

**INTERNATIONAL RESCUE COMMITTEE
ENVIRONMENTAL HEALTH PROGRAM
TIGRAY REGION, HITSATS REFUGEE CAMP**

**WATER SUPPLY, SANITATION AND HYGIENE PROMOTION
Knowledge, Practice and Coverage (KPC)
SURVEY RESULT**



**Tigray Region
Hitsats Refugee camp
December, 2017**

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List of Abbreviations

ARRA	Administration of Refugee and Returnees Affaires
ECHO	European Commission Directorate-General Humanitarian Aid and Civil Protection
EH	Environmental Health
EHAs	Environmental Health Agents
HDW	Hand dug well
HH	Household
IRC	International rescue committee
SHP	Sanitation and Hygiene Promotion
TS	Tap stand
UNHCR	United Nations Higher Commissioner for Refugee

Abstract:

BACKGROUND: Hitsats Refugee Camp is located in the West of Tigray regional state of Ethiopia, at about 1092 km north from the capital, Addis Ababa. The camp population is 10,361 (December, 2017 UNHCR). The camp hosts Eritrean refugees having different ethnic groups where the majorities are Tigrigna and Saho and some minorities of Tigre and Belian.

Hitsats refugee camp were opened in May 2013 and the IRC Ethiopia Environmental Health program has been working in the camp since May 5, 2013 with core mandate for provision of safe water and sanitation services. The Environmental Health (EH) program is designed with main objective of preventing mortality and morbidity due to diarrhea and other water-borne diseases.

The knowledge, attitude and practice (KAP) survey was conducted in December 2017, to serve as an end line survey for 2017 and as a baseline survey for 2018.

OBJECTIVE: To assess the improvements and gaps in knowledge, practice and coverage of Hitsats refugee community in relation to water, sanitation and hygiene promotion.

METHODOLOGY: Cross sectional study is used. The instrument used for data collection was a structured pre-tested questionnaire using an application on smart phone. A total of 171 HHs selected by Systematic random sampling from Hitsats refugee community. The survey was conducted from December 19-24, 2017. The collected data was uploaded and returned into excel sheet and analyzed.

A two day orientation from December 19-20, 2017 was provided to data collectors and supervisors prior to the data collection. The theoretical training part was covered on the first day and pretest was done on the second day of the training.

In addition to temporarily hired supervisors, sanitation and hygiene promotion officer was responsible for the overall survey activities including data collection and organizing the report. Data checking and uploading to data base conducted by IRC SHP officer.

RESULT: The result of the study shows that the average water collected was 11.8 liter per person per day, and 77% of the households collected water from protected or improved sources. 95% of the HHs are using household or shared latrine for defecation and out of this 74% used household/family/toilet and the rest 21% share latrine for defecation. 50.3% of the respondents defecating in the bush at night. 95.9% of the respondents have access to soap. 100% of the respondents were washing their hands at three and above of the critical times of hand washing.

CONCLUSION AND RECOMMENDATION: Amount of water distributed has to be concerned, as the amount of water collected is much less than the standard. Hence distribution of enough amount of water as per the standard should be prioritize and also distribution of enough amount of water containers also to be considered. Awareness raising on introducing separate hand washing facility is highly recommended. Allocation of enough amount of budget for latrine and shower construction and maintenance need to be focused.

CHAPTER ONE

1 Background:

Hitsats Refugee Camp is located in the North West of Tigray regional state of Ethiopia in “Asgede Tsembela woreda”, at about 1092 km to the north from the capital, Addis Ababa. The camp population is 10,361 (December, 2017 UNHCR). The camp hosts Eritrean refugees having different ethnic groups where the majorities are Tigrigna and Saho and some minorities of Tigre and Belian.

Hitsats refugee camp were opened in May 2013 and the IRC Ethiopia Environmental Health program has been working in the camp since May 5, 2013 with core mandate for provision of safe water and sanitation services. The Environmental Health (EH) program is designed with main objective of preventing mortality and morbidity due to diarrhea and other water-borne diseases.

The IRC is currently providing safe drinking water to 10,361 refugees. The existing water system consists of three boreholes and one shallow well, three Pioneer tankers (Two with the capacity of 110 m³ and two of them are 50 m³ each) and 19 water distribution points for the refugee and 5 water points for the local community (2 functional and 3 non-functional) with six faucets on each except one with four faucets.

To date the IRC constructed 1236 family latrines, 1236 showers, 25 UDDT latrines, five public solid waste disposal pits including two with a capacity of 364.5m³ and 200m³ fenced with HCB, one abattoir distributed in the four zones. In addition, there are 66 cloth washing basins serving the refugee community. There are 18 national staffs (one Sanitation and hygiene promotion officer, one water technician officer, two plumber and 14 water system guards) and 48 refugee incentive workers (seven solid waste collectors, three sanitary facility attendant, 20 environmental health agents, 15 tap stand attendants and three water system care taker).

This KPC survey aims to assess the current knowledge, practices and coverage of the Hitsats refugee community in relation to water, sanitation, and hygiene promotion. Beside this relevant information was collected so as to evaluate the achievement of the project will be used as base line information for future projects.

CHAPTER TWO

2 Objectives:

2.1 General objective:

To assess the current change, improvements and gaps in knowledge, practice and coverage of Hitsats refugee community in relation to water, sanitation and hygiene promotion.

2.2 Specific Objectives:

- To evaluate Hitsats EH program achievements of UNHCR grant in relation to its indicator and standards.

The indicators are:-

- ✚ Percent of HHs collecting drinking water from protected/treated sources
 - ✚ Average liters per person per day collected at HH level
 - ✚ Percent of HHs with at least 10L/p potable water storage capacity
 - ✚ Percent of HHs with shared –family latrine/toilet
 - ✚ Percent of HHs with household/Family latrine/toilet
 - ✚ Percent of HHs with household or shared/Family latrine/toilet
 - ✚ Percent of HHs reporting defecating in a toilet/latrine
 - ✚ Percent of HHs with access to soap
 - ✚ Percent of HHs with access to solid waste disposal facility
 - ✚ Percent of HHs with access to specific hand washing device
 - ✚ Percent of respondents knowing at least 3 critical moments when to wash hands
 - ✚ Percent of HHs practicing open defecation in the bush at night
 - ✚ Percent of HHs having access to a bathing facility
- To have base line data for future projects on water, sanitation and hygiene promotion.

CHAPTER THREE

3 Survey Methods and Materials

3.1 Study area and period:

The study was conducted in Hitsats refugee camp from December 19-24, 2017.

3.2 Study design:

Cross sectional survey was conducted.

3.3 Sample size and Sampling technique:

3.3.1 Sample size

The sample size i.e. the number of households to be included in the survey to 'represent' the population of interest will be calculated using the following epidemiological formula:

$$n = \frac{t^2 p (1-p)}{d^2}$$

Where; n = sample size

t = error risk parameter related to precision (1.96 for an error risk of 5%)

p = estimated prevalence in the population

d = desired precision

$$\text{Therefore, } n = \frac{t^2 p (1-p)}{d^2} = \frac{1.96^2 * 0.5 * (1-0.5)}{0.07^2} = 196$$

Sample size=196

Total household=1333

Since n> 10% total household correction will be applied.

$$\text{Corrected sample size (n)} = \frac{196}{1 + \frac{196}{1333}} = 171$$

The sample size was calculated using an estimated prevalence of 50%¹, a design effect of 1², an error risk parameter of 1.96 (for an error risk of 5% i.e. 95% confidence limits) and a desired precision of 7%. Correction is applied as the resulting sample size is greater than 10% of the entire population.

3.4 Sampling technique and data collection:

The survey were conducted by systematic random sampling method in which all of the households in the refugee camp have equal chance of being selected. The targeted refugee camps were divided into zones and blocks in which household numbers in each zone were collected from UNHCR and ARRA secondary data and used to prepare the sampling frame. The number of households surveyed per zone or block were determined using proportion to population size (PPS) technique. The sampling interval of a zone or block were determined by dividing the total number of households in the zone/block by number of households surveyed in that zone/block. For example if zone-A has a household population of 388 then number of sample households surveyed from this zone were $(388/1333)$ multiplied by total number of samples (n) collected from the entire camp, in this case $n_1=(388/1333)*171=50$, where 1333 and 171 are total house hold and sample size respectively. Then the number of sampling interval is $352/50= 7$.

Rough sketch map of the camp divided by 4 zones were prepared by the survey team at the end of the training which were prepared in the way that all data collectors and supervisors can easily understand, then the number of samples collected were divided to each zones based on population proportional to size (PPS) method. Referring each zones sketch map, very first house were randomly selected from households in between 1st to 7th houses, so that all data collectors expected to collect data by following every 7th house hold and the second HH to be sampled (second HH unit) will be 7th HH starting from sampling unit one, third sampling unit is also the 7th HH starting from sampling unit two; and the same were applied throughout the sampling frame steps.

Each survey team had a pre fixed starting route and pick a prefixed sampling by zone. Once they initiated, the teams counted every household in their area and conduct interview every 7th household counted similar to the method described above. This systematic random method were continued until all houses in the study area covered by the sampling technique.

Zone	Household size per zone		Sample Size	
	Number of HHs	%	Number	%
A	388	29	50	29
B	362	27	46	27
C	328	25	42	25
D	255	19	33	19
Total	1333	100	171	100

Table 1 selected HH and sample size per zone

3.5 Respondents:

The survey was conducted on each Zone in the camp. To get relatively realistic information we primarily targeted the household mothers/housewives, since they are more responsible group for water, sanitation and hygiene activities in the HH, in place where we fail to get mothers, men house head or girl/men greater than 14 years interviewed. In case of failure to get either of the above interviewee, the interviewer will be expected to proceed to the next house which has occupants available for the interview.

