



IHO

*Impact Health
Organisation*

**CHOLERA RESPONSE IN TONG PING
END OF PROJECT EVALUATION
REPORT
OCTOBER 2016**

TABLE OF CONTENT

Acronyms	2
Executive summary.....	4
1. Introduction.....	6
2. Justification.....	7
3. Methodology.....	8
4. Results and discussion	10
5. Conclusion	15
6. Recommendations.....	16
7. Annex 1: cholera response poroject end of project baseline survey house hold questionniare	17

List of Figures

Figure 1: source of drinking of water	11
Figure 2: The main methods used for water treatment	12
Figure 3: sickness experienced in the Last 2 weeks	14

List of Table

Table 1 Age of respondents.....	10
Table 2: Level of education	11
Table 3: Time taken since water was treated to the time of the survey	12
Table 4: Chlorine level at time of the survey	13

ACRONYMS

HWTS	Household water treatment and safe storage
IEC	Information Education Communication
IHO	Impact Health Organization
MOH	Ministry of Health
NFI	Non Food Items
ORS	Oral Rehydration Salts
RSS	Republic of south Sudan
WASH	Water Sanitation Hygiene
WHO	World Health Organization

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EXECUTIVE SUMMARY

The burden of diarrheal diseases is largely borne by developing countries and continues to drain important resources from already impoverished economies. Epidemic cholera remains a persistent, intractable problem in many developing countries, with cholera-related morbidity and mortality rates in sub-Saharan Africa exceeding other regions. Until safe, reliable, piped in water is available to every household, interim measures, such as household water treatment and safe storage (HWTS) to prevent contamination during collection, transport and use in the home, are needed to reduce the burden of diarrhoeal disease.

While a growing body of evidence demonstrates that the use of HWTS methods improves the microbial quality of household drinking-water and reduces the burden of diarrhoeal disease in users, there is also increasing evidence that inconsistent and/or incorrect use may be a major challenge in realizing the full potential from HWTS. In order to develop effective mechanisms to encourage and sustain correct use of HWTS, there is a need to monitor and evaluate uptake.

The 2016 cholera outbreak in South Sudan was declared by the RSS MOH on 17th July 2016. Jubek state where IHO responded with cholera prevention and control interventions. Among the activities undertaken include undertaken include: Trained 40 hygiene promoters, Conducted house to house reach by the hygiene promoters, Conducted public awareness in hot spot areas and schools, Distributed WASH NFI in vulnerable households, Distributed ORS to households with diarrhea cases and Distributed IEC materials

When the project came to the end, IHO undertook an end line survey to ascertain the following objectives (i) Review the effectiveness of the response in meeting the planned outputs (i.e. knowledge on water purification, knowledge and practices on safe waste management and disposal knowledge on diarrheal diseases management Practices, hygienic practices etc.) and (ii) provide a means of identifying success, challenges, lessons learned from the operation in order to inform recommendations for future operations, specifically those related to the cholera. The findings from the survey revealed that; majority of the respondents interviewed were female 233 (68.1%) and the mean age was 35.8922. Most of the respondents (258) 75.7% reported to have attended school. Majority of the respondents 98.8% had drinking water in the household at the time of the survey of which household (256) 76% had sourced their drinking from water tankers. Most households 95.8% had received water treatment supplies from any source in the past two months and

287 households (90.8%) mentioned they did something to make water safe for drinking. Most households use chlorine tabs 73.1% to make water safe for drinking. More than half of the households (180) 59.7% had chlorine level between 0.1 and 3.0.

For those household who treat drinking water, 53.5% agreed and 38.5% strongly agreed that other members in the household know how to treat water. This is because Majority of the respondents 239 (86%) mentioned to treat 20 liters water with 2 tablets of aqua tab/ packets of PUR and wait for 30 minutes. Majority of the household 89.1% have access to latrine with

76.5% having improved latrine and for those households with latrine only 2.1% reported not using the latrine. 61% of the household had member who had fallen sick in the last two weeks of which majority 54.3% suffered from Malaria and only 1.9% suffered from cholera and 12% from diarrhea. Majority of the respondents 94.1% reported to use soap and water while washing hands. Most of the respondents 99.7% reported to have heard about cholera and 88.6% sourced the information for preventing cholera through Hygiene promoters.

