extension packages. Currently, the health extension package training and follow up is implemented through women development army (8). The study was conducted from September, 2016 to June, 2017 in Addis Ketema Sub City, Addis Ababa.

4.2 Study design

Community based cross-sectional study design using both quantitative and qualitative methods.

4.3 Source population

The source population for quantitative study was graduated model households of the woredas found in Addis Ketema Sub City and for qualitative study health extension professionals and coordinators who works in woreda health office found in Addis Ketema Sub City.

4.4 Study Population

The study population was randomly selected graduate model household.

4.5 Inclusion Criteria

Female Household/spouses who have lived for more than 6 months in the study area and whose age is above 18 years and gives service more than 6 months in the study area.

4.6 Exclusion criteria

Those who have less than 6 months service and period of residence in study area, less than 18 years age and mentally sick during the interview were excluded.

4.7 Sample Size Determination

The sample size for the quantitative data is calculated by using single proportion formula.

P = Population proportion of households by taking the proportion of safe solid waste disposal coverage of households, 65.3 %, from other studies conducted in urban area other part of the country (33).

p = (1-p) = which is 0.347

Z = the standard normal deviate (Z = 1.96) at 95% confidence limit

d = 5% degree of precision, 95% confidence interval

n = the required sample size

Assuming a design effect 2 because multi stage sampling method is used and including a non-response rate of 10%, the maximum sample size required for the study were **765 house holds**

$$\mathbf{n = \frac{(Z\ \alpha/2)^2 \times p \times (1-p)}{d^2}} \qquad \mathbf{n = \frac{(1.96)^2 \times 0.653 \times 0.347}{0.05^2}} \qquad \mathbf{n = 348}$$

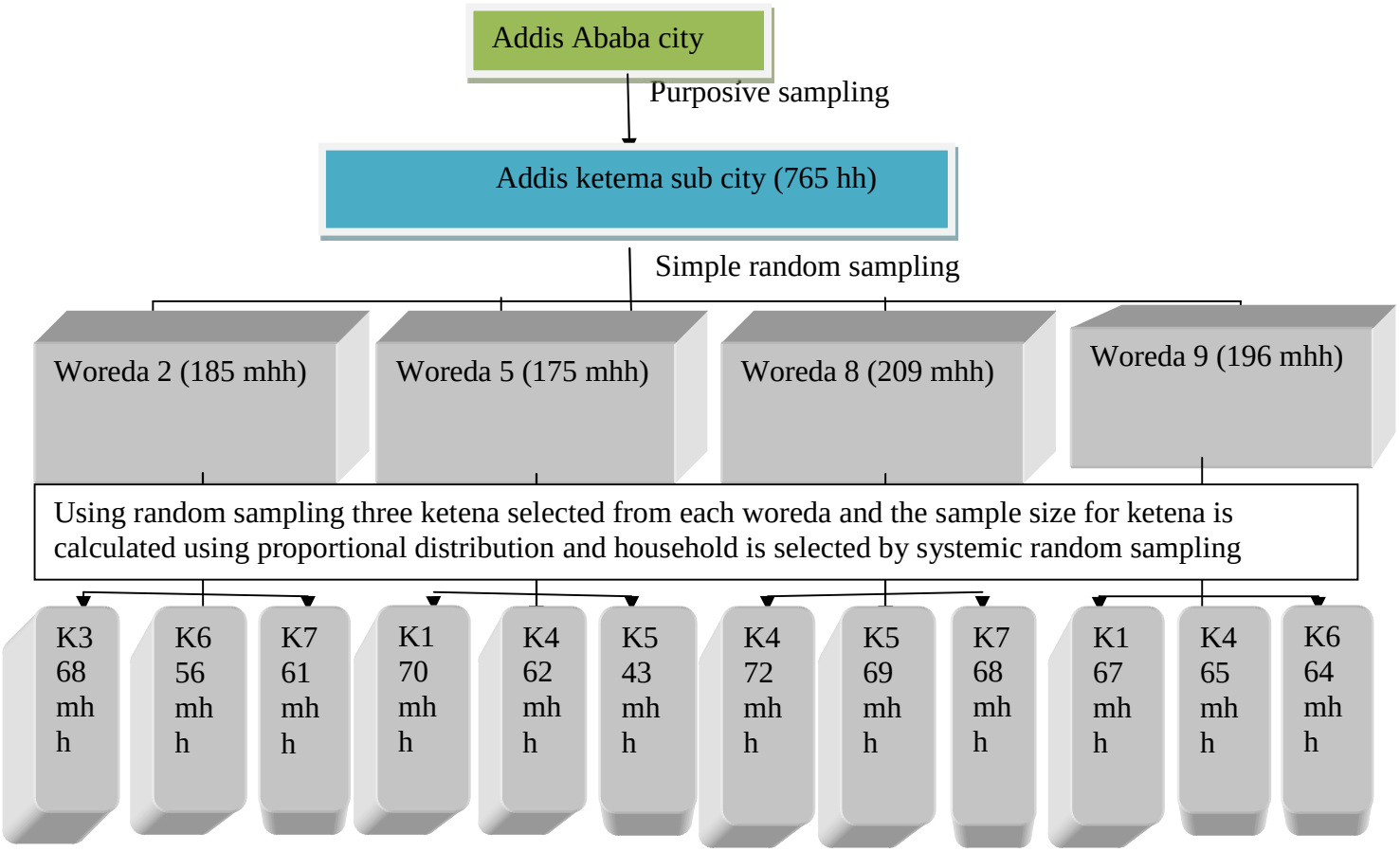
= 348*2 (design effect) = 696

= 696 + (696× 10%) none response rate **= 765**

Sample size for qualitative data was determined by purposive sampling method. So, purposively three respondents selected from each randomly selected four wored health office; one health extension supervisor and two health extension workers so that 12 respondents selected purposively.

4.8 Sampling procedure

Addis ketema sub city selected purposively because the sub-city is congested slum area. Four woreda selected using lottery method out of ten woreda (woreda 2, woreda 5, woreda 8 and woreda 9). Again using lottary method three ketena selected from each woreda. The ketenas were from woreda 2 (ketena 3, 6 and 7), from woreda 5 (ketena 1, ketena 3 and ketena 7), from woreda 8 (ketena 2, ketena 5 and ketena 7) and from woreda 9 (ketena 2, ketena 3 and ketena 8). The sample size (765) were distribute to the selected ketenas by tacking name list of model family from each woreda health office, ordered them by their house number in each ketena and study households were selected from each ketena through systematic sampling from random starting point. The sampling interval of households in each ketena is determined by dividing the total number of households to the allocated sample size. Based on the order of house number the initial household to be interview was selected by lottery method using a number between one and sampling interval. After selecting the first household, the subsequent households were selected using systematic sampling technique based on their house number. For the qualitative study purposive sampling was used.



mhh:- Model House Hold

Figure 2: Sampling procedures on implementation of environmental health packages of urban health extension at households, Addis Ketema Sub City, Addis Ababa: Dec, 2017.

4.9 Data Collection

For the quantitative method data was collected using a structured questionnaire adopted from a study done in Demboya Woreda (35). Eight data collectors and two supervisors were recruited and face to face interview technique was used for data collection; when the selected respondent was not found at home during the first visit, one additional visit was undertake by data collectors but if they are still not available they were substituted by those who full fill the inclusion criteria. The qualitative data were collected by a semi structured interview guide and the interview was audio taped. Data collection tools were initially prepared in English and translated in to Amharic (local language).

4.10 Study Variables

Independent variables: Socio-demographic characteristics of the household respondents such as sex, age, educational status, marital status, religion and family size, attitude and knowledge.

Dependent variables: urban health extension program of hygiene and environmental health package implementation.

4.11 Operational definitions and measurement

Implemented Household (Model Household):- a household who took all theoretical training of the packages and had practically implemented at least 75 % based on the training manual (8).

Implementation of Environmental health packages: - a household is considered as implemented; at least, implement if three and above from the total four packages listed below.

Water supply and food hygiene safety measure, solid and liquid waste management, proper handling and utilization of latrine and Personal hygiene and healthy home and environmental sanitation is implemented (8).

Implementation of solid and liquid waste disposal management package: - a household is considered as implemented, if the households mother/spouse/owner take the theoretical training of the package and availability of any type of solid waste management, such as (back yard kit, or other closed material), liquid waste disposal management such as (septic tanks, closed liquid waste pits or toilet) and utilization of liquid and solid waste methods (40).

Implementation of proper handling and utilization of latrine package: - is implemented, they have to fulfill all the following criteria

1. The households mother/spouse/owner take the theoretical training of health extension packages.

2. Availability and utilizing improved sanitation facility of the latrine such as (VIP latrine, water carriage latrine or pit latrine with superstructure, pit cup(cover slab) and hand washing facility after visiting the toilet (41).

Access to hand washing facilities: Availability of hand washing facilities at the entry or adjacent to the latrine.

Implementation of water sanitation and food hygiene package households is considered as implemented, if they have to fulfill all the criteria listed below

1. The household owner takes the theoretical training of the package

2. Accessible and available source pipe water (other source of water treated with the initiation of health extension worker)

3. Separated and covered cup for dipping, availability and usage food utensil compartment dish for washing (41).

Implementation of personal hygiene package: - is implemented, if the households mother/spouse/owner

1. Take the theoretical training of the package and

2. Good personal hygiene of the household members.

General personal hygiene; - Hygienic condition (tidiness) of respondents and their family members rated by observation of their cloth, hair, finger nails at the time of the survey described as good, fair and poor (42).

Knowledge about hygiene and environmental health packages: -A house hold is considered as having good knowledge; they have to fulfill all the following criteria:-

1. They mention at least two packages out of the four environmental health packages

2. Benefit of implementing the package (at least they must know prevention from communicable disease (43).

Attitude towards hygiene and environmental health packages: - A household spouse or owner attitude is positive; they have to fulfill all the following criteria:-

1. They have to agree in the value of implementing urban health extension program of environmental health packages is important for the promotion of health, prevention of disease**,**

2. They have to agree with the causes of communicable diseases are due to poor hygiene and environmental health extension packages performance (43).

4.12 Data Quality Assurance

To assure the data quality, data collectors and their supervisor were trained for two days before the actual data collection pretesting of the instrument was conducted on 76 respondents based on inclusion criteria in Kirkose sub city which have similar socio demographic characteristics with Addis Ketema Sub City. The supervisor and principal was closely supervise the performance of the data collectors on a daily basis and the collected record sheets were thoroughly check every day at the end of data collection session and in case incomplete data revisit was done.

4.13 Data management and data analysis

The collected quantitative data checked first for completeness and internal consistency. Then the data was entered into computer and cleaned using EPI info version 3.5.3 software, while data analysis done using SPSS version 20.0 statistical packages. Proportions, percentages, frequency and tables were used to summarize the data accordingly. Binary logistic regression was used to investigate the association of each independent variable with the outcome variable and multiple logistic regressions was used to assess adjusted odd ratio for potential confounding factors that are not controlled during the design to identify variables having statistical significance in the level of implementation. On the other hand the qualitative data were analyzed by thematic method of analysis. The audio taped data was transcribed, saved and assigned the code to segment of the text after that the organized data analyzed manually and the result were presented thematically.

4.14 Ethical considerations

Ethical clearance was secured from the Addis Ababa University, School of Public Health. Addis Ababa City Administration Health Bureau and Addis Ketema Health office were requested for permission presenting letter given from School of Public Health. The process of clearance and other necessary amendments was made before the actual data collection take place. Before each interview, the study's objectives were clearly explained. Each respondent was assured that the information provided was confidential and used only for the purpose of research. After giving all necessary information, respondents were asked for consent and interviews were carried out only with full consent of the person to be interviewed. To provide more privacy for respondents the interview were take place with respondent alone.

4.15 Dissemination of results

Findings of this assessment will be disseminated to the Addis Ababa University School of Public Health, Federal Ministry of Health, Addis Ababa City Administration Health Bureau, Addis Ketema Sub City Health Office, Woreda Health Offices and other concerned bodies.