3.6 Personnel:

A total of 12 personnel (12M), ten data collectors, and two supervisors were used for data collection and monitoring. Participants of the survey were selected from the host community primary school who are with relatively high level of education.

Zone	Household size per zone		Sample Size		No. of interviewers	No of Supervisors	Remark
	Number of HHs	%	Number	%			
A	388	29	50	29	3	1	
B	362	27	46	27	3		
C	328	25	42	25	2	1	
D	255	19	33	19	2		
Total	1333	100	171	100	10	2	

Table 2. Summary of Sample size and personnel per each zone:

3.7. Limitation:

- Some data collectors were negligent that they were jumping households and missing some questions in which commented to go back the HH and fill it.
- Some data could not be accessed from the analysis sheet

CHAPTER FOUR

4 Findings of the Study:

4.1 Water related results:

Concerning to source of water supply for drinking purpose, tap stand is serving as the main source of water for 77% of the refugee community, whereas 3% uses hand pumps, 1% spring, 18% hand dug well and 2% surface water. Average water consumption of the refugee community is 11.8 liter per person per day.

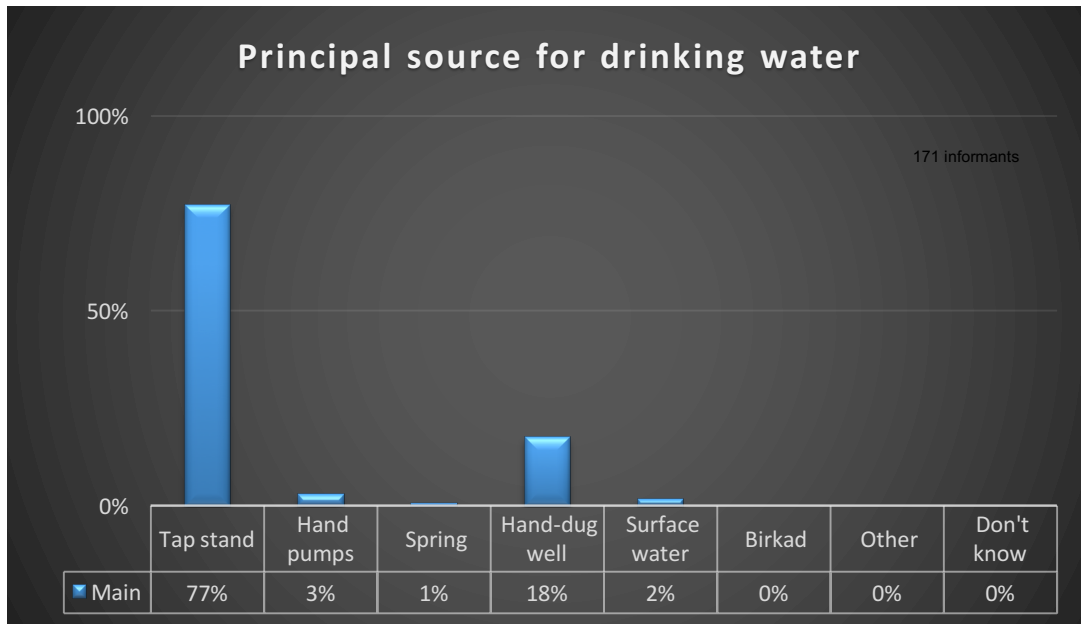


Figure 1 principal source for drinking water

98% of the respondents drew water from containers by pouring in to a cup, 1% cup dipped and 1% by hose/tap.

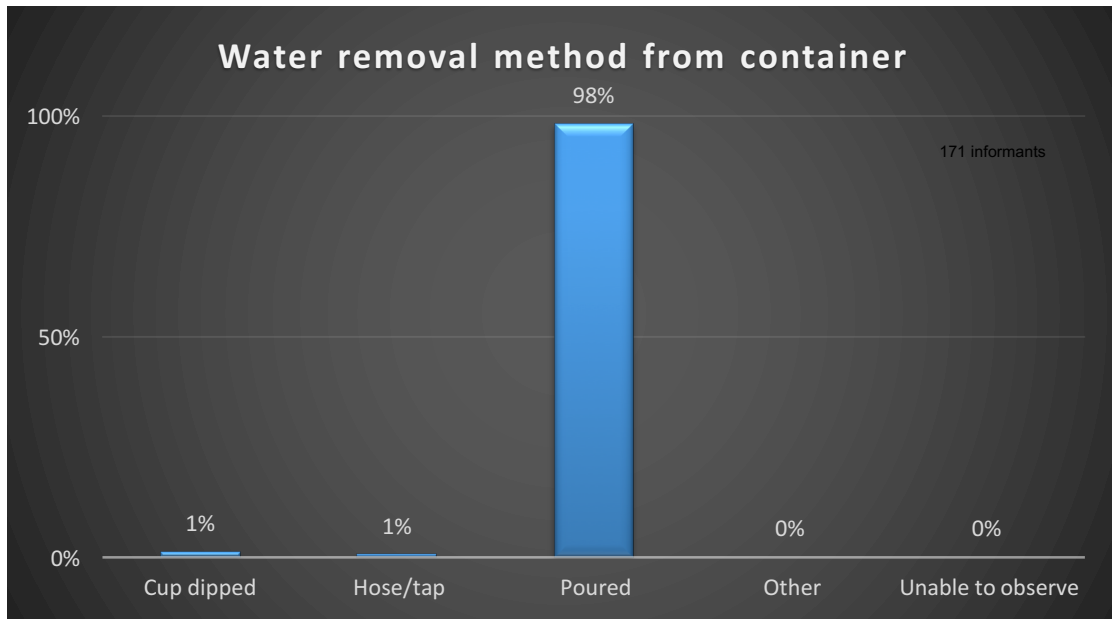


Figure 2 water removal method from container

On the satisfaction of current water supply for household needs 39% of respondents are satisfied and the remaining 69% are not.

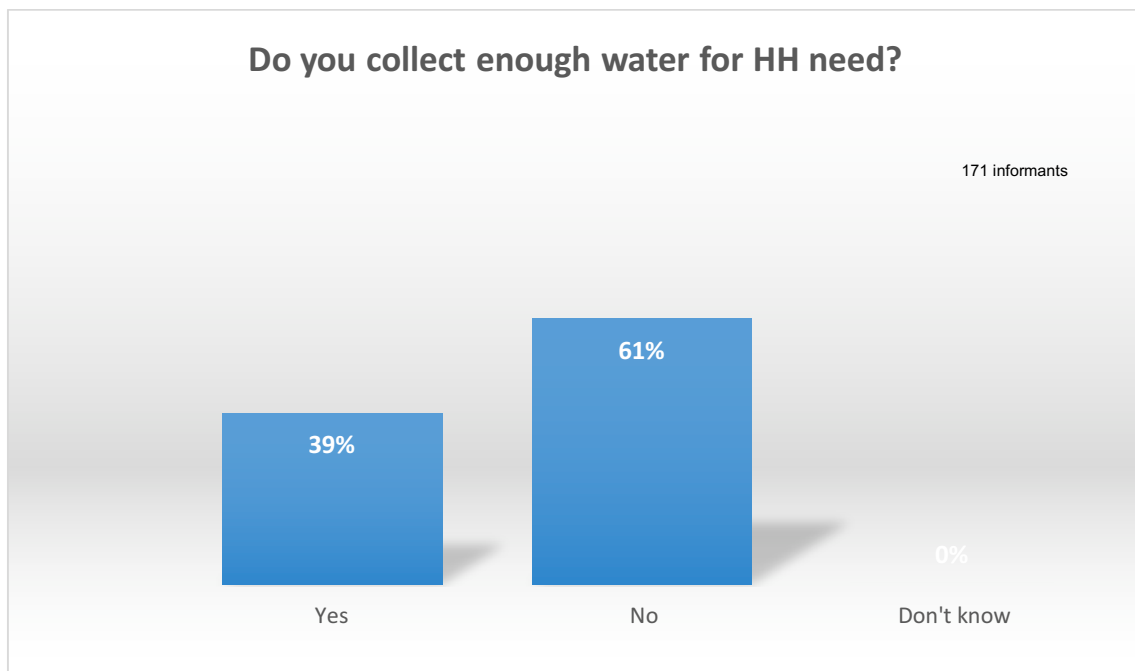


Figure 3 satisfaction on water quality

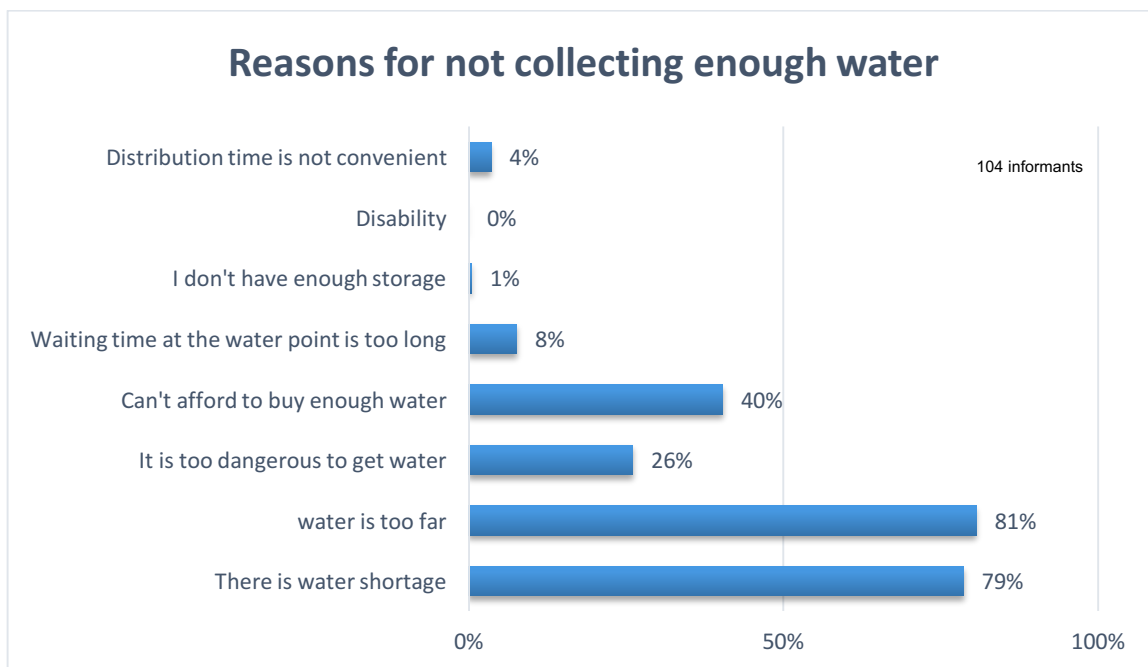


Figure 4 Reasons for not collecting enough water

30% of the HHs clean drinking water containers every time they use it, 64% at least once a week, 4% at least once a month and 2% never cleaned their container.