In recommendation, regarding water, focus should be placed on the quality of drinking water. As mentioned earlier, about 76% sourced their drinking from water tankers. This suggests that there is a need to improve access to safe water.

The fact that 10.9% of the 342 households do not have latrines poses the risk of common behavior of open defecation and indicates the need to be addressed on these sanitation issues.

I. INTRODUCTION

Epidemic cholera remains a persistent, intractable problem in many developing countries, with cholera-related morbidity and mortality rates in sub-Saharan Africa exceeding other regions until recently¹. The illness, caused by the toxigenic bacterium *Vibrio cholerae* serogroups O1 and O139, manifests as acute watery diarrhea, and can be rapidly fatal if not promptly treated. The disease is transmitted through the fecal-oral route primarily through contaminated water, and outbreaks occur most frequently in settings with poor water and sanitary infrastructure².

In the interim, immediate disease control and prevention efforts, especially in outbreak situations, focus on treatment (oral and intravenous rehydration, and antibiotics) and household-level safe water supply, sanitation, and hygiene promotion³.

The burden of diarrhoeal diseases is largely borne by developing countries and continues to drain important resources from already impoverished economies. Each year, an estimated 1.9 million deaths, primarily of children under five years of age, are caused by unsafe drinking-water and inadequate sanitation and hygiene⁴.

The accumulated burden of repeated diarrhoeal diseases also results in decreased food intake and nutrient absorption, malnutrition, reduced resistance to infection and impaired physical growth and cognitive development⁵. The World Health Organization (WHO) estimates that improving water, sanitation and hygiene (WASH) could prevent approximately 9.1% of the global burden of disease and 6.3% of all deaths.

A growing body of evidence demonstrates that the use of household water treatment methods improves the microbial quality of household water and reduces the burden of diarrhoeal disease in users⁶. Based on this evidence, HWTS has been recommended in the WHO *Guidelines for Drinking-water Quality* (GDWq): “Household water treatment approaches have the potential to have rapid and significant positive health impacts in situations where piped water systems are not possible and where people rely on source water that may be contaminated or where stored water becomes contaminated because of unhygienic handling during transport or in the home”⁷

The 2016 cholera outbreak in South Sudan was declared by the RSS MOH on 17th July 2016. Jubek state where IHO responded with cholera prevention and control interventions. The

¹ Gaffga NH, Tauxe RV, Mintz ED. Cholera: a new homeland in Africa? *Am J Trop Med Hyg* 2007; 77:705–13.

² Menon M, Mintz E, Tauxe R. Cholera. In: Brachman P, Abrutyn E, eds. *Bacterial infections of humans* (4th edition). 4th ed. New York: Springer Science, 2009:249–72.

³ WHO Global Taskforce on Cholera Control. *Cholera outbreak: assessing the outbreak response and improving preparedness*. Geneva:World Health Organization, 2004.

⁴ *Global estimates of environmental burden of disease (2004 data)*. Geneva, Switzerland, World Health Organization (http://www.who.int/quantifying_ehimpacts/global/envrf2004/en/index.html)

⁵ *Malnutrition, cell-mediated immune deficiency, and diarrhea: a community based longitudinal study in rural Bangladeshi children*. *American Journal of Epidemiology*, 137(3):355–365

⁶ *Water, sanitation, and hygiene interventions to reduce diarrhoea in less developed countries: a systematic review and meta-analysis*. *Lancet Infectious Diseases*, 5(1):42–52

⁷ *Guidelines for drinking-water quality*, 4th ed. Geneva, Switzerland, World Health Organization (http://whqlibdoc.who.int/publications/2011/9789241548151_eng.pdf)

outbreak recorded a total 1885 infected from 7 different state that is Western Bieh, Northern LiechS, Eastern Lakes , Imatong, Jonglei, jubek and terrekeka state with 14 deaths ⁸.

In Juba town, the population's main source of water supply is the river Nile where communities receive water through water tankers. There is no public water supply system leaving people in the rural areas to rely on unsafe water sources. Moreover, access to latrines is also low which, when combined with poor hygiene practices, results in conditions that enable for the spread of diarrhoeal diseases such as cholera.