5. Result

5.1. Quantitative Data

5.1.1 Socio demographic characteristics of the households

Out of 765 Model household included in the study, 734 model household were participated in the study, giving response rate 96%. Of the total study subject 671(91.6%) were females. The median age was 40 with the SD 10.5 years. Concerning the religion of respondents' majority of household respondents 463(63.1%) is Orthodox and 104 (14.2%) are unable to read and write. About 368 (50.1%) of respondents are married during the time of data collection. More than one third of the respondents 292(39.8%) have monthly income of 500-1500 Eth birr and majority respondents 292(39.8%) have a family size of four up to five. (Table 1)

Table 1: Socio demographic characteristics of respondents. Addis Ketema sub city, Addis Ababa Region, Oct. 2017

No.	Socio Demographic Variable		Frequency	Percent
1	AGE	26-35	217	29.6
		36-45	243	33.2
		46-55	192	26.2
		56 AND ABOVE	81	11.1
2	SEX	MALE	62	8.4
		FEMALE	671	91.4
3	RELIGIOUN	MUSLIM	162	22.1
		ORTHODOX	463	63.1
		PROTESTANT	77	10.5
		CATHOLIC	19	2.6
		OTHERS	12	1.6
4	EDUCATIONAL STATUS	ILLITRATE	104	14.2
		PRIMARY	219	29.8
		SECONDARY	133	18.1
		DIPLOMA	212	28.9
		DIGREE AND ABOVE	65	8.9
5	OCCUPATION	GOVERENMENT EMPLOYE	203	27.6
		NON GOVERENMENT EMPLOYE	200	27.2
		HOUSE WIFE	252	34.33
		MERCHANT	67	9.1
		DAILY LABOUR	12	1.6
6	MARITAL STATUS	SINGLE	223	30.4
		MARRIED	368	50.1
		WIDOWED	105	14.3

		DIVORCE	37	5.0
7	ETHINICITY	AMHARA	231	31.5
		TIGRAY	101	13.8
		OROMO	163	22.2
		GURAGE	140	19.1
		OTHER	98	13.4
8	MONTHLY INCOME	< 501	71	9.7
		501-1500	292	39.8
		1501-2500	231	31.5
		> 2500	138	18.8
9	FAMILY SIZE	1	84	11.5
		2-3	237	32.3
		4-5	292	39.8
		>5	120	16.4

5.1.2. Personal hygiene and Healthy Home and Environmental Sanitation package implementation status of the households

From the total 733 household respondents 596(81.3%) implemented the package. Concerning bathing, 256 (34.9%) household respondents took bath at home private bath area and almost half 362 (49.4%) took bath at home using bucket. Majority of the households 574(78.3%) participate in sanitation campaign. Household respondents of 613 (83.6%) had taken shower one times and above per week and 87 (11.9%) respondents take a shower every two weeks. Above three fourth of the households 570 (77.8%) had good personal hygiene status. (See table 2)

Table 2: Personal Hygiene and Healthy Home and Environmental Sanitation Package Implementation Status of Households, Addis Ketema Sub City, Addis Ababa, Oct. 2017

No.	Personal Hygiene and Healthy Home and Environmental Sanitation Package Implementation		Frequency	Percent
1	WHERE DO TAKE A BATH	PRIVATE HOUSE HOLD BATH	256	34.9
		PUBLIC BATH	115	15.7
		BUCKET AND BOWL IN THE HOUSE	362	49.4
2	TIME INTERVAL TO TAKE BATH	EVERY WEEK AND LESS	613	83.6
		EVERY TWO WEEK	87	11.9
		AS NESSASRY	33	4.5
3	CONDITIONS OF PERSONAL HYGIENE (CLOTH, HAIR, FINGER NAILS....)	GOOD	570	77.8
		POOR	163	22.2
4	MATERIALS USED FOR ROOF	THACHED	126	17.2
		CORRUGATED IRON SHEET	607	82.8

5	MATERIALS USED FOR FLOOR	EARTH	79	10.8
		CEMENT	583	79.5
		WOOD	43	5.9
		OTHER	28	3.8
6	LIVING QUARTER IS SEPARATED FROM ANIMAL	YES	190	25.9
		NO	543	74.1
7	LIVING QUARTER IS SEPAEATED FROM KITCHEN	YES	529	72.2
		NO	204	27.8
8	ADEQUATE VENTILATION OF HOME	YES	572	78.0
		NO	161	22.0
9	ADEQUATE NATURAL LIGHT OF HOME	YES	584	79.7
		NO	149	20.3
10	LIVING QUARTER AND ITS COMPOUND FREE FROM FITH	YES	538	73.4
		NO	195	26.6
11	PROBLEM OF INSECTS IN THE LAST 6MONTHS	YES	387	52.8
		NO	346	47.2
12	IF YES, WHAT TYPE OF INSECTS	COCKROCH	233	31.8
		LICE	38	5.2
		FLEA	92	12.6
		5	24	3.3
13	RODENT INFESTATION IN AND AROUND THERESIDENCE	YES	387	52.8
		NO	346	47.2
14	MEASURES TAKEN TO CONTROL INSECTS AND RODENTS	ENVIRONMENTAL SANITATION	23	3.1
		CHEMICHAL TREATMENT	130	17.7
		BIOLOGICAL CONTROLL	134	18.3
		TRAP	112	15.3
15	CLEAN YOUR COMPOUND	YES	685	93.5
		NO	48	6.5
16	TIME INTERVAL TO CLEAN THE COMPOUND	EVERY DAY	434	59.2
		EVERY THREE DAY	113	15.4
		EVERY WEEK	99	13.5
		OTHER	39	5.3
17	PARTICIPATION ON SANITATION CAMPAIGN	YES	574	78.3
		NO	159	21.7
18	IMPLEMENTATION STATUS	NOT IMPLEMENT	137	18.7
		IMPLEMENT	596	81.3

5.1.3. Solid and liquid waste management package implementation status of the households

From the total 733 household respondents, 521 (71.1%) not implemented solid and liquid waste management package. From the total households 687(93.7%) have solid waste collection method. Only 87 (11.9%) respondents not segregate solid and liquid waste. One hundred seventy two (23.5%) respondent dispose their solid wastes in open field damping. More than half 491

(67%) of the study households have no liquid waste disposal method. From those who have liquid waste collection method 151 (21.1%) of respondent dispose liquid waste directly into liquid waste pit, only 50 (7.3%) respondents dispose liquid waste into septic tank and 41 (6%) of respondent dispose their liquid waste in the toilet. (Table 3)

Table 3: Solid and Liquid Waste Management Package Implementation Status of Households, Addis Ketema Sub City, Addis Ababa, Oct. 2017

No.	Solid and Liquid Waste Management Package Implementation		Frequency	Percent
1	AVAILABILITY OF SOLID WAST COLLECTION	YES	687	93.7
		NO	46	6.3
2	SERGERGATE SOLID WASTE FROM LIQUID WASTE	YES	646	88.1
		NO	87	11.9
3	UTILIZATION OF SOLID WASTE CONTANINER	UTILIZED APPROPRAITELY	565	77.1
		NOT UTILIZE APPROPRAITELY	113	15.4
4	FINAL DISPOSAL OF SOLID WASTE	MUNICIPAL COLLECTOR	561	76.5
		OPEN FIELD DAMPING	172	23.5
5	AVAILABILITY OF LIQUID WASTE COLLECTION METHOD	YES	242	33.0
		NO	491	67.0
6	METHOD USED TO DISPOSE LIQUID WASTE	COLLECT AND DISPOSE DIRECT TO LIQUID WASTE PITS	151	21.1
		DISPOSE IN THE SEPTIC TANK	50	7.3
		IN THE TOILET	41	6.0
7	APPROPRIATELY UTILIZATION OF LIQUID WASTE DISPOSAL METHOD	UTILIZED	158	21.7
		NOT UTILIZED	84	11.6
8	FINAL WASTE DISCHARGED	DIRECTLY CONNECTED TO THE MAIN SEWERAGE	604	82.4
		DISCHARGED IN THE FREE SPACE AND SURROUNDING	52	7.1
9	IPLEMENTATION STATUS	NOT IMPLEMENT	521	71.1
		IMPLEMENT	212	28.9

5.1.4. Proper Handling and Utilization of Latrine Package Implementation Status of Households

From the total 733 household respondents only 268 (36.6%) implement Proper excreta disposal package. All study households 733(100%) have toilet facility, with dry pit latrine 279(38.1%), Ventilated improved pit latrine 64 (8.7%) and communal pit latrine 390 (53.2). From the households with toilet facilities 642(87.6%) have super structure and only half of the respondents 372(50.8%) have pit cup (hole cover). (Table 4)

Table 4:Proper Handling and Utilization of Latrine Package Implementation Status of Households, Addis Ketema Sub City, Addis Ababa, Oct. 2017

No.	Proper Handling and Utilization of Latrine Package Implementation		Frequency	Percent
1	TOILET FACILITY	AVAILABLE	733	100.0
2	TYPES OF TOILET FACILITY	DRY PIT LATRINE	279	38.1
		VIP LATRINE	64	8.7
		COMMUNAL LATRINE	390	53.2
3	SUPER STRUCTR	YES	642	87.6
		NO	91	12.4
4	HAND WASHING FACILITY	YES	274	37.4
		NO	459	62.6
5	IF YES, DOES THE FACILITY ACCESSIBLE FOR SERVICE	ACCESSIBLE	232	31.7
		NOT ACCESSIBLE	42	5.7
6	TOILRT PIT CUP	YES	372	50.8
		NO	361	49.2
7	PIT CUP APPROPRIATELY UTILIZED	YES	192	26.2
		NO	180	24.6
8	PROPORTION OF HOLES PER PERSON	1-3 PERSON PER HOLE	161	22.0
		4-6 PEOPLE PER HOLE	253	34.5
		ABOVE 6 PEOPLE PER HOLE	319	43.5
9	CLEAN THE LATRINE	YES	662	90.3
		NO	71	9.7
10	WHEN DO YOU CLEAN	REGULARLY DAILY ONCE	248	33.8
		REGULARLY WEEKLY	54	7.4
		WHEN GETS DIRT	360	49.1
11	IMPLEMENTATION STATUS	NOT IMPLEMENT	465	63.4
		IMPLEMENT	268	36.6

5.1.5. Water sanitation and food hygiene package implementation status of the households.

From the total 733 household respondents 442(60.3%) implement Water sanitation and food hygiene package the remaining households 291 (30.7%) didn't implement the package. All of the study households have access to pipe water, source of private tab 676(92.2%) and 57(7.8%) public tab water source with usage 282(38.5%) less than 10 liters, 388(52.9%) 10-20 liters and 63(8.6%) above 20 liters per person per day. (Table 5)

Table 5：Water Supply and Food Hygiene Safety Measure Package Implementation Status of Households, Addis Ketema Sub City, Addis Ababa, Oct. 2017

No.	Water Supply and Food Hygiene Safety Measure Package Implementation Status		Frequency	Percent
1	CURRENT WATER SOUCE	PRIVET TAB	676	92.2
		PUBLIC TAB	57	7.8
2	HOMEMADE WATER TREATMENT METHODS	YES	534	72.9
		NO	199	27.1
3	TYPE OF HOMEMADE WATER TREATMENT METHODS	BOILING	230	31.4
		USE OF WUHA AGAR	174	23.7
		SAND FILTRATION	130	17.7
4	WATER USED PER PERSON PER DAY(ESTIMATE VOLUME OF WATER PER DAY AND CACULATE WITH NUMBER OF FAMILY MEMBERS)	LESS THAN 10 LITERS	282	38.5
		10 TO 20 LITERS	388	52.9
		MORE THAN 20 LITERS	63	8.6
5	SEPARATE CUP FOR DIPPING AND DRINKING WATER	YES	721	98.4
		NO	12	1.6
6	PLACE OF FOOD PREPARATION	WITH IN THE LIVING QUARTER	253	34.5
		IN THE KICTCHEN	480	65.5
7	COMPARTMENT SINK FOR WASHING FOOD UTENSIL	YES	651	88.8
		NO	82	11.2
8	WHAT DO YOU USE TO CLEAN THE KICHEN UTENSILS	WATER ONLY	35	4.8
		SOAP/OMO/AJAX	654	89.2
9	FOOD PREPARATION GOWN	YES	19	2.6
		NO	714	97.4
10	IMPLEMENTATION STATUS	NOT IMPLEMENT	291	39.7
		IMPLEMENT	442	60.3

5.1.6. Overall Environmental Health Packages Implementation Status of Households.

From the total 733 household respondents only 255(34.7%) implemented all Environmental health packages and from those four packages Personal Hygiene and Healthy Home and Environmental Sanitation Package was well implemented whereas the list implemented goes to solid and liquid waste management package. (Table 6)

Table 6：Overall Hygiene and Environmental Health Packages Implementation Status of Households, Addis Ketema Sub City, Addis Ababa, Oct. 2017

No.	Overall Environmental Health Packages Implementation Status		Frequency	Percent
1	Personal Hygiene and Healthy Home and Environmental Sanitation Package	Implemented	596	81.3
		Not implemented	137	18.7
2	Solid and Liquid Waste Management Package	Implemented	212	28.9
		Not implemented	521	71.1
3	Proper Handling and Utilization of Latrine Package	Implemented	268	36.6
		Not implemented	465	63.4
4	Water Supply and Food Hygiene Safety Measure Package	Implemented	442	60.3
		Not implemented	291	39.7
5	Overall Environmental Health Packages	Implemented	255	34.7

	Not implemented	479	65.3

5.1.6 Association of factors to implementation of hygiene and environmental heath package.

The result of selected independent variables in relation to the implementation status of household respondents towards hygiene and environmental health packages of urban health extension program showed that age group of 36-45, 46-55 and 56 and above years old respondents were 99% ,97% and 90% less likely to implement the packages compared to lower age group (26-35) years [AOR=0.01,95%CI=0.00-0.041], [AOR=0.01,95%CI=0.009-0.15] and [AOR=0.1,95%CI=0.023-0.3844].