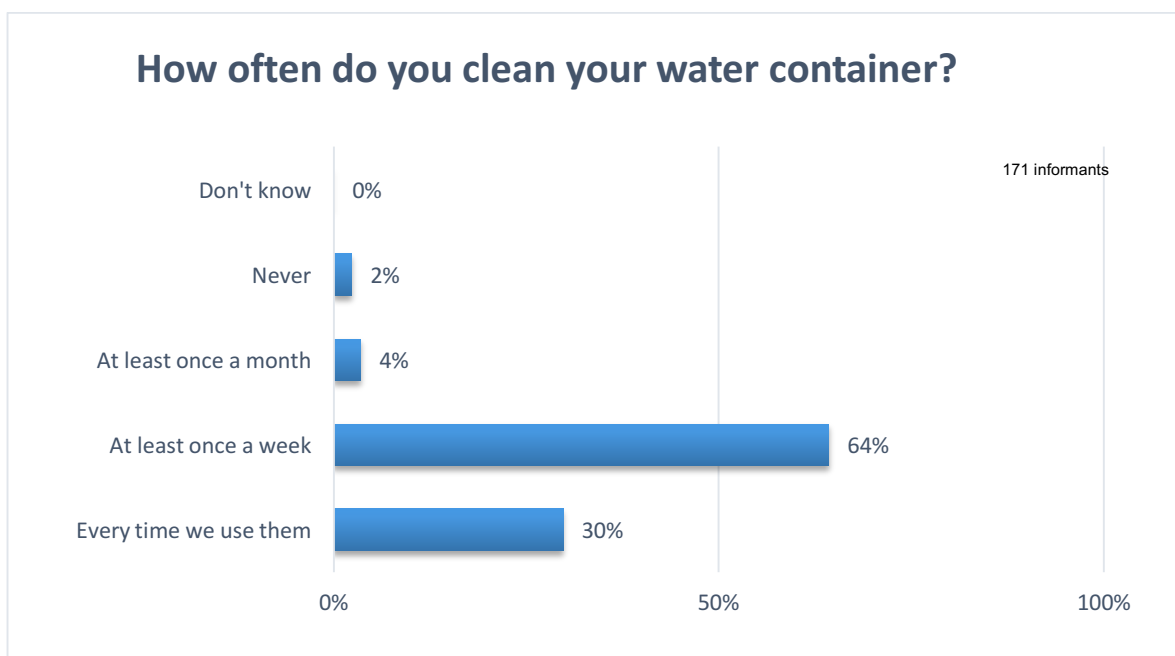


Figure 5 Frequency of container cleaning

4.2 Knowledge and practice of critical times of hand washing results:

96% of the households presented a rubbing agent for hand washing with in one minute during the survey and 4% couldn't.



Figure 6 Soap availability

As a secondary option for hand washing when there is no soap in their household 20% uses only water, 74% ash, 4% sand and 2% do not use anything as secondary option for hand washing.

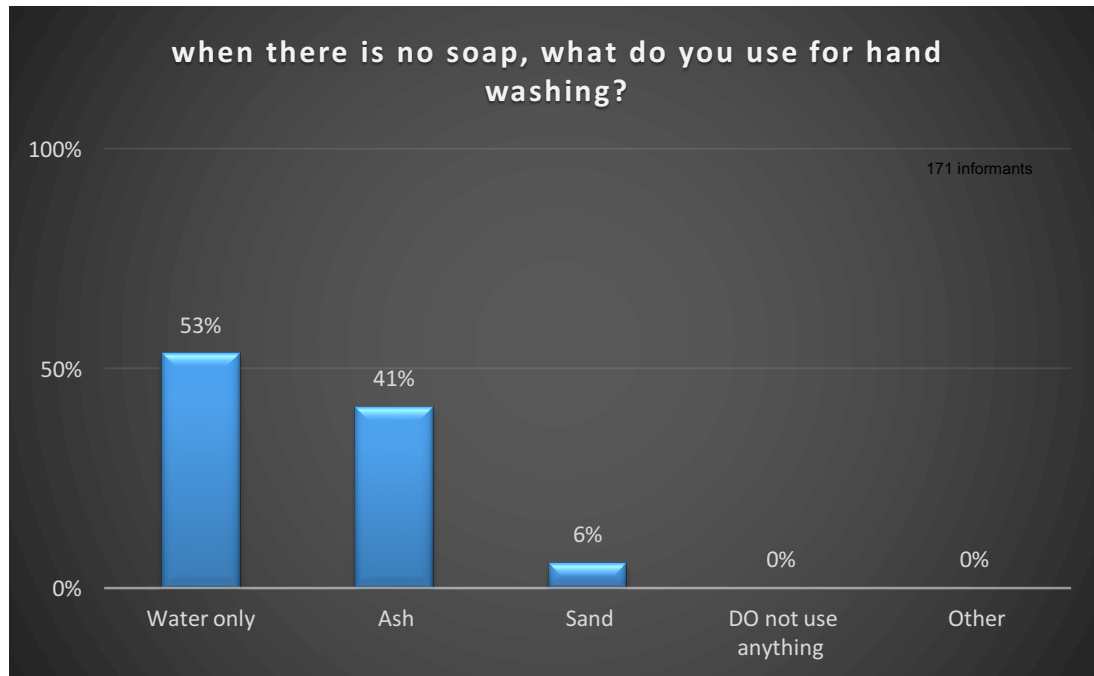


Figure 7 secondary option for hand washing

On three most important/critical moments of hand washing 99% responds before eating, 98% before food preparation, 75% after defecation, 41% before breast feeding, 50% before feeding children and 30% after handling a child's bottom. 61% of households have specific hand washing and the rest 39% do not have.

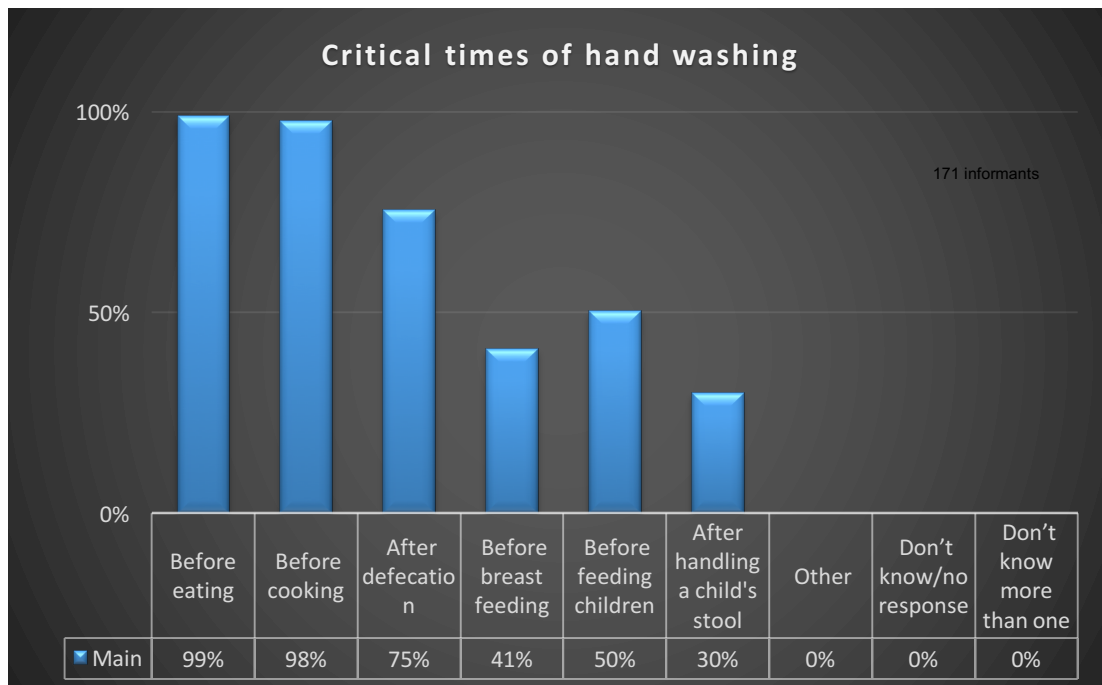


Figure 8 Critical times of hand washing

4.3 Food handling:

4% of the respondents consume their food when it's hot and 96% of the respondents cover their food.