Following the outbreak IHO received both financial and technical support from IHO and responded by scaling up hygiene promotion in Tong ping and surrounding areas. Among the activities undertaken include:

- 1) Trained 40 hygiene promoters
- 2) Conducted house to house reach by the hygiene promoters
- 3) Conducted public awareness in hot spot areas and schools
- 4) Distributed WASH NFI in vulnerable households
- 5) Distributed ORS to households with diarrhea cases
- 6) Distributed IEC materials

The activities targeted schools, churches, mosques etc., individual households, eating places, food vendors and handlers, and the general public. The main objective of the intervention was improve hygiene practices among most vulnerable communities affected by cholera outbreak or in risk of cholera, in Juba County, Jubek State, South Sudan.

Following the completion of the project interventions IHO would like to establish the impact of the project and establish a baseline on what will do differently in future to improve on aspects of early warning and emergency response preparedness.

1.1. Objectives for the study

The objectives of the survey were:

- Review the effectiveness of the response in meeting the planned outputs (i.e . knowledge on water purification, knowledge and practices on safe waste management and disposal knowledge on diarrheal diseases management Practices, hygienic practices etc.)
- Provide a means of identifying success, challenges, lessons learned from the operation in order to inform recommendations for future operations, specifically those related to the cholera.

2. JUSTIFICATION

Studies show that cholera can exist anywhere in the world. Many who drink untreated water and live in areas of poor sanitation are at risk. Studies also show that cholera can emerge where it is least expected⁹. The risk for recurrent cholera and other major waterborne diseases

⁸ Situation Report #85 on Cholera in South Sudan as at 23:59 Hours, 9 October 2016

⁹ 8. Tauxe RV, Seminario L, Tapia R, Libel M The Latin American epidemic. In: Wachsmuth I, Blake P, Olsvik O, editors. *Vibrio cholerae and cholera: molecular to global perspectives*. Washington: American Society for Microbiology Press; 1994. p. 321–44

remains high therefore safe water and hand washing practices should be integrated into household and community settings¹⁰. This has also been emphasized by the sustainable development goals.

Therefore there is a need to establish the impact of the project in preventing and control cholera outbreak in TongPing area in order to establish a baseline and strategies to prevent future outbreaks.

3. METHODOLOGY

3.1 Study area

The study shall be carried out at Juba-na-bari, and Hai Ghabat areas of Juba Town. These two locations have been target both for hygiene promotion and NFI distribution.

3.2 Study Design

This study will be a cross-sectional design. The design is chosen since it is meant to identify changes in knowledge, attitudes, and practices regarding Water, Sanitation and hygiene in the intervention areas. Hence an exploration survey will be conducted to identify the households to be sampled. A simple random sampling method will be employed to select the households to be involved in the study.

3.3 Study population

The study population will be all households that benefited from household level hygiene promotion and also received some WASH Non-Food-Items (NFIs). The study will target any household member above the age of 18 who receive both hygiene awareness and use of water treatment agents.

3.4 Inclusion and exclusion criteria

Households included in the study will be those that have members who have benefited from the hygiene awareness and WASH NFI distribution and households who received on hygiene awareness will be excluded from the survey.

3.5 Sample size determination

In this study, the sample size was determined using the formula by Fisher et al., (1998). For population above 10,000

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

Where n= minimum sample size,

z= confidence interval ≈ 95% or 1.96,

p= 66.7% of the household who received water treatment agent out of the total household reached with hygiene promotion

¹⁰ Tauxe R, Quick R, Mintz E Safer water, cleaner hands and safer foods: disease prevention strategies that start with clean water at the point of use. In: Choffnes MA, editor. Global issues in water, sanitation, and health: workshop summary. Forum on microbial threats; Institute of Medicine. Washington: National Academies Press; 2009. p. 73–94.

d= allowable degree of error \approx 5% or 0.05.

$$n = \frac{(1.96)^2 * 0.667 (1-0.667)}{0.05^2} \quad \text{sample size} = 341 \text{ households}$$

32.6 case water from hand pump

$0.84409/0.0025 = 337.63$

3.8416×1

3.6 Sampling Procedure

Juba na Bari and Hai Ghaabat areas were purposively selected. And during the selection of the sample systematic sampling will be employed.