Female household respondents 7.3 times more likely to implement the hygiene and environmental health packages than the male respondents [AOR=7.3, 95%CI=3.211-6.157]. Occupation with government employee, NGO/private employee, merchant and daily labourer respondents were 5.2, 8.1, 10.8 and 12.2 times more likely to implement the hygiene and environmental health packages compared to House wife respondent [AOR=5.2,95%CI=3.762-11.371], [AOR=8.143,95%CI=4.073-8.809], [AOR=10.809,95%CI=4.576-14.358] and [AOR=12.243, 95%CI=2.927-13.171].

House hold respondents with divorced marital status 87% were less likely to implement the hygiene and environmental health packages compared to single marital status of household respondents[AOR=0.136,95%CI=(0.022-0.851)]. Study households with monthly income between 1000-1500 and 1500-2000 Eth birr were 7.25and 8.9 times more likely to implement the environmental health package than households income less than 501 Eth birr [AOR=7.25%CI=3.791-11.44],[AOR=8.90,95%CI=3.57-12.25] respectively.

The study household respondent's knowledge towards environmental health package also highly associated to level of implementation, household respondents with poor knowledge on hygiene and environmental health packages were 72.8% [AOR=0.272, 95%CI=0.145-0.510] less likely to implement comparing to good knowledgeable household respondents on environmental health package. (Table 6)

Table 7:A two by two table of bivariate and multivariate of factors associated with hygiene and environmental health packages of urban health extension program, Addis Ketema sub city, Addis Ababa, 2017 (bivariate and multivariate analysis).

No	Explanatory Variable		Implementation status		COR, 95% CI	AOR, 95% CI
			Implemented	Not implemented		
1	Sex	Male	32	49	1	1
		Female	325	436	4.3(7.347-11.884)	6.5(3.001-7.057)
2	Age	26-35	123	94	1	1
		36-45	105	138	0.53(0.028-0.098)	0.010(0.003-0.041)
		46-55	102	90	0.134(0.072-0.025)	0.037(0.009-0.150)
		56 and above	28	53	0.561(0.261-1.016)	0.101(0.023-0.384)
3	Educational Status	Not read and write	146	68	1	1
		Primary school	121	98	12.1(5.88-25.14)	1.532(0.354-6.6632)
		Secondary school	62	71	3.45(1.75-6.28)	0.845(0.198-3.601)
		diploma	132	80	1.5(0.209-0.944)	0.386(0.91-1.642
		Degree and above	22	43	0.44(0.29-0.94)	0.281(0.06-1.315)
4	Occupational Status	Housewife	162	90	1	1
		Government employee	82	124	1.5(0.254-0.821)	5.2(3.762-11.371)
		Nongovernmental/ Private employer	140	60	7.1(0.146-0.711)	8.143(4.073-8.809)
		Daily labourers	6	6	1.45(8.26-21.17)	12.243(2.927-13.17)
		Merchant	30	37	2.44(9.04-33.54)	10.80(4.576-14.358)
5	Marital Status	Single	134	89	1	1
		Married	180	186	0.153(0.062-0.377)	0.362(0.056-2.349)
		Widowed	47	58	0.319(0.139-0.722)	0.620(0.123-2.349)
		Divorced	20	17	0.223(0.087-0.571)	0.136(0.022-0.851)
6	Income	<501 Eth birr	52	19	1	1
		501-1500 Eth birr	178	114	3.60(1.30-5.80)	6.80(2.35-10.31)
		1501-2500 Eth birr	188	153	4.76(4.4-6.23)	7.25(3.791-11.44)
		>2500 Eth birr	61	77	4.99(4.85-7.33)	8.99(3.57-12.25)
7	Family Size	1	37	47	1	
		2-3	87	158	0.307(0.120-0.785)	
		4-5	136	156	0.318(0.177-0.572)	
		>5	36	84	0.303(0.187-0.675)	
8	Knowledge	Good Knowledge	346	133	1	1
		Poor knowledge	85	169	0.162(0.199,0.221)	0.272(0.145,0.510)

5.2 Qualitative Data Finding and Analysis

Qualitative data containing four themes and fifteen categories was obtained from a total of 12 respondents who are Clinical nurses, Health officers and environmental health officers working in Woreda health office in Addis Ketema Sub City. The respondents were selected to this inquiry.

5.2.1. Summary of finding from qualitative data

- **Importance of hygiene and sanitation package**.

1. Health extension workers believe that this package helps prevent transmission of communicable diseases which in turn reduces health related costs. Also, hygiene and sanitation package is also perceived as a way to create a clean and pleasant environment to live in.
2. This package is perceived to have importance on individual, community and country basis.

- **Health extension workers and community role on implementing this package.**

1. Health professionals on their role on implementation of this package, they gave emphasis on giving health education than follow up and support.
2. The community members organize different campaigns supporting this package even though they need third party to facilitate.
3. Putting an effort in team work to overcome the environmental sanitation and hygiene problems is also stated

- **Challenges faced during implementation of Environmental Health Packages**

1. The presence of law that obligates the community to obtain permission to undertake construction is being a huge obstacle for the community to build necessary infrastructures like toilet and drainage system as the process of obtaining permission is very long and tiring for the community
2. The area being closely populated is also mentioned in association with this problem
3. Lack of resources to build the needed infrastructures and the community can't afford it and they are reluctant toward working against the problem.
4. Improper waste disposal systems and lack of fast response from the responsible sectors in some inquiries are mentioned among the problems.

5. The expectation that all should be fulfilled by a third party rather than the community members involving themselves in the situation.
6. Most of the residents of the corresponding area are letting their houses to rent is among the main problems that have imposed a challenge in implementing this package
7. There are even some community members who are not willing to attain the health education and who also doesn't trust the health extension worker's intention to attain the heath education and even sometimes they unlished dogs and close their door.
8. The Sub city includes 'Menaheriya' where peoples come and leave Addis Ababa through, it has given the area the greatest flow of peoples which is seen as one challenge on behalf of the health extension workers.
9. Government gives strong attention on UHP.
10. UHP merge with health center so that it will give some extra strength.
11. Some NGOs are willing to give material and technical support.

- **Strength and weakness of HEW, Administrative and community in implementation of the hygiene and sanitation package**.

1. Despite the challenges they are facing and the lack of training HEW aggressively work to implement the packages.
2. Health extension workers lacks regular health education on a sufficient manner and lack of follow up and support
3. On the community's side, their willingness to attained health education is stated as their strength.
4. Lack of persistent action from the model household is also one weakness of the community
5. Lack of Support to those who are taking part in implementation of this package.

- **Proposed ideas on improving the implementation of the package**

1. support from various sectors and stakeholders
2. The media should also give due emphasize on UHEP
3. The government should give necessary infrastructures and putting up a sufficient budget.

NB: There is contradictory idea or response for the same question.

Table 8:Summary of Qualitative data thematic and Categorical presentation of Addis Ketema Sub City, Addis Ababa, Oct. 2017

No.	Theme	Categories
1	Importance of hygiene and environmental health package and the role of HEW and community in implementing the packages	- Perception of health extension workers on importance of hygiene and sanitation package - Perception of health extension workers n their role implementing this package. - Role of community on implementing this package as perceived by the respondents
2	Challenges in implementation of hygiene and environmental health package	- Legal and government constrains - Challenges that are being imposed from the community to implement this package -Environmental factors that are challenging the implementation of this package
3	Strength and weakness of HEW, Administrative and community in implementation of the hygiene and sanitation package.	- Strength of the health extension workers -Weakness of the health extension workers - Strength of the community - Weakness of the community - Strength of the administrative - Weakness of the administrative
4	Contribution to the implementation of this package and its current status	- Stakeholders and their contribution - Proposed ideas on improving the implementation of the package - Respondent subjective evaluation of the implementation

5.2.2 Themes and Categories with their Results

Theme: The challenges in implementation hygiene and environmental package by health extension workers.

Categories: Legal and government constrains

As described by health extension workers, the presence of law that obligates the community to obtain permission to undertake construction is being a huge obstacle for the community to build necessary infrastructures like toilet and drainage system as the process of obtaining permission is

"If there is a need to build a toilet then permission should be obtained from the responsible sector and one has to go through different bureau (birocracies) in order to obtain this permission." (25 years old, Female, Nurse, Health extension professional, Work experience of 4 year, I-9)

In addition to the permit that should be obtained to build any infrastructures the fact that one should also obtain permission for renewing old buildings is being a problem for the community to access toilets. The area being closely populated is also mentioned in association with this.

"Difficulties gaining permission from the administrative for building and renewing, the fact that the community is closely populated and scarcity of land where constructions can be undertaken can be stated as constraints." (27 years old, Male, Environmental health officer, Health extension supervisor, work experience of 4 years,I-1)

"Let alone building a new toilet from the scratch but if one wishes to renew the old one the same permission has to be obtained. Which in a way is being a challenge for this package being successful" (25 year old, Female, Health professional, Health extension professional, Work experience of 2 years, I-10)

On the other hand poverty and lack of resources to build the needed infrastructures are stated as a big problem to implement the package by this reason many of householders who took theoretical part did not graduated.

"In order for us to implement this package the main problem is constraint of budget in my opinion." (26 years old, Female, Health officer, Health extension supervisor, Work experience - 1 year, I-3)

The process of collecting money to building infrastructures is tiresome for the community as it is mentioned as a reason for the reluctance of the community towards working against the problem.

"Even though money is collected from the community which is necessary to build infrastructures this money will be submitted to lemat xehefet bet in order for the office to add up some money on it which makes the whole process long and tiring for the community to carry on." (25 years old, Female, Health professional, Health extension supervisor, Work experience of 1 year, I-4)

"when a toilet is to be built from the yehezeb lemat tesatfo xefet bet in order the budget to be permitted a lot of process should be undertaken which is also very tiring." (21 year old, Female, Health professional, Health extension professional, Work experience of 2 years, I-12)

Also, improper waste disposal systems and lack of fast response from the responsible sectors in some inquiries are mentioned among the problems.

"Solid wastes are not removed on time and even if animals like dogs are being health problems for the environment the sectors who are responsible to take action on this aren't working on it despite repeated reports." (26 years, male, Health officer, Health extension supervisor, Work experience of 1 year, I-2)

On the other hand some illegal activities by the community members are also reported by health extension workers as actions that need legal intervention.

"Some of them use common public toilets but there are still other community members who are not allowed to use the toilet by some community members, its good if these individuals are asked by law since every community member has

every right to use these toilets as long as they are owned by the community." (25 year old, Female, Health Officer, Health extension supervisor, Work experience of 2 years, I-5)

On the contrary it has been also mentioned that there is no legal constraint that is being imposed by the package.

Categories: Challenges that are being imposed from the community to implement this package

"Of the problems seen among the community, lack of cooperativeness, expecting other community members to do the job and not fulfilling one's obligation unless punishment is imposed can be mentioned." (27 years old, Male, Environmental health officer, Health Extension Supervisor, work experience of 4 years, I-1)

"Peoples might not be welcoming, they may be unwilling to accept you, may not welcome you to their house to have a discussion, or they may not even greet you." (26 years, Male, Health officer, Health extension workers supervisor, Work experience of 1 year, I-2)

Also, health extension workers have described about lack of awareness of the community about this package and the expectation that all should be fulfilled by a third party rather than the community members involving themselves in the situation.

"*Of the problems encountered to implement environmental health packages, lack of awareness about the issue among the community members, the fact that community members are expecting the task to be done by someone else rather than doing it themselves is the main"* (27 years old, Male, Environmental health officer, Health Extension Supervisor, work experience of 4 years, I-1)

Most of the residents of the corresponding area are letting their houses to rent is among the main problems that have imposed a challenge in implementing this package.