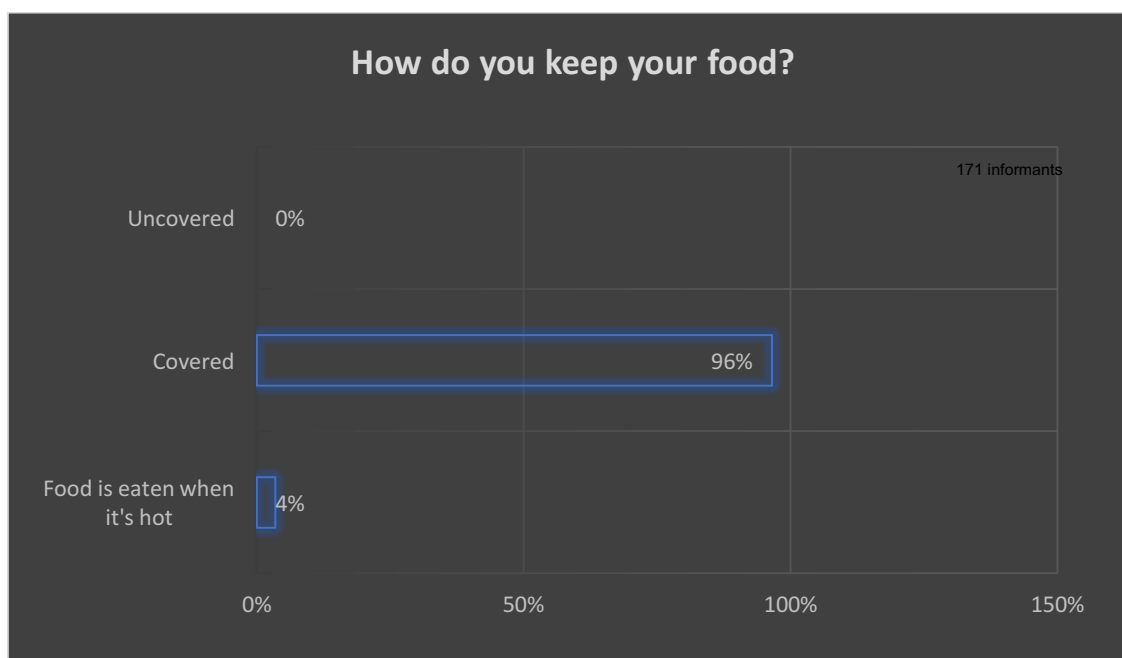


Figure 9 covering of food

4.4 Diarrheal disease related results:

Occurrence of diarrheal disease in the last 14 days in both under five and more than five years of age is within a range from greater than zero up to two.

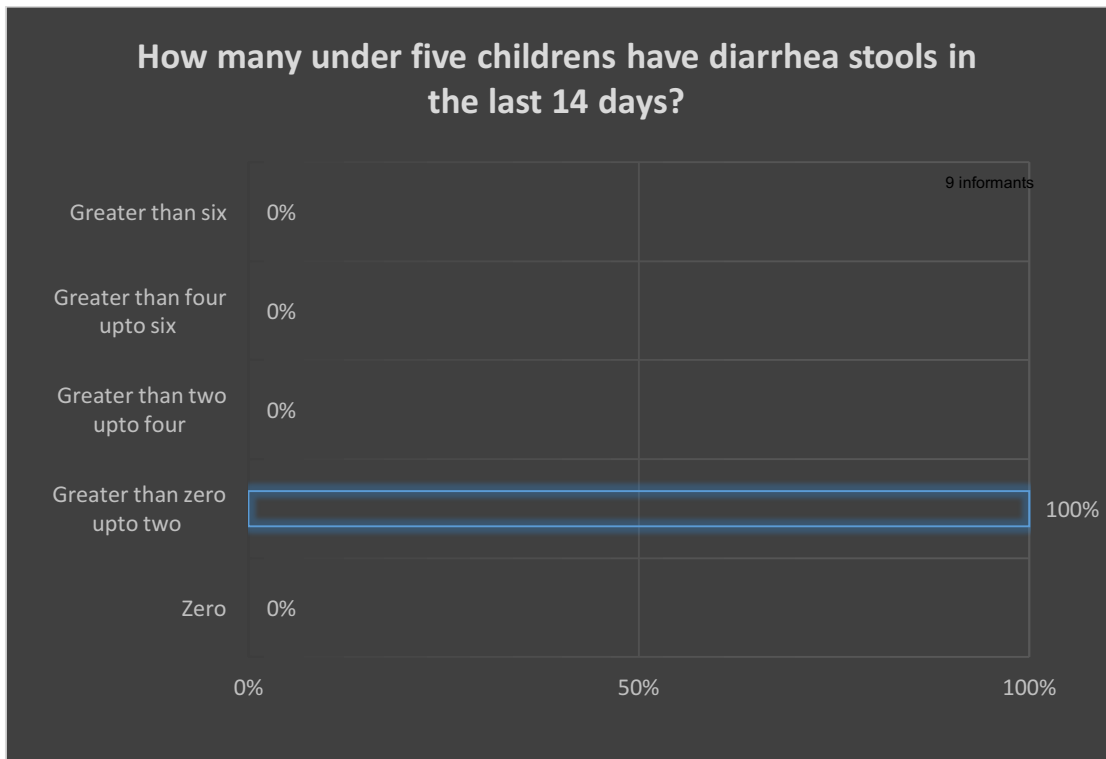


Figure 10 under five children have diarrhea stools

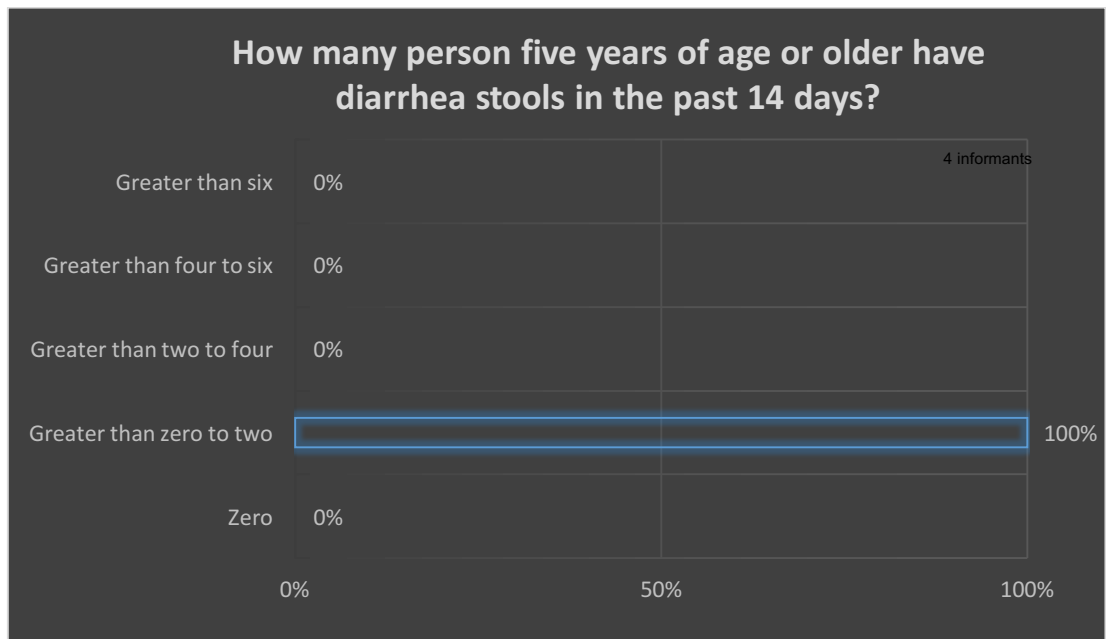


Figure 11 Five years of age or older have diarrhea stool

On the ways that people can get diarrhea 77% responds through contaminated water, 87% through undercooked food, 69% from unpleasant odor, 67% from flies, 55% from contact with someone sick from diarrhea, 13% from swimming/bathing in surface water and 1% they don't know.

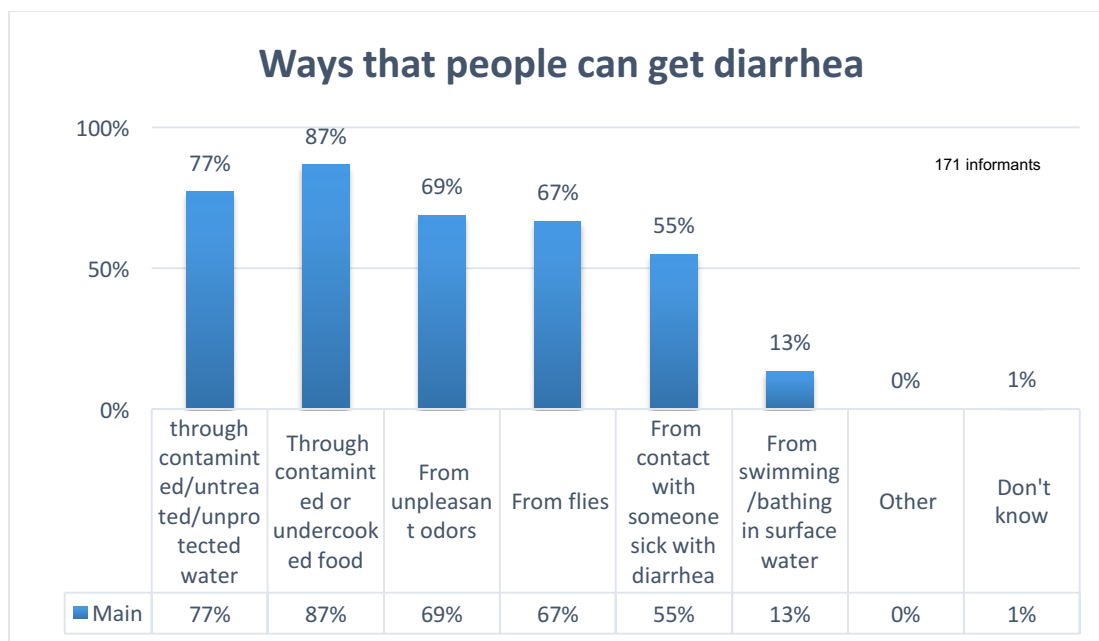


Figure 12 Main diarrheal disease contamination routes

From the respondents on multiple answer questions 50%, 86%, 84%, 63%, 57%, 54%, 49% and 17% mentioned the following as prevention of diarrheal disease transmission, boil/treat drinking water, wash hands with soap and water, cook food well, wash fruits and vegetables, cleaning cooking utensils, clean home with bleach, use latrine for defecation and dispose of children faeces in latrine respectively.