Sampling interval = N/n

Where N= sampling frame (Total number who received both hygiene promotion and WASH NFI distribution)

n = sample size

$= 3439/341 = 10$ (sample interval)

3.7 Validity and reliability

To ensure validity and reliability, households for the survey are selected randomly; the structured questionnaire will be kept simple and the data collectors will be trained on how to ask questions, record responses; and also on how to exhibit a good moral conduct aimed at enabling them to create rapport with respondents so as to get the information required.

2.8 Data collection techniques

Data will be obtained through interviewing using a semi-structured questionnaire and chlorine Pool testers.

3.9 Data processing and analysis

The data from the semi-structured questionnaires will be analyzed using Epi Info to generate frequencies, percentages, averages and other statistical parameters.

3.10 Ethic consideration

Every questionnaire will bare a confidentiality statement and an option whether the respondent agrees to or not to participate in the study.

4. RESULTS AND DISCUSSION

4.0 Demographic Data

4.1.1 Sex of respondent

Majority of the respondents interviewed were female 233 (68.1%) and only 109 men (31.9%) were male.

4.1.2 Age of respondents

Table I Age of respondents

Age group	Percentage
14-19	1.20%
20-24	6.60%
25-29	21.90%
30-34	17.70%
35-39	17.70%
40-44	14.40%
45-49	10.80%
50-54	4.20%
55-59	2.40%
60-64	2.10%
65-69	0.60%
70-74	0.60%

Majority of the respondents were aged between 35-29 years. The mean age was 35.8922.

4.1.3 School attendance

Most of the respondents (258) 75.7% reported to have attended school and only 24.3% had not attended school with majority 46.1% attained school level.

Table 2: Level of education

Class Level	Percent
Nursery	1.90%
Primary	31.00%
Secondary	46.10%
Tertiary Institution	7.00%
University	14.00%
Total	100.00%

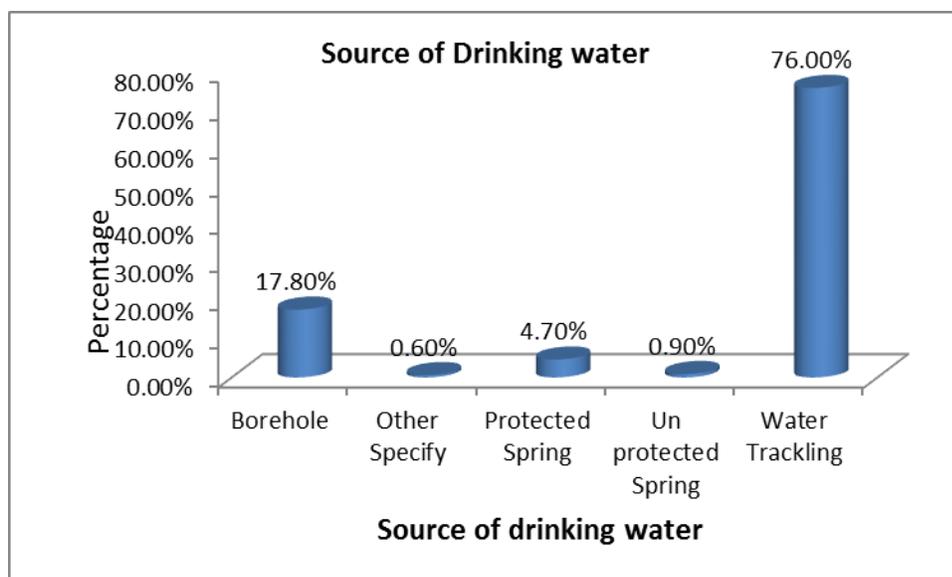
Majority of the respondents 69.9% can read and write and on 30.1% cannot read and write. Levels of education have been linked by studies to improved health and improved health seeking behavior¹¹

4.2.0 WATER

4.2.1 Household able to treat and store their water properly

Majority of the respondents 98.8% had drinking water in the household at the time of the survey