"Peoples who let their houses for rent doesn't feel like their house is their property anymore and doesn't take responsibility to it." (26 years old, Female, Health officer, Health extension supervisor, Work experience - 1 year, I-3)

Additionally, as stated by respondents even though the community is willing to attained heath educations and discussions, there is a lack of practicing the package.

"*From what I have seen the community doesn't have any problem taking the health education that is given but when it comes to putting it in to action the community is way behind"* (26 years, Female, Health officer, Health extension workers supervisor, Work experience of 1 year, I-2)

"The community is willing to listen to the health education that is being given; they do also participate in discussions prepared for these issues. But they don't practice the package at the end of the day." (25 year old, Female, Health professional, Health extension, Work experience of 2 years, I-5)

Some community members are also described to be irresponsible for their environmental hygiene *and sanitation.*

"From my experience I can tell that people don't get convinced that what is happening in their community is not their concern. Once feces were dumped on a street and I was asking who is responsible for the act trying to resolve the situation. But I wasn't able to find one person who can either take the responsibility or at least tell who responsible is. When I put them under pressure telling them that the option is either they will all be punished for it or it should be cleaned by everyone around they refused to clean it and they pointed out the person who dump it there so that she will clean it." (26 years, Female, Health officer, Health extension workers, Work experience of 3 year, I-12)

To make the challenge even more sever, mentioned that there are even some community members who are not willing to attain the health education and who also doesn't trust the health extension worker's intention to attain the heath education.

"There are even some community members who are not interested about the health education." (25 years old, Female, Health professional, Health extension supervisor, Work experience of 1 year, I-4)

"Some community members don't trust our intention and they believe that our mission is something else and also doesn't accept us as real health professionals and are uncooperative." (21 years old, Female, Health officer, Health extension worker, Work experience - 2 year, I-10)

Categories: Environmental factors that are challenging the implementation of this package.

The environment itself is imposing a challenge on implementation of this package. Of the reasons mentioned for this are poverty and presence of different public service givers in the Woreda.

"Implementing the package in our Woreda is difficult because the community is living under poverty for most part of it. Also, there are a lot of commercial activities which increase the flow of peoples in this area."(27 years old, Male, Environmental health officer, Supervisor, work experience of 4 years, I-1)

"The health extension workers are working with devotion but since there is no outcome compared to the effort they are putting up, their motivation is declining. What is contributing to the poor outcome is the fact that our woreda is not suitable living place and the houses are closely populated." (26 years old, Female, Health officer, Health extension supervisor, Work experience - 1 year, I-3)

"Liquid and solid wastes which are disposed from public service givers like cafeterias, improper disposal of fluid wastes by the community and difficulties on separating dry and liquid wastes which in turn results in blockage of the drainage system as they are dumped together."(27 years old, female, Nurse, Health Extension, work experience of 4 years, I-12)

Also, the Sub city includes 'Menaheriya' where peoples come and leave Addis Ababa through, it has given the area the greatest flow of peoples which is seen as one challenge on behalf of the health extension workers.

"I work around 'Awtobistera' where there are large number of peoples coming to Addis Ababa and leaving the city as well and due to the large number of people around maintaining the sanitation of the environment is challenging." (26 years old, Female, Health officer, Health extension supervisor, Work experience - 1 year, I-3)

Theme: Importance of hygiene and environmental health package and the role of HEW and community in implementing the packages

Categories: Perception of health extension workers on importance of hygiene and sanitation package.

Health extension workers believe that this package helps prevent transmission of communicable diseases which in turn reduces health related costs. Also, hygiene and sanitation package is also perceived as a way to create a clean and pleasant environment to live in.

"If we were able to implement this package properly individuals would have been safe from diseases that are caused due to poor environmental sanitation, it would also enable the community to live in an environment which in turn enable the community lead a healthy life and reduce health cost." (25 years old, Female, health professional, Health extension, work experience of 4 years, I-5)

"When our environment is clean it will be delightful to live in and it makes a good view as well. Also, it plays a great role creating healthy environment to live in helping prevention of diseases that are caused by poor environmental sanitation. For example Amoebiasis's, acute watery diarrhea, Giardiasis and so on" (26 years, Female, Health officer, Health extension workers supervisor, Work experience of 1 year, I-2)

On the other hand, this package is perceived to have importance on individual, community and country basis.

"These packages have a great importance. If we think of it on individual basis implementing this package help prevent various communicable problems. If we aren't able to keep environmental hygiene and sanitation our country's economy will degrade, the country will be exposed to health cost following communicable

diseases caused by this problem. We can prevent all this by proper implementation of hygiene and environmental health package. If the community is aware of the importance and the implementation of this package then we will be able to support our developing economy." (25 years old, Female, Health professional, Health extension supervisor, Work experience of 1 year, I-4)

"The package has multidimensional importance for instance: the community can prevent communicable diseases like acute watery diarrhea, Trachoma, Typhoid by maintaining clean environment." (25 year old, Female, Health professional, Health extension supervisor, Work experience of 2 years, I-5)

Category: Perception of health extension workers and Supervisors on their role implementing this package.

While assessing the perception of health professionals on their role on implementation of this package, they gave emphasis on giving health education than follow up and support.

"My role in implementing this is supervising health professionals who are giving health education for the community about keeping environmental hygiene and sanitation." (25 years old, Female, Health professional, Health extension supervisor, Work experience of 1 year, I-4)

"Teaching the community about environmental sanitation in different places like in house to house campaigns, in schools and in youth center." With the aim of enabling the community to keep environmental and personal hygiene and I follow and support those who have been given the health education." (25 year old, Female, Health professional, Health extension supervisor, Work experience of 2 years, I-5)

Categories: Role of community on implementing this package as perceived by the respondents

The community should take its own responsibility on its own health maintaining environmental hygiene and sanitation. Additionally, the community members should organize different campaigns supporting this package and they need to practice maintaining environmental health as stated by the respondents.

"The community itself should be able to maintain a healthy environment on its own. Since most of the health problems in our Woreda are arising from poor environmental sanitation, the community should work in harmony and contribute towards solving the situation." (27 years old, Male, Environmental health officer, Health Extension Supervisor, work experience of 4 years, I-1)

"The community should organize campaigns to clean their environment with their own initiative." (27 years old, Male, Environmental health officer, Health Extension Supervisor, work experience of 4 years, I-1)

"The community should also develop a habit of proper toilet usage since these are the reasons for communicable diseases to occur" (27 years old, Male, Environmental health officer, Health Extension Supervisor, work experience of 4 years, I-1)

Further, it is also mentioned that the community should play a role in the implementation of health education that is given by health extension workers. In associated with this it's also mentioned that the community is playing its role despite several challenges. Putting an effort in team work to overcome the environmental sanitation and hygiene problems is also stated as a means by the respondents.

"The community predominantly plays a role by practicing the health education that is given. Also, they contribute by participating in cleaning campaign." (26 years, Female, Environmental health science, Health extension workers supervisor, Work experience of 1 year, I-2)

"Even though there are challenges in our woreda the community is contributing in every possible way." (25 year old, Female, Health professional, Health extension supervisor, Work experience of 2 years, I-5)

"If all the community members were able to work together towards one goal it would have contributed a lot for the package to become successful." (24 years old, Female, Health Extension Professional, work experience of 4 years, I-8)

Theme: Strength and weakness of HEW, Administrative and community in implementation of the hygiene and sanitation package.

Categories: Strength of the health extension workers

Among the strength of health extension workers on implementation of this package, the fact that they are working on prevention despite the challenges they are facing and the lack of college training to work on prevention were stated.

"As you know health extension workers are initially hired with a job description of clinical nurse that mean they are not trained to work on prevention of disease rather on intervention. So the fact that they are working in different job than what they are trained for can be considered as their strength." (24 years old, Female, Health Extension Professional, work experience of 4 years, I-8)

On the other hand the health extension workers giving health education intensely were also railed.

"The strength is that the health extension workers are intensively giving health education on this package." (25 years old, Female, Health professional, Health extension supervisor, Work experience of 1 year, I-4)

Categories: Weakness of the health extension workers

Of the weaknesses of health extension workers lack of giving regular health education on a sufficient manner and lack of follow up and support to model household were mentioned.

"The health extension workers have a gap on following and supporting the community resulting in poor implementation." (24 years old, female, health professional, Health Extension, work experience of 3 years,I-8)

"Sometimes the amount of the health education given to the community might not be sufficient." (25 years old, Female, Health professional, Health extension supervisor, Work experience of 1 year, I-4)

"The fact that they are not giving the health education on a regular basis and the lack of follow up and support can be mentioned." (25 year old, Female, Health professional, Health extension supervisor, Work experience of 2 years, I-5)

Categories: Strength of the community

On the community's side, their willingness to attained health education is stated as their strength.

"Community's side their strength is their initiation to be thought about the package and their willingness to implement it as well even though there is many challenges." (25 years old, Female, Health professional, Health extension supervisor, Work experience of 1 year, I-4)

"Of the strength from the community's side the fact that there are community members who are willing to be thought about the package and to implement is as well can be mentioned." (24 years old, Female, Health professional, Health extension Supervisor work experience, I-5)

Also, practicing the health education that they were given as the strength of the community is also cited as the strength of the community.

"There are still some members of the community who implement the package despite the challenges encountered." (27 years old, Male, Environmental health officer, Supervisor, work experience of 4 years, I-1)

Categories: Weakness of the community

Of the weakness of the community, unwillingness to have the health education and implement the package as well is mentioned.

"There are also community members who are not willing to implement the package and even be thought about the package which can be mentioned as a weakness." (23 years old, Female, Nurse, Health extension supervisor, Work experience of 1 year, I-9)

Lack of persistent action from the model household is also one weakness of the community as described by the respondents.

"We train the community members to work supporting the health extension workers. This way, we had several community members graduated on ten rounds so far and we are working on the eleventh round now. There is a weakness on previous graduates of the community members concerning the persistence towards working collaboratly with HEW." (26 years old, Female, Health professional, Health extension, Work experience of 4 year, I-8)

Also, the fact that some community members expect everything to be done by a third party rather than taking the responsibility themselves is also raised.

*"There are community members who are working with us in harmony on the contrary there are peoples who expect everything to be taken care of by the government which in my opinion is not right.(*26 years, Female, Health officer, Health extension workers supervisor, Work experience of 1 year, I-2)

"Of the problems seen among the community, lack of cooperativeness, expecting other community members to do the job and not fulfilling one's obligation unless punishment is imposed can be mentioned." (25 years old, Female, Health Officer, Health extension supervisor, Work experience of 2 years, I-5)

Categories: Strength of the administrative

Previous experiences were raised as strength of the administrative. Through intensive follow up and support technically to HEW and supporting the community by materials like wuha agar and jerican to handle Acute Watery Diarrhea outbreak.

"Especially during the outbreak of Acute watery diarrhea which happened a while ago the situation was handled well." (27 years old, Male, Environmental health officer, Environmental coordinator, work experience of 4 years, I-1)

Also, support of the administrative to those who are taking part in implementation of this package is mentioned.

"*The administration is supporting those who are working from the top level managers to the level of supervisor. They contribute a lot for the success of this package."* (24 years old, Female, Nurse, Health extension professional, Work experience of 3 year, I-6)

Categories: Weakness of the administrative

Gaps in the initial measures of this package and lack of team work were mentioned as weakness of the administrative. And let health extension worker to handle every environmental crises issue which cause the community to lose their trust on the HEW and as well on the program.

"When the program was initially formulated, the administration should have briefed the health extension workers primarily and this I can raise as a weakness." (24 years old, Female, Health professional, Health extension, Work experience of 3 year, I-6)

Lacks of support on behalf of the administrative for those who are taking part in this package were mentioned. Also, it was stated that the administrative was not playing its role in a sufficient manner.

"It's my opinion that the administrative is not working in the appropriate and sufficient manner." (27 years old, Male, Environmental health officer, Supervisor, work experience of 4 years, I-1)

"And the weakness from the administration side is the lack of support for health extension workers. Concerning the inquiries that are being raised on this package like the demand of toilet and drainage system can't be resolved only by the health extension workers unless there is a contribution of the administration. And when these quests are not being addressed it puts the acceptance of health extension workers in to question." (26 years old, Female, Health officer, Health extension supervisor, Work experience - 1 year, I-3)

Theme: Contribution to the implementation of this package and its current status

Categories: Stakeholders and their contribution

This package need continues support from various sectors, it was tried to assess from where the support is coming from and the following points were mentioned.