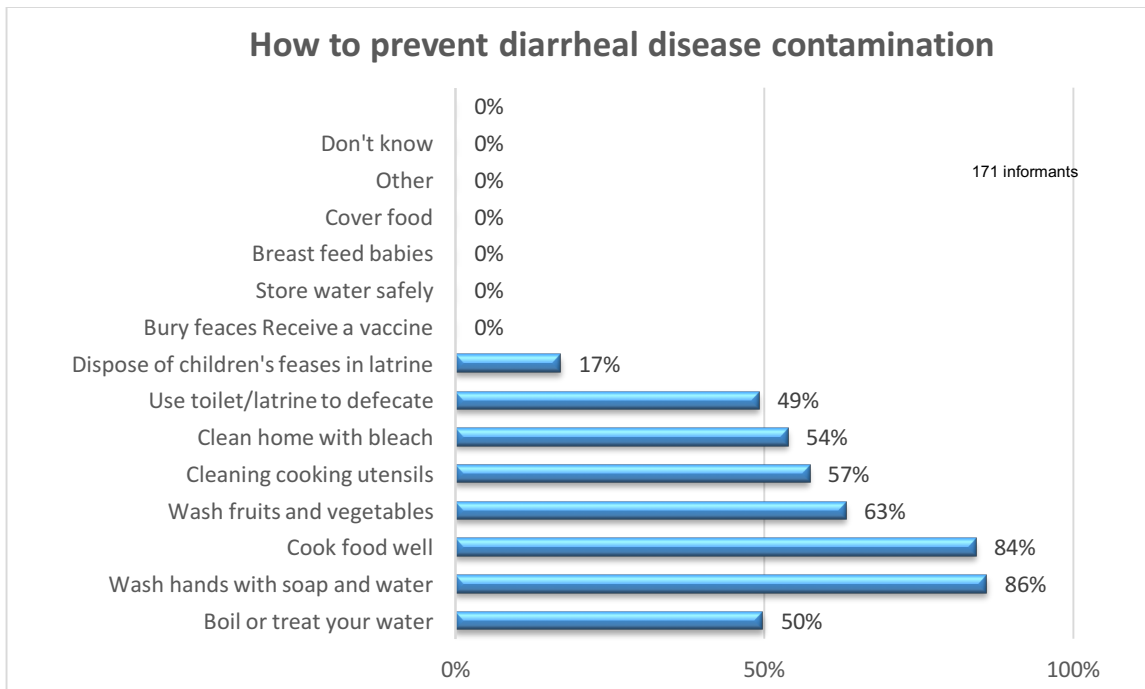


Figure 13 Prevention of diarrheal disease

4.5 Latrine related results:

Defecation practice from household members (excluding children under five) 73% uses household latrine, 20% communal latrine, 6% open defecation and 1% mentioned other.

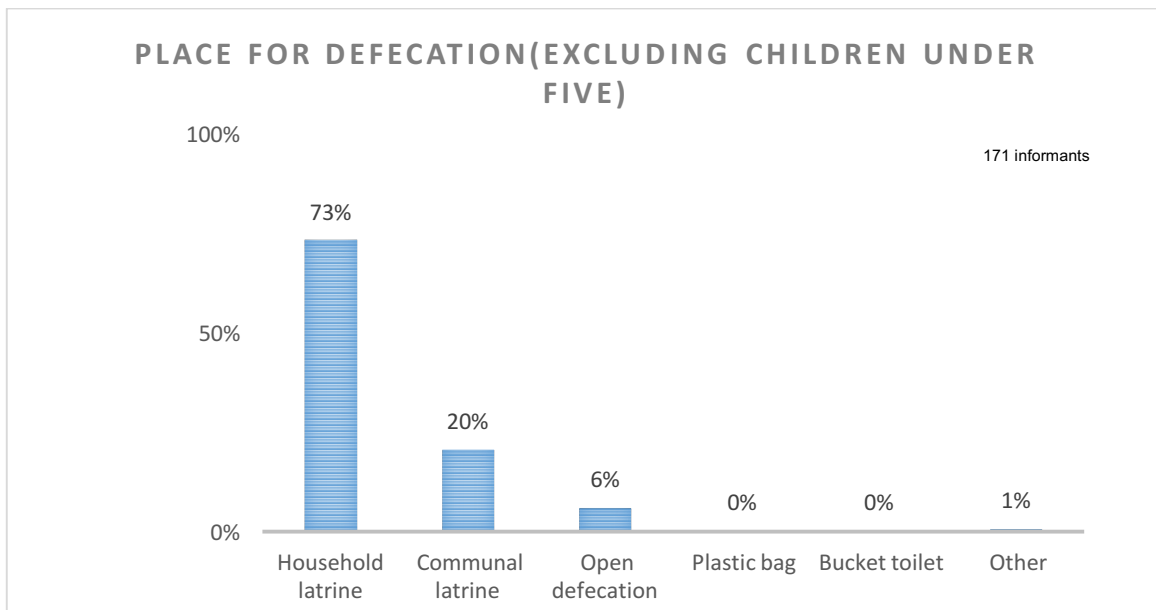


Figure 14 Place for defecation (excluding under five children)

Whereas from children under five 44% uses household latrine, 15% communal latrine, 13% open defecation, 9% plastic bag and 19% defecate on potties and also for children under five that do not use the latrine 85% of it collected and disposed in latrine and 15% collected and disposed of elsewhere.

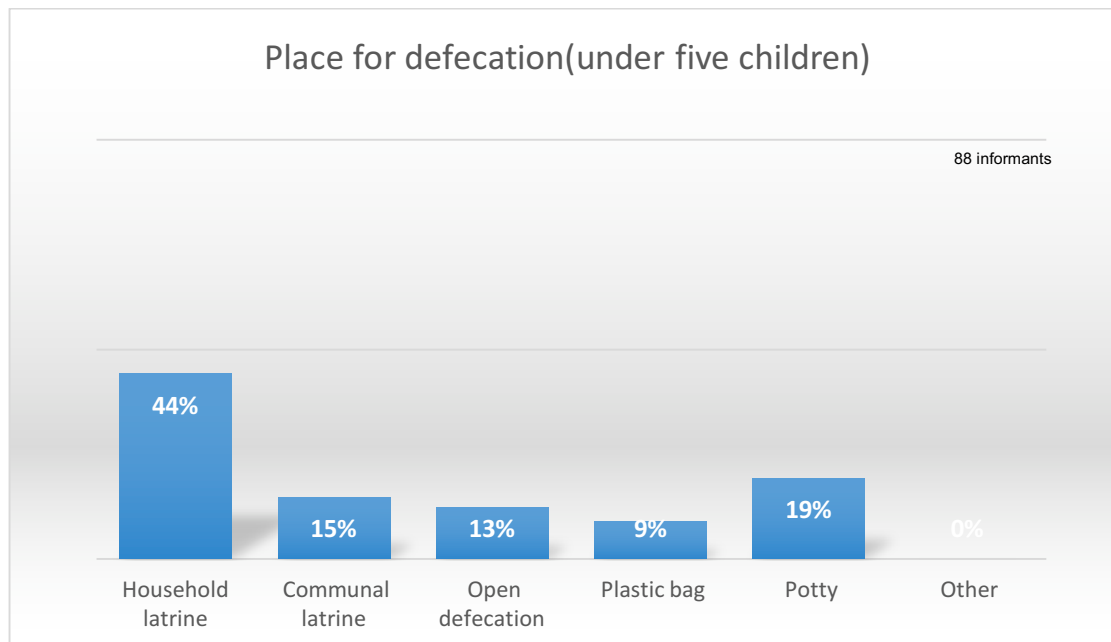


Figure 15 Place for defecation (under five children)

46% adult members of the household sometimes defecate in the bush during night time due to the reasons; 1% latrine is too far, 51% too dark at night, 27% latrine is not safe/stable, 19% latrine is smelling and 3% gave other reasons for defecating at night time. During observation of latrine 38% of them are full and the rest 62% are not.