Figure 1: source of drinking of water



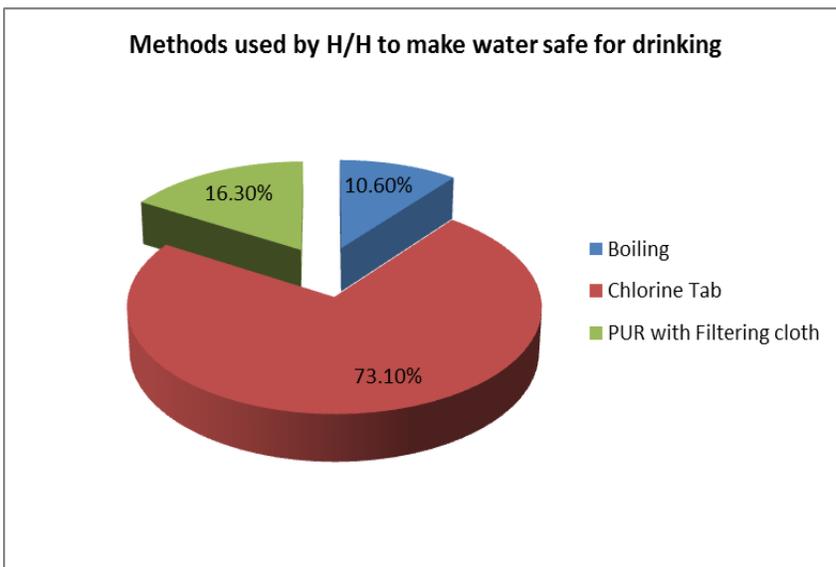
¹¹ <https://www.globalpartnership.org/education>

Majority of the households (256) 76% had sourced their drinking from water tankers. For those households who had drinking water during the time of the survey 334 (99.4%) had drinking water stored in a covered container mostly 39.5% Jeri can, 25.5% bucket with lid, 26% pot, 8.5% bucket with tap .

4.2.2 Household treating their drinking water

Most of the households 287(90.8%) had received water treatment supplies from any source in the past two months and 95.8% mentioned they did something to make water safe for drinking. This finding ascertains the distribution of water treatment supplies by IHO during the project intervention.

Figure 2: The main methods used for water treatment



Most households preferred using 73.1% chlorine tabs to make water safe for drinking, 16.3% preferred PUR with filtering cloth and 10.6% preferred boiling.

Table 3: Time taken since water was treated to the time of the survey

Hours of water treatment to the time of survey	Frequency	Percent
0-9	152	54.40%
10-19	56	20.20%
20-29	59	21.40%
30-39	12	4.40%

At the time of survey majority of the households 54.4% had treated their water between 0 and 9 hours

Table 4: Chlorine level at time of the survey

Chlorine level	Frequency	Percent
0	91	33.00%
0.1	36	13.00%
0.3	5	1.80%
0.5	20	7.20%
1	32	11.60%
1.5	58	21.00%
2	12	4.30%
2.1	1	0.40%
2.5	1	0.40%
3	15	7.2 0%
Total	276	100.00%

Most of the households (91) 33.0% had the chlorine level at zero and (180) 59.7% had chlorine level between 0.1-3.0. This is a good indication that people were actually treating their water. In 2003, an external survey of 200 households in the pilot project documented high uptake of HWTS. FCR was detected in 68% of households surveyed, and there was a 98.8% to greater than 99.9% reduction in faecal indicator bacteria in treated drinking-water¹²

For those household who treat drinking water, 53.5% agreed and 38.5% strongly agreed that other members in the household know how to treat water. This is because Majority of the respondents 239 (86%) mentioned to treat 20 liters water with 2 tablets of Aquatab/ packets of PUR and wait for 30 minutes

More than half of the respondents 61.9% again greed and 33.7% strongly agreed that they are confident when treating their water at home and 55.1% of the respondents reported that they encouraged by friends to treat their water.

A survey in Turkana, Kenya, where chlorine tablets and flocculant/disinfectant sachets were distributed during an emergency response programme, sought to assess knowledge of correct

¹² *Evaluation of the Safe Water System in Jolivert Haiti by bacteriological testing and public health survey* [Master's thesis]. Cambridge, MA, USA, Massachusetts Institute of Technology.

use of HWTS. The evaluation indicated that knowledge after a single training session was high (>90%) if the product was simple to use (having two steps, like the tablets)¹³.