"The woreda's health office and every department in the woreda take part in this. But for most part of it we work with denb maskeber office, culture and tourism minister, serategnoch amd maheberawi gudayoch xefet bet, the police and feteh and communication xefet bet." (27 years old, Male, Environmental health officer, Supervisor, work experience of 4 years, I-1)

"Xedat and wubet office gather the community preparing Ethiopian traditional coffee ceremony to discuss environmental issues, where we coordinate the community for cleaning campaigns." (25 years old, Female, Health professional, Health extension supervisor, Work experience of 1 year, I-4)

"Health professionals who work at health centers also work in collaboration with health extension workers on a home to home teaching. Additionally, on behalf of the community, different development and other leaders are given health education for them to teach their subordinate leaders in return." (25 years old, Female, Health Officer, Health extension supervisor, Work experience of 2 years, I-5)

Categories: Proposed ideas on improving the implementation of the package

Considering the top rated diseases in the study area, respondents have claimed that it should be worked on prevention to overcome the health problem. Also building of necessary infrastructure and allocating budget for construction of waste management system were raised.

"The top rated cases in our Sub city like typhoid fever and diarrheal diseases are mainly caused due to poor environmental sanitation. In order to overcome this problem an effort should be made primarily on prevention, the environmental

sanitation should be improved." (27 years old, Male, Environmental health officer, Environmental coordinator, work experience of 4 years, I-1)

"*I suggest that toilets should be built for those who doesn't have one, building liquid waste drainage system, removing dry wastes on time, sustaining supply of clean water since there is problem even with pipe waters sometimes which we have reported frequently.*" (26 years, Female, Health officer, Health extension workers supervisor, Work experience of 1 year, I-2)

"What I suggest to be improved regarding this is to put up a sufficient budget and to get help from supporting sectors. Overall I think it s important to support woredas which are poorly implementing the package." (22 years old, Female, Health professional, Health extension, Work experience of 2 year, I-11)

Lastly, the need for teaming up different sectors and the community were mentioned.

"Community members and the government should work in harmony implementing this package." (25 years old, Female, Health Officer, Health extension supervisor, Work experience of 1 year, I-4)

"Both the responsible sector and the community should have a role in the implementation of this package. The community should put in to action what has been thought in health education and the health personnel in return should follow and support the community."(25 years old, Female, Health Officer, Health extension supervisor, Work experience of 2 years, I-5)

Categories: Subjective evaluation of the implementation by respondents.

While assessing the subjective evaluation of this package, the respondents have claimed that there is a good progress.

"It's going great in our woreda. A lot of changes have been made by using this package. Also, the community is implementing what has been thought. As this package has brought a positive change in the society and the change can be rated

as 'medium'." (26 years, Female, Health officer, Health extension workers supervisor, Work experience of 1 year, I-2)

On the contrary, it was also mentioned that the Woreda is implementing the package poorly.

"Our woreda is implementing the environmental health package poorly. This is happening due to lack of persistence in the activity of selected model families and the lack of follow up and support to the community." (25 years old, Female, Health Officer, Health extension supervisor, Work experience of 1 year, I-4)

6. DISCUSSION

This survey provided important information regarding to level of implementation of hygiene and environmental package including the challenge and opportunities they encountered. The study had found low status in implementation of hygiene and environmental health package among graduate house hold in Addis Ketema Sub City. The study also assessed some of the factors that influence the implementation of environmental health package of urban health extension program.

Sanitation is fundamental to alleviate poverty, hunger and malnutrition; reduce child mortality; increase gender equality; provide more opportunity for education and ensuring environmental sustainability (44). In 2014, global sanitation coverage was 67%, while in Ethiopia had 47.5%, which is the lower compared to Sub-Saharan African and other East African countries like Uganda (65%) and Kenya (55%) (45). This study also revealed that the implementation level of hygiene and environmental health packages in the sub city was 34.7 %, which is lower than the study which is done in kolfe keranyo sub city 44.3% (33). This inconsistence may be Addis Ketema Sub City is one of the most slum areas next to kirkos Sub City. According to the age of the household owners is one of the influencing factors and challenges from administration issue and resistant community members also has major impact for low implementation.

Adoption of improved sanitation and hygiene is the process where people demand, develop, and sustain personal hygiene and the environment for themselves by erecting barriers to prevent the transmission of diseases, primarily from faecal contamination (30). After using toilet is a primary barrier to interrupt faecal oral route of disease transmission, faces and hand washing of children and mothers are major component of global trachoma prevention and control strategies (28).General personal hygiene includes tidiness of face, hair, fingernails and cloth. This study showed that 77.8% of average household members have good personal hygiene status. This study found higher performance of personal hygiene package than the finding of study done in Kambata zone, SNNPR 64% (47). This inconsistency might be due to the time gab (2011 vs 2016) and the study population difference means the fact that Addis Ababa is more urbanized city so that householders have better access to water and sanitation facility. Only 6.3% of respondent did not have fixed time interval for bathing but 83.7% of household members averagely take shower once within the week. The implementation level of personal hygiene and healthy home and environment package is 81.3% it is on the good status of implementation.

Waste management is a growing public concern in Ethiopia (48). In many cities of the country, waste management is poor and dumped along roadsides and into open areas, endangering health and attracting vermin (13). Studies conducted by Research Inspired Policy and Practice Learning in Ethiopia and the Nile Region (RIPPLE) in SNNPR indicate that a substantial increase in the number of household latrines since the deployment of health extension Workers. Provision of adequate sanitation facilities is not only a socioeconomic and developmental issue but also an issue of self-respect, human dignity and public health (12).The basic functional units of solid waste management start with onsite storage and handling of wastes (42).This study shows that only 33% of the respondent have liquid waste disposal method, 20.1% used liquid waste pit where as 7.3 % of the household used septic tanker and the remaining 6% of the sub city households discharges liquid waste through toilet connecting to the main sewerage. Study done in Mekelle shows those households, (66%) used solid wastes disposal methods and only 6.9% of the households had temporary storage (49), which is very low compare to this study 93.7% house hold used solid waste disposal method and 77.1% have temporary storage this might be the fact that there is municipal and privet solid waste collector who collect from every house. This study revealed that the implementation level of solid and liquid waste management package is 28.9%. Improper sewerage system in the sub city and lack of fast response from stakeholders, to fix and maintain blockage and break down of the system is also mentioned as a challenge in implementation of this package.

In communities where the usage of latrine is low the prevalence water borne diseases, especially diarrhea, is found to be very high (38). But in the case of this study every model households have access to toilet. The type of latrine observed was 38% privately owned pit latrine. This is lower compared with the Ethiopia mini EDHS survey in urban area is (58.4%) (35). Hand-washing with soap is a cost effective intervention not only against diarrheal diseases but also for the prevention of acute respiratory infections (38).Diarrheal episodes can reduced by 36% through improving sanitation and 48% through hand washing with soap after visiting toilet (15).Hands are contaminated in several different ways particularly when using a toilet. Hands are vehicles for transmission of diseases. Hand washing at critical times with soap and water removed germs and reduced diarrheal diseases by 35 % or more, also decreased prevalence of eye and skin infections (10). Majority of the pit latrines have no hand washing facility after visiting toilet, cover slab and poor utilization status for those who access hand washing facility and cover slab (pit cup), even some of hand washing facilities was poorly designed and located at inaccessible

sites which were not suitable for immediate use after toilet use. The proportion of person per latrine, 43.5% of Addis Ketema sub city latrines have only one hole for 4-6 persons, however1-3 is the recommended proportion of the latrine per person per hole (12), which is below the recommended. About 12.4% of the toilets did have superstructure which could possibly contribute to long life span and high utilization. The study revealed that the implementation level of proper and safe excreta disposal package is 36.6 %, the main reason for low implementation of this package is due to majority of model households in the sub city use communal latrine so that to clean regularly, to prepare and utilize hand washing facility they faced challenges from neighbors who think that health extension program is political tool for the government and even to rebuild the latrine there is a lot of obstacle to get permission which is tire some for model householder.

The quantity and the quality of water available, providing adequate sanitation facilities and adopting better hygienic practices interrupt the transmission of most faeco-oral diseases. It is anticipated that an improvement in the quality of water and its accessibility, along with sanitary excreta disposal within poor communities in developing countries will have a substantial and immediate impact on diarrheal morbidity and mortality rates (12). This study revealed that 72.1% of the sub city model households used water treatment. Majority 38.5% and 52.9% of the sub city households of the daily per person per capita water consumption was less than 10 litters and 10-20 litters. The aforementioned amount of daily water consumption of households are far below that WHO recommended figure, the recommended minimum daily amount of water per person is 27 liters that is necessary for a significantly improved level of hygiene (10). Based on the study this might be 81.9 % of the respondent took bath every week which is highly affected daily water consumption. (98.4%) of the sub city model households used separated cup for drinking and dipping to draw water from water container which will play great role in reducing potential way of contaminating water at household level (36).

Separation of kitchen from the main residential houses is a vital role to prevent upper respiratory tract infection and keep the house clean food, this study reveals only 65.5% of the household prepare food with in the kitchen which is separated from the main house which is similar to the study done in kolfe keranyo sub city 68.%. And over all implement status Water sanitation and food hygiene package is 60.4%.

Government, private employer and merchants have more significantly associated with the implementation level than house wife. Income of the households is also one of the factors which is directly associated to the implementation of sanitation and hygiene in which household income between501-1500 and1501-2500 Eth birr have 6.8 and 7.25 times more likely implemented the environmental health package than households income less than 500 Eth birr [AOR=6.80,95%CI= 2.35-10.31],[AOR=7.25,95% CI 3.791-11.44] respectively. Researches also show that income status of households is significantly associated to hygiene and sanitation practice of the community. Householder with relatively high income households could access sufficient water and proper sanitations, septic tanker, private showers, separated kitchen, utensil washing mechanism and personal hygiene. Household's with poor knowledge of the package, advantage of implementing the package in the prevention of communicable disease, 72.8% less likely to implement comparing to knowledgeable household respondents on environmental health package and its advantages.[AOR=0.272, 95%CI=0.145-0.510].

7. Strength and Limitation of the study

7.1. Strength of the study

- The study is focused on one of the major health program in the country. It has provided good information for planning, strategic design and review of policy
- To assure the quality of the data, data collectors were trained well on data collection technique and followed by the supervisors and principal investigator every time and every day till sample units were obtained.

7.2. Limitation

- The study done after 6 years of urban health extension program was implemented, cross sectional study design has limitation on evaluating the program.
- Financial limitations had made some influences on the quality of data collection, including slowed down the speed of data collection affecting its schedule and took excessive time.

8. CONCLUSION

The study revealed that the level of implementation of hygiene and environmental health packages in Addis ketema sub city is low. There were variations in the level of implementation among the packages. The implementation of personal hygiene is encouraging; however, proper excreta disposal package is very low. Household owners with the age group 26-35, household's, income with >2500 Eth birr have more implementer than the other group. Occupations, knowledge about the package also have significantly associated.

Utilization of hand washing facility and liquid waste pit is also very low. Availability utilization of solid waste management methods was good; however liquid waste storage and disposal method is very low. Almost all households have toilet facility. Most of the households use improved source of water.

In solid and liquid waste management package implementation the main reason that households didn't implement was absent of liquid waste disposal methods and mostly they discharge directly connecting to the main sewerage. It is also understood that utilization of sanitation materials is associated with income. Safe Management of Faeces (SMOF), solid and liquid waste management, hand washing with soap (or a substitute) and also require a variety of sanitation material such as septic tanker, latrine slabs, soap (or a substitute) and a hand washing facility or a tap on a water pot for safe extraction of drinking water.

Missing to take the theoretical training of the package, community resistance for the program, the community wait third party to initiate and facilitate everything and very poor supportive supervision for health extension professionals are the main reasons for low implementation status of environmental packages.

9. RECOMMENDATIONS

1. Addis Ababa health bureau should strength intersectoral collaboration and undertake further detailed study.

2. Addis Ababa health bureau should strength routine monitoring and evaluation for Sub city health office and woreda health office and promote continues training for HEWs and Supervisors.

3. Sub city should strength the supportive supervision, monitoring and evaluation of the program, woreda health extension supervisor, health extension worker and support necessary logistics.

4. Woreda health offices should strength community involvement and ownership and use every community organization to address the community.

5. Woreda health offices should strength Women Development Army and give refreshment training for graduated Model household which could help sustaining implementation status of Hygiene and Environmental health Packages.