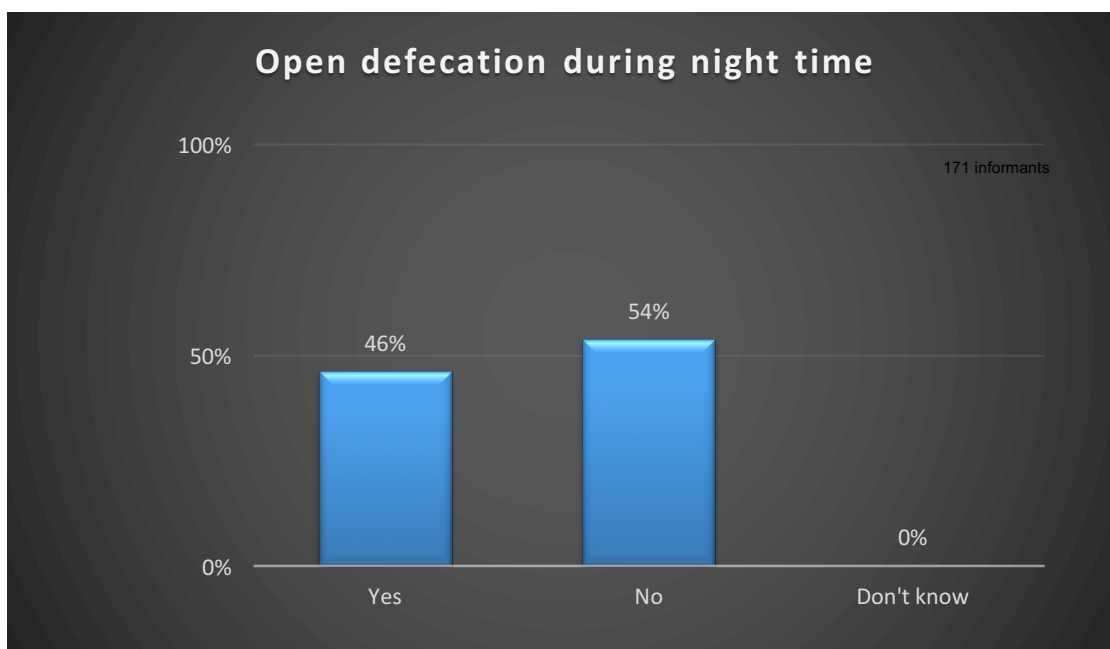


Figure 16 Open defecation practice at night time

4.6 Bathing facility related result:

During observation 71% of the households have a designated place for bathing, 24% do not have a designated place, 4% bath in latrine and the remaining 1% could not be observed.

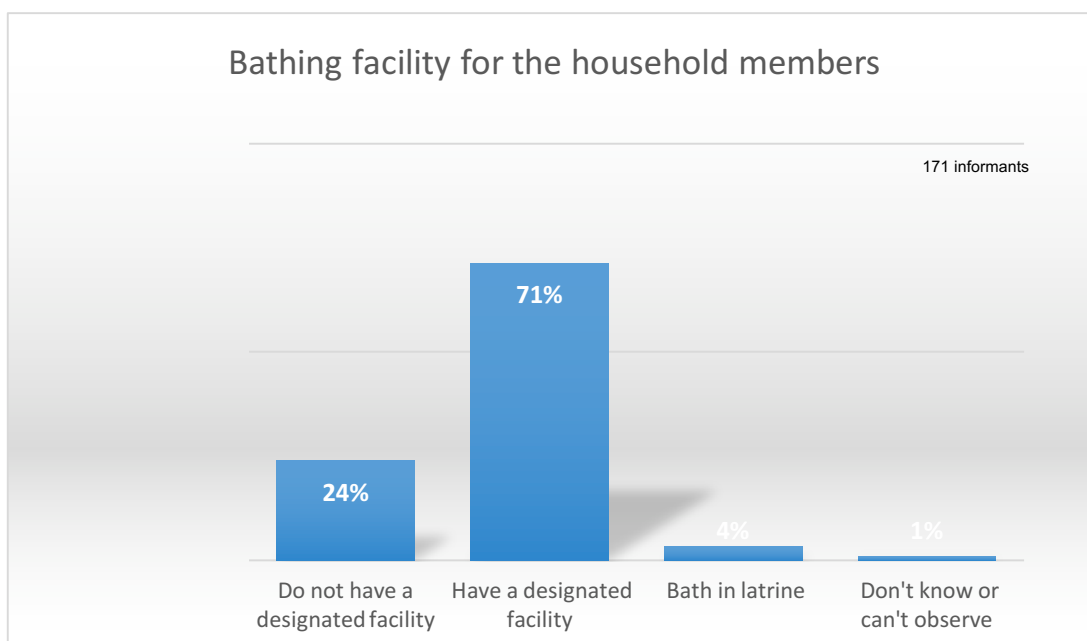


Figure 17 Place for taking bath

4.8 Solid waste management related result:

The majority 74% of the refugee community disposes household wastes in communal pit, 13% household pit, 12% street bin/container for garbage collection, 1% on designated open area and 1% on undesignated open area.

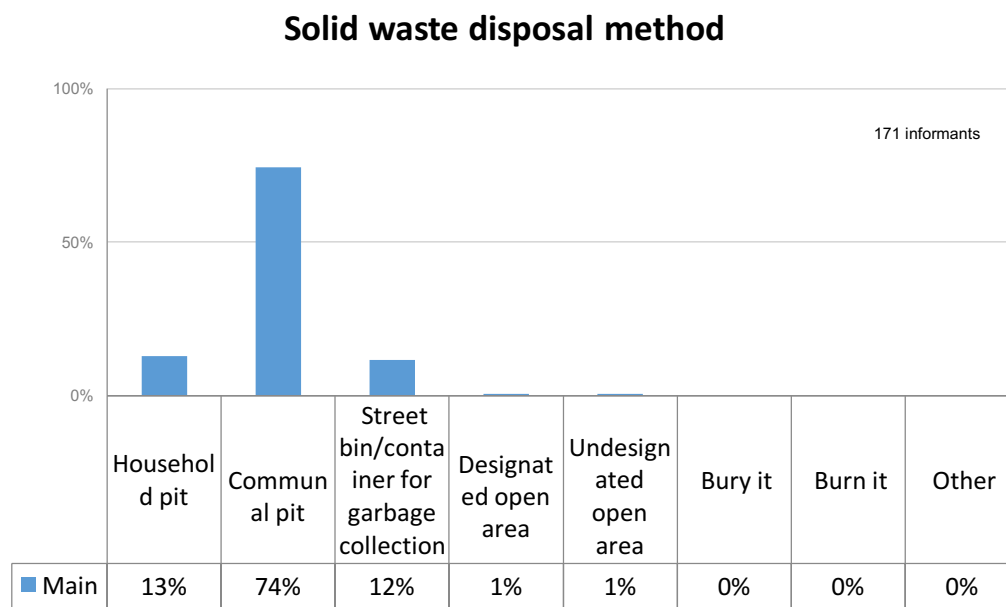


Figure 18 Solid waste disposal method

During observation of the courtyard on 95% of households no apparent trash scattered around and on the remaining 5% observed.

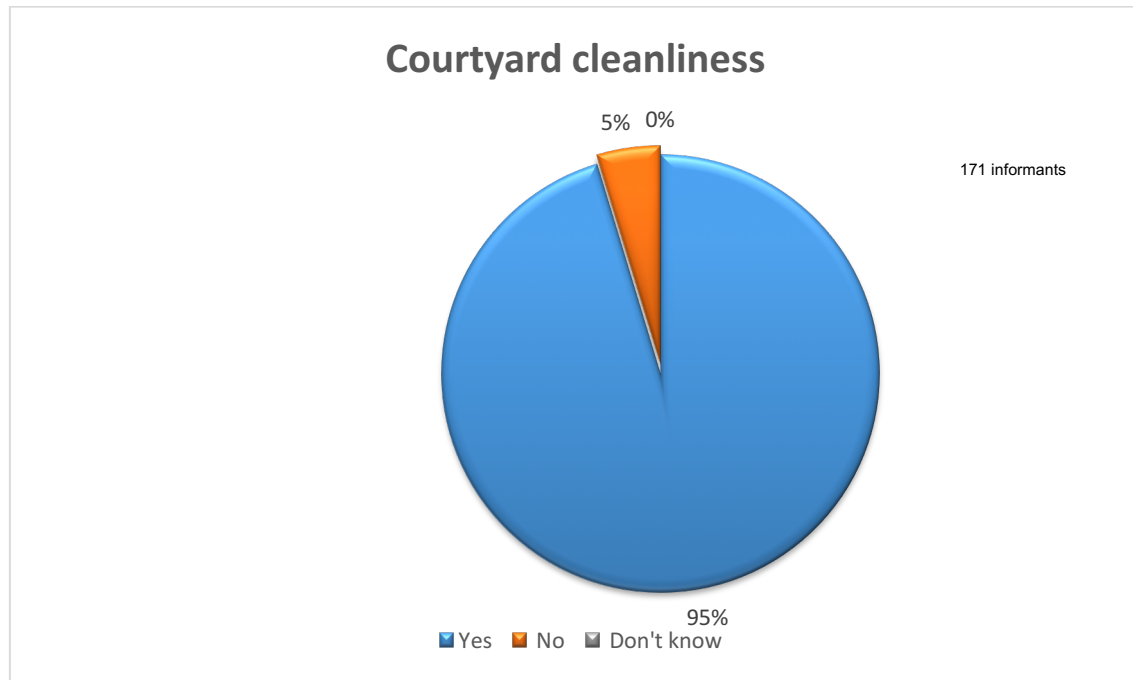


Figure 19 courtyard cleanliness

4.9 Home to home visit by EHAs/Hygiene message

Out of all communication lists presented 14% selected home visit from community health workers, 59% community meetings/tea talk, 24% community group and 3% none/no other.