4.3.0 SANITATION AND HYGIENE

4.3.1 People are using the latrines

Majority of the household 89.1% have access to latrine with 76.5% having improved latrine and 23.5% with unimproved latrine and 10.9% do not have access to a functional latrine.

For those households with latrine only 2.1% reported not using the latrine, with 52.6% feeling it was not safe, 13.3 lack of privacy, 5.3% did not want to answer, 15.8% latrine too dirty.

For those who did haven't latrine when asked where household members easy themselves 69.2% CAT method (dig & cover), 20.5% Defecate in a designated place 5.1% open field/bush and 5.1% other.

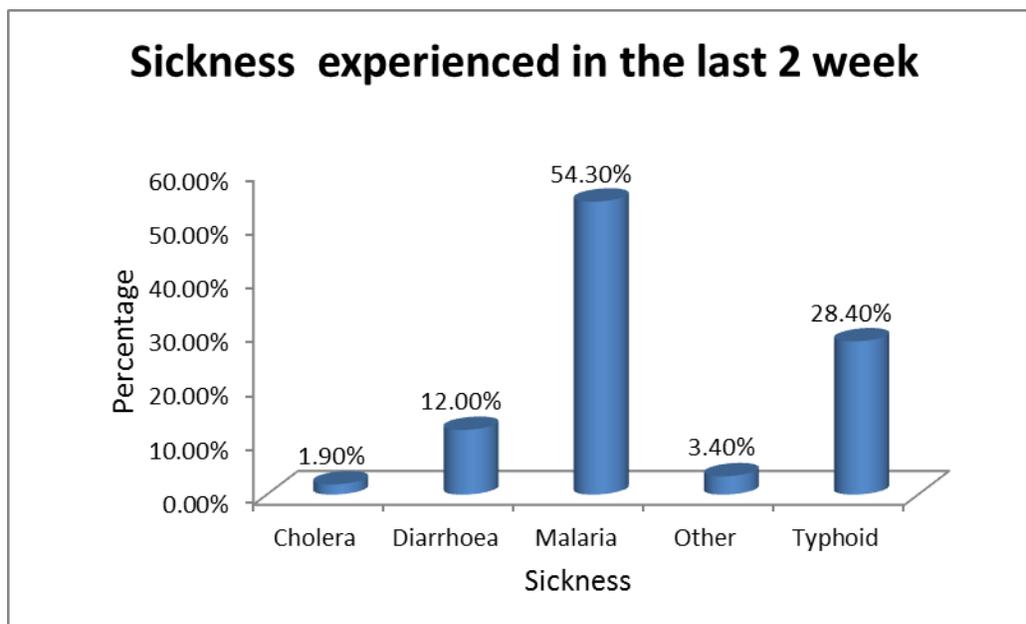
When asked where the faecal matter from children and chronically ill members of the family are deposited 74.2% mentioned pit latrine, and 16.5% CAT method (dig hole, defecate and cover), Open fields/bush 0.6% and 8.7% designated place.

Majority of the households 78.2% had hand washing facility next to the household latrine only 21.8% had no hand washing facility.

4.3.2 Less people suffered from cholera and diarrhea compared to other diseases

The survey revealed that 61% of households had a household member who had fallen sick in the last two weeks and only 38.3% had no sick member.

Figure 3: sickness experienced in the Last 2 weeks



¹³ Lantagne D, Clasen T (2009). Point of use water treatment in emergency response. London, England, London School of Hygiene and Tropical Medicine

However, majority of the respondents 54.3% had suffered from Malaria, 28.4% from typhoid and only 1.9% suffered from cholera and 12% from diarrhea. This is a good finding following an intervention targeting the prevention and control of cholera.

4.3.3 People washing hands with clean water and soap

Majority of the respondents 94.1% reported to use soap and water while washing hands and 94.3% reported availability of soap in the household and out of the households who reported availability of soap 94.4% was observed and 5.6% soap was not observed.