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11. Annexes

Annex: 1

Information sheet (English version)

Hello, my name is ……and I am going to conduct an interview with you on behalf of **Ato Tamrat Awell** a postgraduate student at Addis Ababa University, school of public health. He is now conducting a research entitled “Assessment on the implementation urban health extension program of hygiene and environmental health extension packages at house hold level in Addis Ketema Sub City". This village has been selected as one of the areas for his study. I would like to ask you about health extension program activities. The purpose of this interview is to conduct scientific research that may help us to identify problems of the program and forward some recommendation to concerned bodies that will help to improve the existing efforts. You may not get additional benefits if you volunteered for the study.

I have received permission from the Addis Ababa Health Birue, Addis Ketema Sub City Health Office and woreda Administration offices to conduct this study. The interview will just take a few minutes. Your responses will help the environmental health packages implementers to better understand the current situation. Your answers will be completely confidential, and if at any time during the interview you want to stop answering questions, you are free to do so.

If you are willing to participate, you will be requested to provide written informed consent before the interview.

If you have any questions or if something is not clear please feel free to ask. You can contact the investigator and/or the advisor and ask any query you have at any time.

Annex: 2

Consent form

I, the undersigned individual, have been informed about the study that assessment of the extent of implementation and affecting factors of environmental health extension packages at house hold level

I have been requested to reply answers for the questions asked by the data collectors, after I have been briefed that there are no risks in participating in the study. I have also been informed that there are no direct benefits or incentives in participating in the study. I have been well informed that I have the right to withdraw from the study and this will not have any consequence. I have been given enough time to think over before I give my consent to participate in this study and I understand my personal information will be kept confidential and will be used solely for this study only. In addition, I have been well informed that my name will not be asked and unique identification is not required. My agreement to participate in this study is with the assumption that, the information that I provide will help to improve hygiene and environmental health problems at community level.

Signature of the participant: _____Date _____

Signature of the data collector: _____Date _____

Annex: 3

Questionnaires to assess the implementation of environmental health extension packages at house hold level

PART I. SOCIO-DEMOGRAPHIC CHARACTERISTICS

Name …… Kebele…….. Code ……

No	QUESTION	RESPONSE	SKIP TO
1	What is your age in years?		
2	Sex?	1.Male 2.Female	
4	What is your educational level?	1. Not able to read & write 2. Primary (1 – 8 grade) 3. Secondary (7 – 12 grade) 4. Diploma 5.Degree 6. Masters and above	
5	What is your Occupation?	1.Government/ Private employee 2.Housewife 3. Merchant 4.Dailylabourer 5. Others (specify)…….	
6	What is your marital status?	1. Single 2. Married 3. Widowed 4 Divorced/Separated	
7	What is your total Income per Month?		
8	Your number of family members?		

PART II. KNOWLEDGE ABOUT ENVIRONMENTAL HEALTH PACKAGE

10	Have you ever heard about hygiene and environmental health extension packages?	1. Yes 2. No →	13
11	Where have you heard?	1. Peer 2. HEW 3. Mass media 4. Woreda administration 5. Health center professionals. 6. Other specify……..	
12	What are the packages of hygiene and environmental health?	1.personal hygiene and healthy home and environment sanitation	

		2.solid and liquid waste management 3. food hygiene and water safety measure 4. proper handling and utilization of latrine	
13	What time is critical to wash your hands?	1. Before preparing or cooking food 2. After visit of toilet 3. Before feed children 4. Before eat food	
14	What is the advantage of implementing the hygiene and sanitation package?	1.she list prevention from communicable disease and 2. If she list only the aesthetic and cleanness in general value. 3. She don't know 4. No advantages 5. Other specify…..	

PART III. ATTITUDE ABOUT ENVIRONMENTAL HEALTH PACKAGE

s.n	Question	Strongly agree (1)	Agree (2)	Naither (3)	Disagree (4)	Strongly disagree (5)
15	Do you believe the major root causes of communicable diseases are poor hygiene and environmental health extension packages performance?					
16	Do you believe the major root causes of communicable diseases are it is punishment from God					
17	Improving hygiene and environmental health extension intervention is a sign of civilization					
18	Do you believe that in the urban health extension program hygiene and environmental health extension packages performance contribute in the reduction of communicable diseases?					

PART IV. EXTENT OF IMPLEMENTATION OF PERSONAL HYGIENE AND HEALTHY HOME AND ENVIRONMENTAL SANITATION PACKEGE

19	Usually where do take a bath?	1.private (HH) bath 2. Public bath 3. Bucket and bowl in the house 4. Others (specify	
20	The average time interval to take bath?	1. Every week 2. Every two weeks 3. Every month. 4. As necessary	
21	Conditions of general personal sanitation (cloth, hair, finger nails...)?	1. Good 2. Fair 3. Poor	observe
22	What type of materials used for roof	1.Thatched 2.Corrugated iron sheet 3.Other	observe
23	Materials used for floor:	1.Earth 2.Cement 3.Wood 4. Other, specify…..	observe
24	Living quarter is separated from animal	1. Yes 2. No	Observe
25	Does the living quarter is separated from kitchen	1. Yes 2. No	Observe
26	Does the ventilation of the home is adequate?	1. Yes 2. No	
27	Does the ventilation of the home has adequate natural light	1. Yes 2. No	
28	Is Living quarter & its compound free from filth?	1. Yes 2. No	
29	Did you face the problem of insects in your home in the last 6 months?	1. Yes 2. No	
30	If yes, what type of insects?	1. Cockroach 2.Lice 3.Flea 4.Bed bugs	
31	Is there rodent infestation in and around the residence?	1. Yes 2. No	
32	What type of measures taken to control insects and rodents?	1. Env. sanitation 2.Chemical treatment 3.Biological control(Cat) 4.Trap	
33	Did you clean your compound?	1.Yes 2. No	
34	Time interval to clean the compound	1. Every day	

		2. Every three day 3. Every week 4. Othe….	
35	Did you participate on sanitation campaign?	1.Yes 2.No	

PART V. EXTENT OF IMPLEMENTATION OF SOLID AND LIQUID WASTE DISPOSAL MANAGEMENT PACKAGE

36	Availability of solid waste collection method?	1) Available 2) Not available →	42observ
37	Did you segregate solid waste from liquid waste?	1.Yes 2.No	observ
38	Is there a container for solid west storage?	1.Yes 2.No	Observe
39	Appropriate utilization of solid waste container?	1) Utilized appropriately 2) Not utilized appropriately	observe
40	Where is the final disposal of solid waste?	1.Municipal collector 2.open field damping 3.onsite burning 4.others, specify	
41	Availability of liquid waste collection method?	1) Available 2) Not available →	47observe
42	What method you used to dispose liquid waste?	1.Collect and dispose direct to liquid waste pits 2. Dispose in the septic tank 3.In the toilet 4. Others specify……	
43	Is the liquid waste disposal method appropriately utilized?	1) Utilized 2) Not utilized	Observe
44	Where the waste is discharged?	1. Directly connected to the main sewerage 2. Discharged in the free space and surrounding	

PART VI. EXTENT OF IMPLEMENTATION OF PROPER HANDLING AND PROPER UTILIAZATION OF LATRINE PACKAGE

45	Availability of toilet facility?	1. Available 2. Not available	→ 60
46	What types of toilet facility	1. Dry pit latrine 2. VIP latrine 3. Communal latrine 4. Other specify	
47	Does it have super structure?	1. Yes 2. No	Observe
48	Does it have hand washing facility?	1. Yes 2. No	→ 55 observe
49	If yes, does the facility accessible for service?	1. accessible 2. not accessible	
50	Does the toilet have pit cup?	1. Yes 2. No	→ 57 observe
51	Is the pit cup appropriately utilized?	1. Yes 2. No	observe
52	What is the proportion of holes per person?	1. 1-3 person per hole 2. 4-6 people per hole 3. Above 6 people per hole	
53	Did you clean the latrine?	1.Yes 2. No	→ 59
54	When do you clean your latrine?	1.Regularly, daily once 2. Regularly, weekly 3.When gets dirt 4.other, specify	
55	If the answer is no for the above question. Why?	1.Lack of space 2.Lack of money 3.Other, specify-------	
56	If no, where do you urinate and defecate?	1. Open field 2. share neighbor toilet 3. Other specify……	

PART VII. IMPLEMENTATION OF WATER SUPPLY AND FOOD HYGIENE SAFETY MEASURES PACKAGE.

57	What is the current water source?	1.Privet tab 2.Public tab 2. Others source of water	
58	Do you use any type of homemade water treatment methods?	1. Yes ⟶ 2. No	40
59	Type of homemade water treatment methods?	1/ Boiling 2/ use of Wuha agar 3/ Sand filtration 4/ other specify……	
60	How much water is used per person per day? (Estimate volume of water per day and calculate with number of family members)	1/ less than 10 liters 2/ 10 to 20 liters 3/ more than 20 liters	
61	Do you use Separate cup for dipping and drinking water at home?	1. Yes 2. No	
62	Where food preparation takes place?	1. Within the Living quarter 2. In the kitchen 3. out door	observe
63	Do you have compartment sink for washing food utensil?	1. Yes 2. No	observe
64	What do you use to clean the kitchen utensils?	1. Water only 2. soap/omo/hajacks 3. Other specify……	observe
65	Do you have food preparation gown?	1. Yes 2. No	observe

Annex 4: Interview guide for key informants

Part I: General information

1. Date of the interview: /____/_____/_____/
2. Region: _____
3. City/town**:** _____
4. code _____

Category of the interview**: For Health Service Extension Workers**

No	Questions	Response	Remark
1	Sex of the respondent	Male- Female	
2	Age of the respondent	_____years	
3	Profession	_____	
4	Responsibility	_____	
5	Years of service	_____ in year	

No	Question	Remark
6	What is your role in the implementation of hygiene and environmental sanitation package implementation and improvement?	
7	Who was your stakeholder in implementing the hygiene and environmental package and How do you coordinate for sanitation problem alleviation with those stakeholders?	
8	How do you explain the role of community on implementing hygiene and environmental sanitation package?	
9	Could you tell me the individual, community and national aspect of hygiene and sanitation package implementation importance?	
10	Tell me the good and bad experiences you do have been encountered with the package implementation?	
11	How do you evaluate the strength and weakness for hygiene and environmental sanitation package implementation in your woreda? • From HEW themselves side	

	• From the administrative support, legal, program design aspects • From the community side	
12	Are there any legal constraints that you know which prohibit the sector achievement on hygiene and environmental sanitation package implementation?	
14	How do you evaluate the hygiene and environmental sanitation packages implementation in your woreda?	
15	What do you suggest to improve the implementation of environmental health in your woreda?	

አዲስ አበባ ዩንቨርስቲ

ጤናሳይንስኮሌጅ

የህብረተሰብ ጤና ት/ቤት

Annex፡ 2A

በአዲስ ከተማ ክፍለ ከተማ የከተማ ጤና ኤክስቴንሽን ፕሮግራም የሃይጅንና የአካባቢ ጤና አጠባበቅ ፓኬጆች ትግበራ በተመለከተ የዳሰሳ ጥናት መረጃ ለመሰብሰብ የተዘጋጀ መጠይቅ፡፡

ስሜ ..... **እባላለሁ የአዲስ አበባ ዩኒቨርስቲ ሕክምና ፋ**ሙ**ልቲ የህብረተሰብ** ጤና**ት/ት ቤት የመጨረሻ ዓመት** የሕብረተሰብጤናየማስትሬትድግሪተማሪ **የሆኑት አቶ** ታምራት አወል **ለሚያካሂዱት የምርምር ስራ በመረጃ ሰብሳቢነት በመሥራት ላይ እገኛለሁ፡፡ የምርምሩ ርዕስ በአዲስ ከተማ ክፍለ ከተማ በመ**ተግበር **ላይ ያለው** የከተማ ጤነ ኤክስቴንሽን ፕሮግራም **የአ**ሙ**ባቢ ጤና አጠባበቅ ኬጆች ትግበራ የሚገኝበትን ደረጃ ለማወቅና በአፈፃፀም ሂደት ያጋጠሙ ችግሮችን መለየት ነው፡፡ የጥናቱ ውጤት ጉዳዩ የሚመለከታቸው አ**ሙ**ላት ኬጆቹን በተሟላ መልኩ ለመተግበር ለሚያደርጉት ጥረት በግብአትነት ያገለግላል ተብሎ ይታመናል፡፡ ለዚህም መረጃ ለመሰብሰብ** ከአዲስ አበባ ጤና ቢሮ፣ከአዲስ ከተማ ክፍለ ከተማ ጤና ፅ/ቤትና **ከወረዳው አስተዳደር ተገቢውን ፍቃድ በመጠየቅ** የተስጠኝሲሆን የእርሶ ቤትም ጥናቱን ለማካሄድ ከተያዙት ቤቶች መካከል የተመረጠ መሆኑን በዚሁ አጋጣሚ ልገልጽሎዎት እወዳለሁ፡፡ በዚህጥናትበመሳተፍዎምክንያትምንም አይነ የገንዘብም ሆነ የቁሳቁስ ልገሳ አይኖረግም::