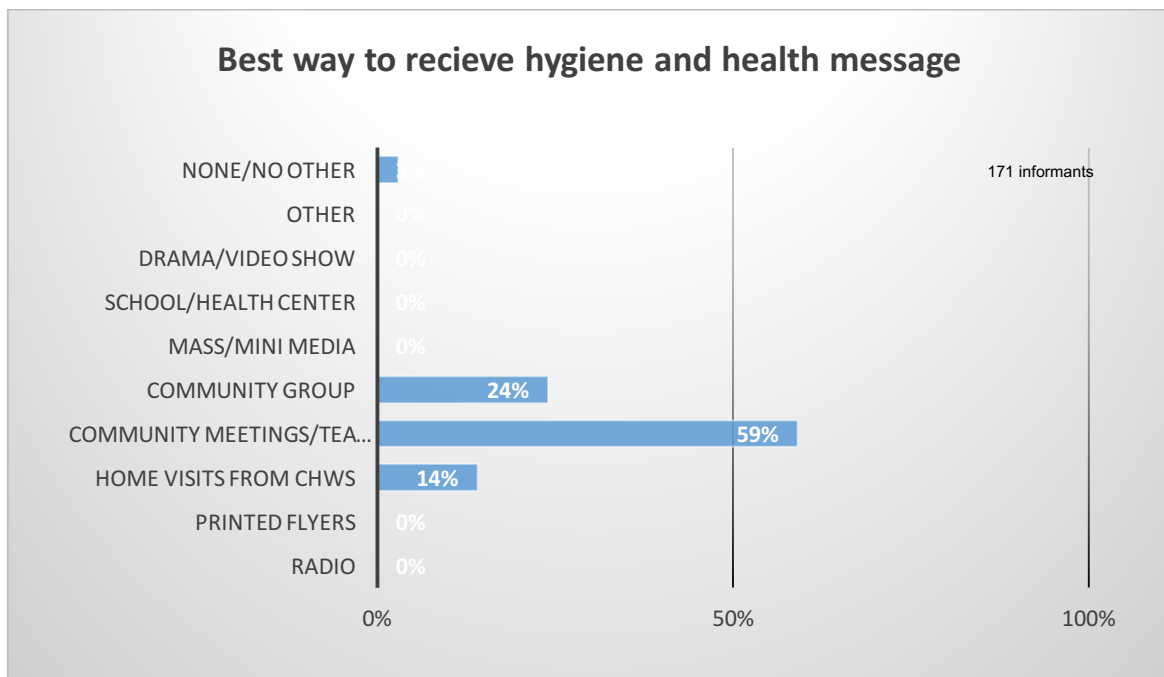


Figure 20 Best way to receive hygiene and health message

In the last month 89% of the households receive a visit from community health worker, 11% did not and 1% don't know.

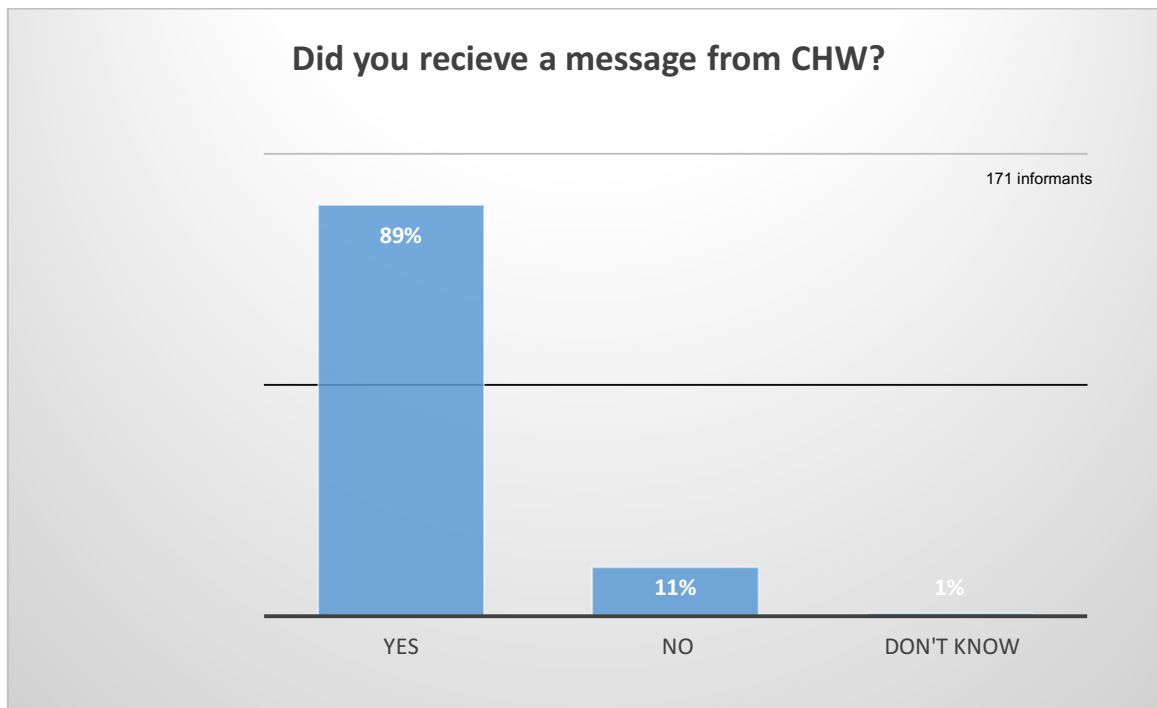


Figure 21 Message received from CHW last month

During last month 88% of household members also attended community meeting on hygiene with community worker and the rest 12% didn't.

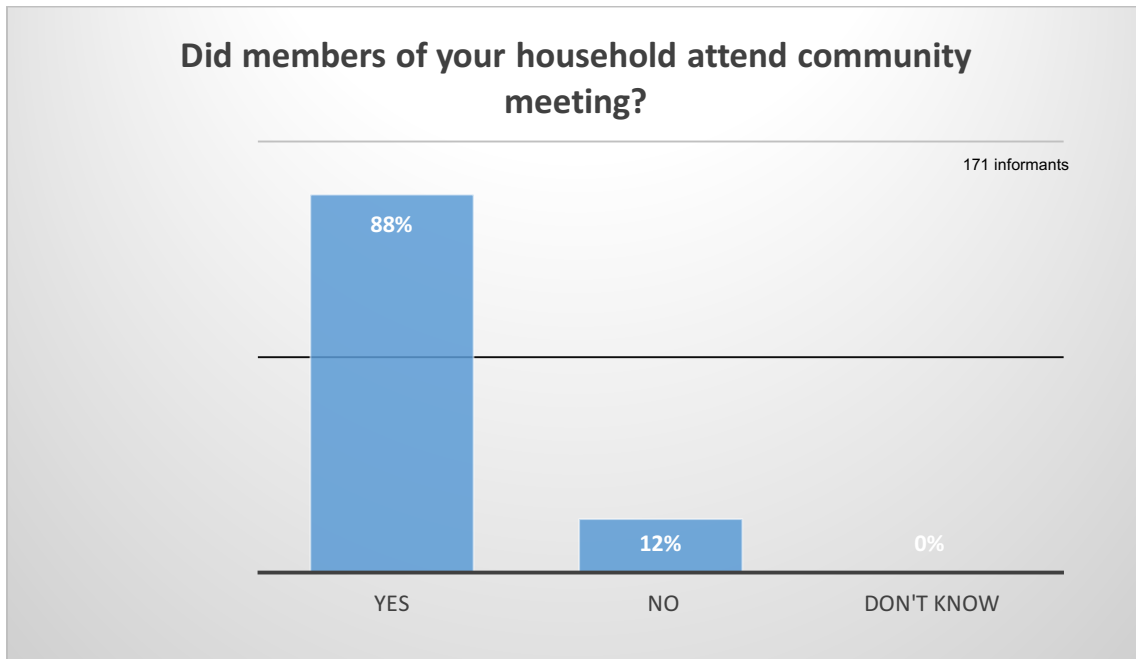


Figure 22 Community meeting attendance

4.10 Literacy status and radio availability

Concerning their literacy status 76% of the respondents are able to read easily, 11% they can read but with difficulty and 13 % don't know to read.

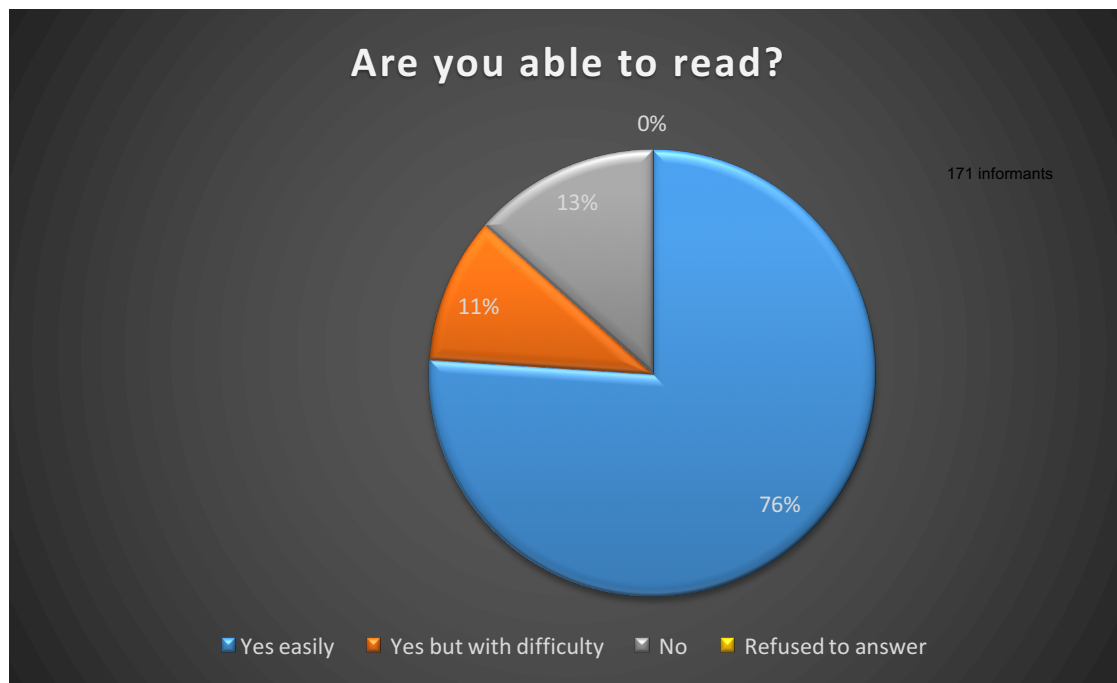


Figure 23 literacy status

From the respondents 94% do not have a functioning radio in their household and only 6% have.