Respondents were asked when they was their washing hands and majority 77.6% after using the toilet, 50.1% after eating, 44.9% before cooking, 33.8% after cleaning baby diapers/baby stools, 56.3% before eating.

4.4.0. INFORMATION

4.4.1 People accessed cholera information

Most of the respondents 99.7% reported to have heard about cholera and when asked to mention the causes of cholera, 60.3% reported drinking bad water, 47.8% Eating bad food, 39.1% Unwashed fruits/vegetables, 40.8% Flies/insects and 63.3% Poor hygiene/not washing hands. The respondents were able to relate with the symptoms of cholera as 82.2% associated with vomiting, 69.4% Watery diarrhea, 24.5% Dehydration and only 2.0% reported fever.

When asked to mention ways to prevent cholera, 74.1% of the respondents mentioned wash hands with soap and water, 51.9% Cook food thoroughly, 45.8% Wash vegetables/fruits, 53.9% Dispose of human waste properly, 32.1% Boil water before drinking, 23.0% Clean cooking utensils/vessels, 31.2% Treat water with chlorine products, 35.6% Cover food to keep away from flies and 12.0% Cholera vaccine.

When asked how they think one could treat cholera, 78.1% of the respondents mentioned go to cholera treatment center (CTC) go to clinic/hospital 8.7%, 51.3% use oral rehydration solution/sugar-salt solution and None of the respondent mentioned could go to a traditional healer or use local remedy.

Majority of the respondents 99.7% reported to have received messages promoting cholera prevention and control in the past 2months and the main source of information was Hygiene promoter 88.6%, followed by radio 54.8%, Text messaging 24.8% Clinician/healthcare worker 11.7%, Community meeting 7.9%, IEC material 7.9%, Neighbor/friend 6.1%, Family member 5.8% and Religious leader 4.1%.

5. CONCLUSION

In conclusion, the survey results show that improved community efforts to prevent and control cholera outbreaks, people are treating their water, majority are using latrine as well as practicing hand washing. This is an indication that people are practicing safe behaviors that have contributed to control of the outbreak in the intervention location.

Most of the respondents reported sourcing information from hygiene promoters is a good indication of the impact of hygiene promotion at household level through hygiene indicators. However, Most of the households 76% sourcing their drinking from water tankers possess a great risk to un safe water as most tankers source their water from the river.

In conclusion, the project activities contributed greatly towards the control of the cholera outbreak. However, more efforts are needed to ensure that households access latrines, treat drinking water and practice hand washing. If these factors are not properly and consistently addressed more cholera outbreaks in the intervention could not be avoided.

6. RECOMMENDATIONS

Regarding water, focus should be placed on the quality of drinking water. As mentioned earlier, about 76% sourced their drinking from water tankers. This suggests that there is a need to improve access to safe water.

The fact that 10.9% of the 342 households do not have latrines poses the risk of common behavior of open defecation and indicates the need to be addressed on these sanitation issues.

Recommendation for further research

Given the short time frame for this brief study, more researched is need at household water treatment to establish the fecal coliform in treated water.

7. ANNEXI: CHOLERA RESPONSE POROJECT END OF PROJECT BASELINE SURVEY HOUSE HOLD QUESTIONNIARE

Good morning/Afternoon. My Name is _____ I work for local for local NGO called Impact Health Organization (IHO). We have been responding in your area on cholera outbreak prevention and control. After the intervention we are assessing the impact of the project in your community. Our team will interview approximately 300 households in this area. Your local leaders have granted us permission to conduct this study, and your house has been randomly selected to participate. I will ask you questions about sanitation and hygiene practices as well as drinking-water and collect a sample of your water. The interview will take approximately 30 minutes. No one except me will know that it was you who answered these questions.