ስለሆነም በቃለ መጠይቁ በሙሉ ፍላጎትና በነፃነት እንዲሳተፉ በትህትና እየጠየቅኩ ቃለ መጠ ይቁ ጥቂት ጊዜ ሊወስድ ይችላል፡፡ በቃለ መጠይቁ የሚሰጠኝ ምላሽ ሁሉ በሚስጢር የሚጠ በቅና ምላሹም ለጥናቱ ዓላማ ብቻ የሚውል መሆኑን ላረጋግጥሎዎት እወዳለሁ፡፡ በቃለ መጠ ይቁ ውስጥ መልስ ለመስጠት ያልፈለጉበት ጉዳይ ሙ**ለ ማብራሪያ የመጠየቅ ወይም ሙሉ በሙሉ የማቋረጥ መብትዎ የተጠበቀ ነው፡፡**

ከዚህ በላይ የቀረበው ገለጻ በደንብ የተረዱ ከሆነና በጥናቱ ለመሳተፍ ፈቃደቸ ከሆኑ ተያይ**ሙ** በቀረበው ወረቀ ላይ የስምምነ ፊርማን ኖእንዲያቶሩ ኖእንጠይቆታለን፡፡ ተጨማሪ ማብራሪያ ወይም መረጃ ሲፈልጉ የጥናቱ ዋና አስተባባሪንምሆነየጥናቱንአማካሪ በማንቸውም ወቅት መጠየቅ ይችላሉ፡፡

Annex: 2B

በጥናቱ ለመሳተፍ የፈቃደኝነ. ማረጋገጫቅፅ- የአማርኛ ቅጅ

እኔ ፊረማዬ ከዚህ ግርጌ የሚገ"ውየዚህንጥናትውጤት ጉዳዩ የሚመለከታቸው አካላት በህይጅንናአካባቢጤናአጠባበቅኬጆቹን በተሟላ መልኩ ለመተግበር ለሚያደርጉት ጥረት በግብአትነት ያገለግላልናበኬጆቹ

አተገባበር/አፈፃፀምጉድሆትበህብረተሰቡሊይየሚከሰቱየጤናችግሮችንሆመከሊከሌየሚረዳመሆኑንተገንዝቤያለሁ፡፡

ስለጥናቱ በቂ መረጃ ከተሰጠቹና ለተጨማሪ ማብራሪያ የተዘጋጀውን መረጃ ካነበብኩ በኋላ በጥናቱ እንድሳተፍና የምጠየቀውን ለመመለስ ፈቃደኝነ ን ኖእንድገልጽ ተጠይቂያለሁ፡፡ በዚህ ጥና. በመሳተፌ ምንም አይነ. የጤንነ. ወይም ሌላ ጉዳ. ኖእንደማይደርስብቹና ምንም አይነ. የገንዘብም ሆነ የቁሳቁስ ልገሳ ኖእንደማይደረግልቹ ተገልጾልችል፡፡ በተጨማሪም በጥናቱ ላለመሳተፍ ወይም በማንቸውም ሰአ. ለማቋረጥ ኖእንደምችል የተገለጸልቹ ሲሆን የተሰጠቹን መረጃ በደንብ ማገናዘብ ኖእንድችል በቂ ጊዜ ተሰጥ ቸል፡፡ የግል መረጃቹም በሚስጥር እንደሚጠበቁና ለዚህ ጥና. ብቻ እንደማዉሌእንድሁምስሜም ሆነ ሌላ ኖእኔን የሚገልጽ መረጃ በጥናቱ ፅሁፍላይ ኖእንደማይገለጽ ተብራር ልችል፡፡ ስለሆነም በዚህ ጥና. ለመሳተፍ ፈቃደኝነቴን ስገልጽ የጥናቱ ውጤ. የህይጅንናአካባቢጤናአጠባበቅለማሻሻል እንደሚረዳ በማመን ነው፡፡

በጥናቱ ተሳታፊ ፊርማ፡---------- ቀን፡----------

የመረጃ ሰብሳቢው ባለሙያ ፊረማ፡---------- ቀን፡----------

Annex: 3C

በአባቢ ጤና አጠባበቅ ኤክስቴንሽን ኬጆችአፈፃፀምና በአፈፃፀም ሂደት ላይ የተከሰቱ ተጽዕኖዎችንለማወቅ የሚደረግ ጥናት

ክፍል1.አጠቃላይ ሁኔታ

ስም ..... **ቀበሌ**.....

ተ.ቁ	መጠይቅ	ምላሽ	ወደ ዝለል
ነ.	እድሜዎ ስንት ነዉ ?		
2.	ጻታ ?	ነ. ወንድ 2. ሴት	
3.	የምን ሃይማኖት ተከታይ ነዎት?	ነ. ሙስሉም 2. ኦርቶዶክስ 3. ፕሮትስታንት 4. ካቶሉክ 5. ላሊ ከሆነ ይገሆፅ.....	
4.	የትምህርት ደረጃዎ ?	ነ. መፃፍ እና ማንበብ አሌችሌም 2. የመጀመሪያ ደረጃ (ነ – 8ኛ ክፍሌ) 3. ሁሇተኛ ደረጃ (9 - 12ኛ ክፍሌ) 4. ዲፕልማ 5. ድግሪ 6. ማስተር እና ከዚያ በሊይ	
5.	የሥራዎአይነት?	ነ. የመንግስት/ የግሌ ድርጅት ተቀጣሪ 2. የቤት እመቤት 3. ነጋዴ 4. የቀን ሠራተኛ 5. ላሊ ከሆነ ይገሆጽ	
6.	የጋብቻ ሁኔታ?	ነ. ያሊገባ/ች 2. ያገባ/ች 3. ባሌ የሞተበት/ባት 4. የተፋታ/ች/አብረው አንድ ቤት የማይኖሩ	
7.	ብሔር?	ነ. አማራ 2. ትግሬ 3. ኦሮሞ 4. ጉራጌ 5. ላሊ ከሆነ ይግሆጽ.....	
8.	በአማካኝ የወር ጊቢ ስንት ነዉ?		
9.	የቤተሰብ ብዛት		

ክፍሌ 2.በሃይጅን እና አካባቢ ጤና ላይ ያተኮሩ የግንዛቤ ጥያቄዎች

10	ስለ ጤና ኤክስቴንሽን ፕሮግራም ሃይጅን እና አካባቢ ጤና ሰምተዉ ያዉቃሉ?	1.አዎ 2.ሰምቼ አላዉቅም →	13
11	ስለሃይጅን እና የአካባቢ ጤና አጠባበቅ ፓኬጆች ከየት ሰሙ?	ነ.ከጎረቤት 2.ከጤና ኤክስቴንሽን ባለሙያዎች 3.ከሚዲያ 4. ከወረዳዉ ሰራተኞች 5. ከጤና ጣቢያ ባለሙያዎች	
12	የሃይጅን እና የአካባቢ ጤና አጠባበቅ ፓኬጆች ምን ምን ናቸው	ነ.ከሁለት ፓኬጅ በታች ጠቅሰዋል 2. ሁለትና ከሁለት ፓኬጆች በላይ ተጠቅሰዋለ	
13	እጅ መታጠብ አስፈላጊ እና ወሳኝ የሚሆንበት ግዜ መቼ ነዉ?	ነ.ምግብ ከማዘጋጀት በፊት 2.ከመጸዳጃ ቤት መሌስ 3.ህጻናትን ከመመገበ በፊት 4.ምግብ ከመመገበዎ በፊት ነ. ከሊይ ከተጠቀሱት አንድ ወይም ምንም አሌመሆሱም 2.ሁሆት እና ከዘያ በሊይ መሌሰዋሌ	
14	የሃይጅን እና የአካባቢ ጤና አጠባበቅ ፓኬጆችን መተግበር ለምን ይጠቅማል?	ነ. ከተለያዩ ተላላፊ በሽታዎች ሇመከሊከሌ 2. ከሽታ እና አካባቢ ንጹህ እንዲሆን ብቻ 3.አላዉቅም 4. ምንም አይጠቅምም	

ክፍል 3.በሃይጅንእናአካባቢጤናሊይያተኮሩየአመለካከትጥያቄ

ተ.ቁ	ጥያቄዎች	በጣም እስማማለው ነ	እስማማለው 2	አይመለከተኝም 3	አልስማማም 4	በጣም አልስማማም 5
ነ5	የተላላፊ በሽታዎች መምጫ መንገዶች የግሌ እና የአካባቢ ንጽህና ያለመጠበቅ ነዉ ብለዉ ያምናሉ?					
ነ6	የተላላፊ በሽታዎች መምጫ መንገድ የፈጣሪ ቁጣ ነው ብለዉ ያምናሉ?					
ነ7	የግሌ እና የአካባቢ ንጽህና መጠበቅ የስልጣኔ መገለጫ መሆኑን ያምናሉ?					
ነ8	የከተማ ጤና ኤክስቴንሽን ፕሮግራም የሃይጅን እና አካባቢ ንጽህና ፓኬጆችን መተግበር የተሊሊፊ በሽታዎችን ስርጭት ይቀንሳሌ ብለዉ ያምናለ?					

ክፍል 4.የግልንጽህና,ፓኬጅየትግበራደረጃ

19	የግሌ ንጽህና ፓኬጅ የንድፈ ሃሳብ	ነ. አዎ →	21

	ስሌጠና ወስደዋሌ?	0. አሌወሰድኩም	
20	ያሌወሰዱበት ምክንያት ምንድን ነዉ?	ነ.የጤና ኤክስቴንሽን ባለሙያዋ ቤት ባለመምጣቷ 2.ግዜ ስለሌለኝ 3.በደንብ ፓኬጁን ስለማዉቀዉ 4. ስልጠናዉን መዉሰድ ስለማያስፈልገኝ 5. ላሳካለይገለጽ.....	
21	አብዛኛውን ጊዜገላዎን የት ይታጠባሉ?	1. በቤት ውስጥ በተዘጋጀ መታጠቢያ 2. በህዝብ ገላ መታጠቢያ 3. **በቤት ውስጥ በባልዲ** 5. ሌላ ካለ ይጠቀስ---------	
22	በአማካኝ ስንት ግዜ ሻወር ይወስዳለ?	ነ.በየሳምንቱ እና ከዚያ በታች 2. በየሁለት ሳምንቱ 3. በየወሩ 4. እንደፈግን	
23	አጠቃሊይ የቤተሰቡ የግል ንጽጎና ሁኔታ(ሌብስ፣ጸጉር፣ጥፍር...) (በማየት)?	ነ.ጥሩ 2. መካከሇኛ 3 ዝቅተኛ	
24	**የቤቱ ጣሪያ የተሰራበት ዕቃ ዓይነት**	1. **ከሲሚንቶ** 2. **ከቆርቆሮ** 3. **ላሊ ካለ ይጥቀሱ**.....	
25	**የወለሉ ዓይነት**	1. **አፈር** 2. **ሲሚንቶ** 3. **እንጨት** 4. **ላሊ** ካለ ይጠቀስ.....	
26	**ቤቱ የተለየ የሰውና የእንሰሳት ማደሪያ**	1. **አለው** 2. **የለውም**	
27	**ቤቱ የተለየ የሰውና የምግብ ማብሰያ ቤት**	1. **አለው** 2. **የለውም**	
28	**ቤቱ በቂ የአየር መዘወዘወሪያ/ መስገቢያ**	1. **አለው** 2. **የለውም**	
29	**ቤቱ በቂ የፀሐይ /የተፈጥሮ ብርሃን ማስገቢያ**	1. **አለው** 2. **የለውም**	
30	**ቤቱና የቤቱ ዙሪያ ከልዩ ልዩ ቆሻሻ**	1. **ነፃ ነው** 2. **አይደለም**	
31	**የቤት ውስጥ የተባዮችና በራሪ ነፍሳት ባለፉት** 6 **ወራት ውስጥ አጋጥሞዎት ያውቃልሕ**	1. **አዎ** 2. **አሳጋጠመም**	
32	**መልስዎ አዎ ከሆነ የትኞቹ ተባዮች/ በራሪ ነፍሳት ናቸው**	1. **በረሮ** 2. **ቅማል** 3. **ቁንጫ** 4. **ትንኝ** 5. **ሁሉም**	
33	**ቆርጣሚ በቤት ውስጥና በቤትዎ አካባቢ ይታያሉ**	1. **እዎ** 2. **አይታዩም**	
34	**ቆርጣሚዎችን ለመከላከል የተወሰዱ እርምጃዎች ካሉ ይግለጹ**	1. **የአካባቢ ጤና አጠባበቅ** 2.ኬሚካል 3. ድመትማሳደግ 4. ወጥመድ	
35	**የቤቶችን አካባቢ ያፀዳሉ?**	1.**አዎ** 2.**አሳፀዳም**	
36	**በየስን ጊዜው የቤቶችን አካባቢ ያፅዳሉ?**	1.**በየቀኑ** 2.**በየ ሶስት ቀኑ** 3.**በየሳምንቱ**	