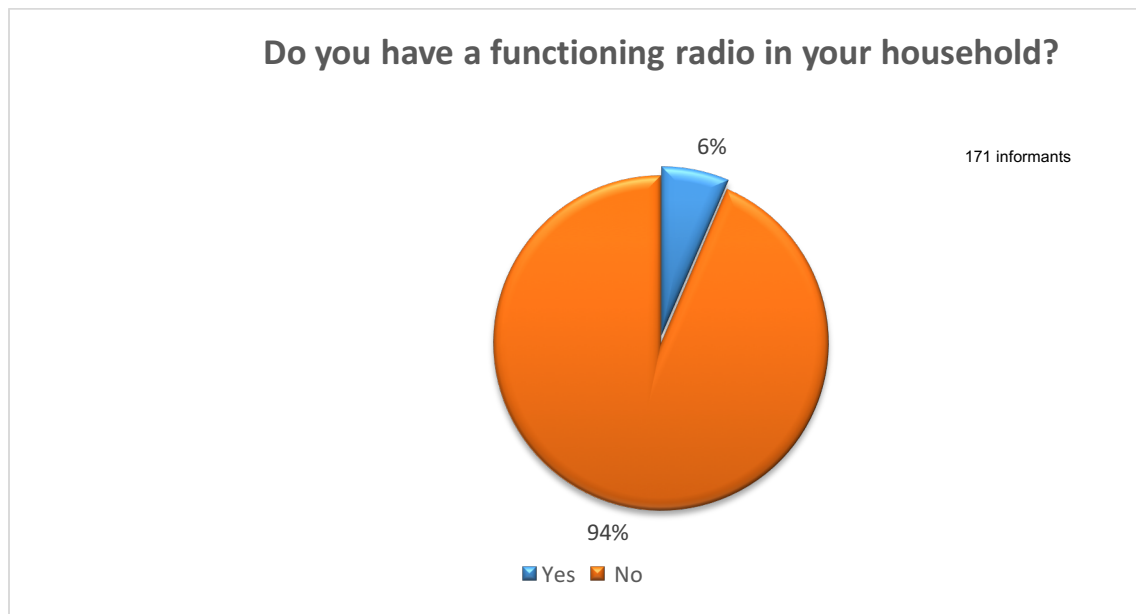


Figure 24 Availability of functioning radio in the household

4.11 Access to material distribution

In the past month 57% do received and 43% do not received materials like soap, ORS(oral rehydration salts), jerry cans, basins, sanitary pads, hygiene kits, aqua tabs, etc.

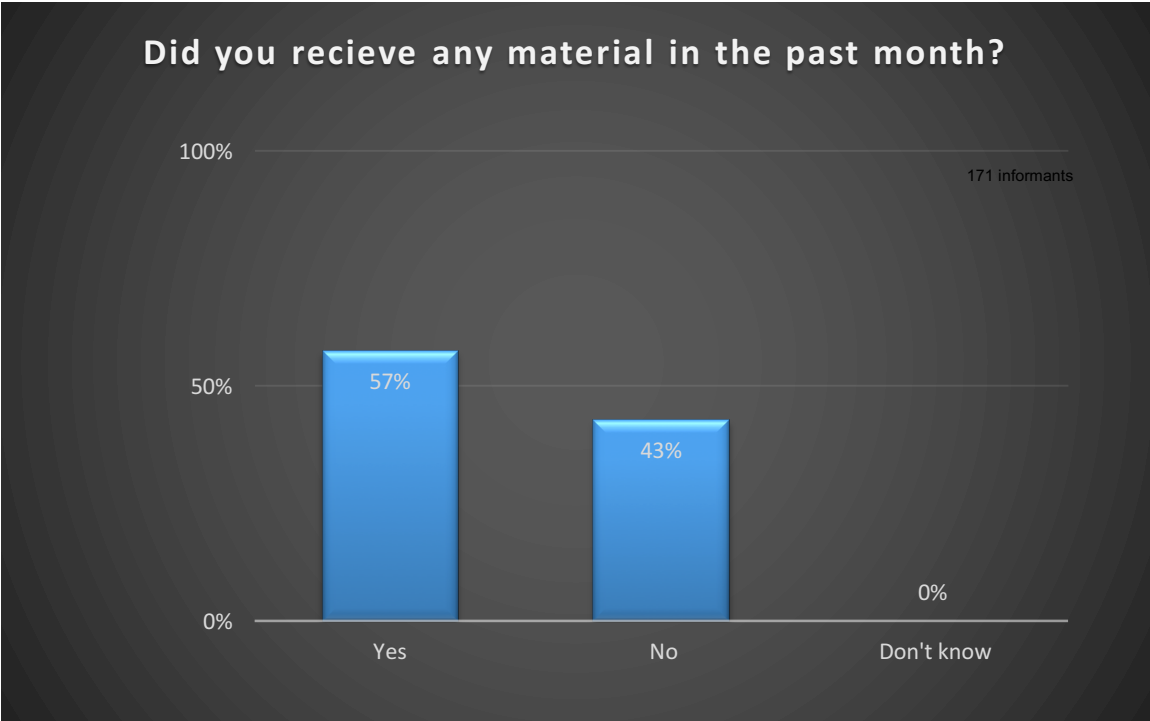


Figure 25 did you receive any materials in the past month?

CHAPTER FIVE

5 Discussion:

In this study efforts have been made to assess KPC of the refugee community on water, sanitation, and hygiene promotion. This study showed that average water consumption were 11.8 l/p/d and the previous KPC Survey shows 9.6 l/p/d, but on last year KPC survey 98% members of the community were using an improved water source and current usage is 77%. As the survey shows tap stand is serving as the main source of water for 77% of the refugee community, whereas 3% uses hand pumps, 1% spring, 18% hand dug well and 2% surface water, this is due to that one BH named BH#2 is closed due to excessive iron, manganese and alkalinity contents. However the complaints of both reasons increased in this year survey, on the current water supply for household needs 39% of respondents are satisfied and the remaining 69% are not and special attention is needed to overcome the issue.

As 85% of respondents gave a reason of shortage of water for not collecting enough amount of water for household consumption, it shows the seriousness of the problem regarding to water.

30% of the HHs cleaned drinking water containers every time they use it and 64% at least once a week, although it was 84% in 2016 survey which shows water container cleaning practice is improving.

On the practice of safe excreta disposal 6% of under five children and 13% more than five years of age group of the HHs defecating on open field (it was 11% in 2016), it shows there is an increment on improper latrine usage which resulted from 38% of latrines surveyed are full . For 46% adult members of the household sometimes defecate in the bush during night time, so hygiene message dissemination and maintenance of latrine is needed to tackle the problem.

On the other hand, the amount of diarrheal disease occurrence it ranges from zero up to two in both age groups. This implies that there is a need to achieve behavioral change and improve practice of the community on hand washing, latrine usage, solid waste and safe water management.

On solid waste management part the percentage of refugee community disposes household wastes in communal pit are 74% which shows good status but increasing the amount of final solid waste disposal pit and method of collecting solid waste at household level to be focused.

Knowledge on hand washing at least at three moments is still on the same percentage (100%) with previous year survey result which is excellent and needs to keep it up with practice side by side.

CHAPTER SIX

6 Conclusion and Recommendation:

6.1 Conclusion

In general the study revealed that the gravity of the identified problems, which focuses on latrine, water , hand washing practice, solid waste management and the risk of diarrhea disease.

- There is no standard average per capita water in the camp, most of the HHs is collecting much less than the standard and also using water from unimproved/unprotected sources. Which shows that there is high shortage of water for drinking as well as for other activities. This affects all the hygiene promotion part related to water like the practice of hand washing, proper latrine use, container cleaning and personal hygiene which leads to a high transmission of hygiene related diseases.
- The study showed that still significant percentage of the HHs defecating in the open field and also some percentage of the respondents leave children feces as where it is; this indicates that, there is a risk of cross contamination due to those who are using open field for defecation.
- Hand washing at three or more of the five critical times: the number of the respondents reported washing their hands at the critical times is remarkable, the message on critical times of proper hand washing has to be continued to keep their awareness and also in having separate hand washing facility to be improved.

6.2 Recommendations:

Based on the result the study IRC has recommended the following:

- Having enough amount of potable water as per standard should be prioritized because it leads the beneficiaries to use untreated water source for consumption and personal hygiene which leads to higher risk of contamination.
- Construction and maintenance of sanitation facilities like latrine, shower rooms, washing basins, abattoir (for Muslims), final solid waste disposal pits and hand washing facilities in different areas need to be focused.
- IEC/BCC materials on good hygiene practice need to be produced distributed to hygiene promoters (EHAs) and household care takers to the knowledge of the community on proper hand washing, safe water handling, solid waste management and proper usage of latrine.
- Provision of potties for the families who have under five children to minimize improper disposal of feces.

Annex 1

Table 3 Main outcomes of the analysis with result

INDICATORS	Result of KPC 2017
Percent of HHs collecting drinking water from protected/treated sources	77%
Average liters per person per day collected at HH level	11.8
Percent of HHs with at least 10L/p potable water storage capacity	38.6%
Percent of HHs with shared –family latrine/toilet	21%
Percent of HHs with household/Family latrine/toilet	74%
Percent of HHs with household or shared/Family latrine/toilet	95%
Percent of HHs reporting defecating in a toilet/latrine	93.6%
Percent of HHs with access to soap	95.9%
Percent of HHs with access to solid waste disposal facility	98.8%
Percent of HHs with access to specific hand washing device	60.8%
Percent of respondents knowing at least 3 critical moments when to wash hands	100%
Percent of HHs practicing open defecation in the bush at night	50.3%
Percent of HHs having access to a bathing facility	71.3%