		4.**ሌላ ካለ ይጠቀስ**	
37	**ይአካባቢ ጽዳት ዘመቻ ለይ ይሳተፋሉ?**	1.**አዎ** 2.**አልሳተፍም**	

ክፍል 5.የደረቅእናፍሳሽቆሻሻአያያዝእናአወጋገድፓኬጅየትግበራደረጃ

38	የደረቅ እና ፍሳሽ ቆሻሻ አያያዝ እና አወጋገድ ፓኬጅ የንድፈ ሃሳብ ስሌጠና ወስደዋሌ?	ι. አዎ 2. አልወሰድኩም	40
39	ያልወሰዱበት ምክንያት ምንድን ነዉ?	ι.የጤና ኤክስቴንሽን ባለሙያዋ ቤት ባለመምጣቷ 2. ግዜ ስለሌለኝ 3.በደንብ ፓኬጁን ስለማዉቀዉ 4. ስጠናዉን መዉሰድ ስለማያስፈልገኝ 5. ላሊ ካለይገለጽ.....	
40	የደረቅ ቆሻሻ ማጠራቀሚያ አለ (በማየት) ?	ι. አለ 2. የለም	42
41	የደረቅ ቆሻሻ ማጠራቀሚያ በአግባቡ ይጠቀሙበታል (በማየት)?	ι. ይጠቀሙበታል 2. አይጠቀሙበትም	
42	ደረቅ ቆሻሻን ከፍሳሽ ቆሻሻ ይለያሉ	ι.አዎ 2.አለይም	
43	በስተመጨረሻ ደረቅ ቆሻሻዎች የት ይወገዳሉ	1.የመዘጋጃቤት ሰብሳቢዎች ያነሱታል 2. በቆሻሻ መጣያ ቦታዎች 3.በማቃጠል 4. ሌላ ካለ ይጠቀስ	
44	የፍሳሽ ቆሻሻ ማስወጋጃ ዘዴ መኖሩ (በማት)?	ι. አዎ 2. የለም	47
45	ምን አይነት ዘዴ ይጠቀማለ?	ι. የፍሳሽ ቆሻሻማስረጊያ ጉድጓድ 2. ሴፕቲክ ታንክ 3. መጸዳጃ ቤት 4. ላሊ ካለ.....	
46	ማስወገጃ ዘዴዉን በአግባቡ ይጠቀሙበታሌ(በማየት)	ι. ይጠቀሙበታል 2. አይጠቀሙበትም	
47	ፍሳሹ ወደየት ይሄዳል?	ι. ከግቢ ዉጭ ወደ ዋናዉ ቱቦ 2.ግቢ ዉስት ይደፋሌ 3.ሌላ ካለ ይጠቀስ.....	

ክፍል 6.የመጸዳጃቤትአጠቃቀምእናአያያዝፓኬጅየትግበራደረጃ

48	የመጸዳጃ ቤት አጠቃቀም እና አያያዝ ፓኬጅ የንድፈ ሃሳብ ስሌጠና ወስደዋሌ?	ነ. አዎ ⟶ 2. አልወሰድኩም	**50**
49	ያሌወሰዱበት ምክንያት?	ነ.የጤና ኤክስቴንሽን ባሇሙያዋ ቤት ባሇመምጣቷ 2. ግዜ ስሇላሇኝ 3.በደንብ ፓኬጁን ስሇማዉቀዉ 4. ስሌጠናዉን መዉሰድ ስሇማያስፈሌገኝ 5. ላሊ ከሆነ ይገሇጽ.....	
50	መጸዳጃ ቤት መኖሩን ማረጋገት(በማየት)?	ነ. አለ 2. የለም ⟶	**58**
51	ምን አይነት መጸዳጃ አሊቸዉ(በማየት)	ነ. የግሌ ደረቅ መጸዳጃ ቤት 2 ሽታ አሌባ መጸዳጃ ቤት 3 የጋራ መጸዳጃ ቤት 4 ላሊ ካሇ ይገሇጽ.....	
52	በግድግዳ እና በቆርቆሮ የተሸፈነ ነዉ?	ነ. አዎ 2. አይደለም	
53	መጸዳጃ ቤቱ የእጅ መታጠቢያ ከሳሙና ጋር አለዉ?	ነ. አለዉ 2. የለዉም ⟶	55
54	የመጸዳጃ ቤቱ የእጅ መታጠቢ ይጠቀሙበታሌ?	ነ.አዎ 2. አይጠቀሙበትም	
55	መጸዳጃ ቤቱ ክዳን አለዉ?	ነ. አዎ 2. የለዉም ⟶	**57**
56	መጸዳጃ ቤቱ ክዳን ካለዉ በአግባቡ ይጠቀሙበታሌ?	ነ.አዎ 2. አይጠቀሙበትም	
57	አንድ የመጸዳጃ ቤት ጉድጓድ ለምን ያህሌ የቤተሰብ አባላት ይደርሳል?	ነ. ከነ-3 ሰዉ 2. ከ4-6 ሰዉ 3. ከ6 ሰዉ በሊይ	
58	መጸዳጃ ቤቱ ይጸዳል	ነ.አዎ ⟶ 2.አይጸዳም	59
59	አዎ ከሆነ መልሶ በየስንትጊዜ ይጸዳል	ነ.በየሳምንቱ እና ከዛ በታች 2.በየወሩ 3.በቆሸሸ ጊዜ 4. ላሊ ካለ ይጠቀስ	
60	መጸዳጃ ቤት ያልሰሩበት ምክንያት ምንድን ነዉ?	ነ. የመስሪ ቦታ አለመኖሩ 2. በቂ ገንዘብ እና ቁሳቁስ ስሇላሇኝ 3. ከወረዳ የግንባታ ፍቃድ አሇመሰጠቴ 4. ላሊ ካሇ ይገሇጽ.....	
61	መጸዳጃ ቤት የት ይጠቀማለ?	ነ. ሜዳ ሊይ 2. ጎረቤት በመሄድ 3. ላላካለይገለጽ	

ክፍል 7.የምግብእናየዉሃንጽህናአጠባበቅፓኬጅየትግበራደረጃ

62	የምግብ እና የዉሃ ንጽህና አጠባበቅ ፓኬጅ የንድፈ ሃሳብ ስሌጠና ወስደዋሌ?	ነ. አዎ 2. አልወሰድኩም →	**63**
63	ያሌወሰዱበት ምክንያት?	ነ.የጤና ኤክስቴንሽን ባሇሙያዋ ቤት ባለመምጣቷ 2. ግዜ ስለሌለኝ 3.በደንብ ፓኬጁን ስሇማዉቀዉ 4. ስሌጠናዉን መዉሰድ ስሇማያስፈሌገኝ 5. ላሊ ከሆነ ይገሇጽ.....	
64	የዉሃ አገልግሎት ከየት ታገኛሊችሁ?	ነ. በጊቢ ካለ የግል ከቧንቧ ዉሃ 2.ከጊቢ ወጪ በክፍያ ከቦኖ 3. ሌላ ካለ ይገለጽ	
65	የዉሃ ህክምና ዘዴ ትጠቀማሊችሁ?	ነ. አዎ 2. አንጠቀምም →	**67**
66	ምን አይነት ዘዴ ይጠቀማለ?	ነ. ማፍላት 2. በዉሃ አጋር ማከም 3. ማጥሇሌ 4. ላሊ ካሇ ይገሇጽ.....	
67	በአንድ ሰዉ በቀን ምን ያህልሊትር ዉሃ ይጠቀማል?	ነ. ከ ነ0 ሉትር በታች 2. ከ ነ እስከ 20 ሉትር 3. ከ 2ነ ሉትር በሊይ	
68	የመጠጥ ዉሃ እቃ ሇብቻዉ ተለይቷል ?	1.አዎ 2. አሌተለየም	
69	ምግብ የሚበሰልበት ቦታ የት ነዉ?	ነ.መኖርያ ቤት ዉስጥ 2. ማእድ ቤት 3 ዉጭሊይ	
70	የምግብ እቃ ማጠቢያ ዲሽ አለ?	ነ. አለ 2. የለም	
71	የምግብ እቃዎች አስተጣጠብ?	ነ. በዉሃ ብቻ 2. ሳሙና እና ሌልች የማጽጃ ዘዴዎች 3. ላሊ ካለ ይገሇጽ.....	

ክፍል 8: ቁልፍመረጃ ለማግኘት ቃለመጠይቅ መመሪያ

ክፍል ፡ አጠቃላይመረጃ

፡. ቀን _____

2. ክልል: _____

3. ከተማ / ከተማ: _____

4. ኮድ _____

ክፍል 2፡ ለከተማ ጤና ኤክስቴንሽን ባለሙያና ለሱፐርቫይዘሮች የተዘጋጀ

፡. *ዕታ* ----

2. ዕድሜ----------

3. *ሙያ* _____

4. *ኃላፊነት* _____

5. የአገልግሎት ዘመን በዓመት _____

6. እርሶ በሃጅንና በአካባቢ ጤና አጠባበቅ ፕኬጅ ትግበራ እና መሻሻል ላይ ያለዎት የስራ ድርሻ ወይም ሚና ምንድን ነው?

7. የሀይጅንና የአካባቢ ጠና አጠባበቅ ፓኬጅ ትግበራ ለማስተገበር ከመስሪያ ቤታችሁ ጋር የሚተባበሩ ባለድርሻ አካላት እነማን ናቸው እነዴትስ ነው በጋራ በመሆን የአካባቢ ንፅህና ጉድለት ችግሮችን የምትፈቱት?

8. በሀጅንና አካባቢ ንፅህና/ጤና አጠባበቅ ፓኬጅ ትግበራ ላይ የህብረተሰቡን ሚና/አስተዋፆ እንዴት ይገልፁታል

9. ሀጅንና አካባቢ ንፅህና/ጤና አጠባበቅ ፓኬጅ ትግበራ ለግለሰብ፤ለማህበረሰቡና በአገር አቀፍ ደረጃ ያለውን ጠቀሜታና አስፈላጊነት ሊያብራሩልኝ ይችላሉ?

10. በሀጅንና አካባቢ ንፅህ እና ጤና አጠባበቅ ፓኬጅን ለማስተግበር በሚሰሩበት ውቅት ያጋጠሞትን ጥሩ ተሞክሮ/ገጠመኝ እና መጥፎ ተሞክሮ/ገጠመኝ ሊነገሩኝ ይችላሉ?

11. እርሶ በሚሰሩበት ወረዳ ላይ የሀጅንና አካባቢ ንፅህ እና ጤና አጠባበቅ ፓኬጅ የትግበራ አፈፃፀም ጥንካሬ እና ድክመት እንዴት ይገመግሙታል/ይገልፁታል?

- ከጤና ኤክስቴንሽን ባለሞያዎች አንፃር
- ከአስተዳደራዊ ድጋፍ ,ፕሮግራም ንድፈ ሃሳብ አንፃር
- ከማህበረሰቡ አንፃር

12. የሀጅንና አካባቢ ንፅህ እና ጤና አጠባበቅ ፓኬጅ አፈፃፀም ትግበራ ላይ እንቅፋት የሆኑ ወይንም የትግበራ አፈፃፀም ስኬትን ወደ ኋላ የሚያስቀሩ ህጋዊ የአሰራር መመሪያዎች ወይንም ደንቦች ካሉ ሊያብራሩልኘ ይችላሉ?

13. በሚሰሩበት ወረዳ ውስጥ በሀጅንና አካባቢ ንፅህ እና ጤና አጠባበቅ ፓኬጅ ትግበራ አፈፃፀምን እንዴት የፈመግሙታል በተጨማሪም በምን ደረጃ ላይ ያስቀምጡታል?

14. በሀጅንና አካባቢ ንፅህ እና ጤና አጠባበቅ ፓኬጅ ትግበራ አፈፃፀም የተሻለ እንዲሆን ምን መደረግ አለበት/ምን መሻሻል አለበት ይላሉ?