Would you like to participate? Yes No > End Interview

Household Number

Interviewer:

Date

Start Time

End Time

Location

HOUSEHOLD DEMOGRAPHICS

1. Sex of respondent Male Female
2. How old are you? _____years
3. Did you go to school? Yes No [go to Qn 5]
4. Which class did you stop Nursery, Primary secondary, tertiary Institution University [go to Qn 6]
5. Can you read and write Yes No

HOUSEHOLD WATER SUPPLY AND TREATMENT

6. Do you have drinking water in your household? Yes collect sample No skip >Qn 21
7. What source did this water come from? Borehole Protected spring Un protected spring Water vendor (Trucking) Others specify _____
8. Observe: Is the container covered/closed? Yes No
9. Observe: is the container clean? Yes No

10. Observe: What container is used for drinking-water? Bucket with lid Jeri can
 Bucket with tap pot Other: _____

11. Did you do anything to make the water safer to drink? Yes No [go to Q21]

12. How did you make this water safer to drink?

Boiling Chlorine tablet PUR and filter cloth Other specify

13. How many hours ago was it treated? _____ hours

If chlorine, test for free chlorine residual:

14. Chlorine level _____ mg/l

If chlorine, Can you describe how you use the chlorine (Aqua tab and PUR)?

15. Add tablet/Packets _____> Prompt: Number tablets/Packets: _____

16. To water in container _____> Prompt: volume water added to: _____

17. Wait to drink Prompt: _____> Time wait: _____

Can you state if you strongly agree, agree, disagree or strongly disagree with the following statements?

18. Others I know also treat their water at home

Strongly agree Agree Disagree Strongly disagree Don't know

19. I am confident I can treat my water at home.

Strongly agree Agree Disagree Strongly disagree Don't know

20. My friends encourage me to treat water

Strongly agree Agree Disagree Strongly disagree Don't know

SANITATION

21. Does your household have access to a functional latrine? Yes No

22. if yes, observe: Improved Not improved

23. If yes, do you use the latrine? Yes No I don't want to answer

24. What is the main reason why you don't use a latrine? (**Only one response**)

Too far Lack of privacy Too dirty It is not safe I prefer other options don't want to answer Others _____

25. If you don't use a latrine, where do you and the family members go to ease them CAT method (dig & cover) Open field/bush Defecate in a designated place other (specify) _____

26. How do you dispose faecal matter from children and chronically ill members of the family?

CAT method (dig hole, defecate and cover) Open fields/bush Pit latrine Defecate in a designated place and able members take it to either the latrine or nearby bush Others (Specify).....

27. Does your household have a hand washing facility at your household latrine? Yes No

If yes, observe: Available Not available

HYGIENE

28. Did you or member of your household fall sick in the last 3 months

Yes No

29. What sickness did you experience in the last 3 months? (tick all that applies)

Diarrhoea Typhoid Malaria Cholera Other _____

30. What do you most commonly use to wash your hands? Select one answer

water only Soap and water Ash Sand Others

31. Do you have soap in your household?

yes No if yes, observe: Present Not present

After using the toilet Before eating After eating Before cooking After washing/cleaning tables After cleaning baby diapers/baby stools After cleaning the home

Other, specify _____

CHOLERA INFORMATION AND EXPOSURE TO HEALTH COMMUNICATION MESSAGES/WASH INTERVENTIONS

32. Have you ever heard about cholera? Yes No (Skip to question 20) Don't know (Skip to question 20)

What causes cholera? (Do not read. Check for all that are mentioned) Drinking bad water

Eating bad food

Unwashed fruits/vegetables Flies/insects Poor hygiene/not washing hands Other:--

Don't know

33. What symptoms are associated with cholera? Check for all that are mentioned) Fever

Vomiting Watery diarrhea Stomach/abdominal pain Bloody diarrhea

Dehydration Other Don't know

34. How can you prevent you or your family members from becoming ill with cholera? (Check for all that are mentioned)

Wash hands with soap and water Cook food thoroughly Wash vegetables/fruits

Dispose of human waste properly Boil water before drinking Clean cooking utensils/vessels

Treat water with chlorine products Cover food to keep away from flies

Cholera vaccine Cannot prevent Don't know Other

48. How would you treat cholera for yourself or family members?

Go to cholera treatment center (CTC) Go to clinic/hospital Use oral rehydration solution/sugar-salt solution

Go to a traditional healer Home remedy: Specify

Do not treat Don't know

35. If GO TO CTC/ CLINIC/HOSPITAL: To which CTC/ clinic/hospital would you go?

Name of CTC/clinic/hospital: _____

36. In the past 2 months, have you heard about preventing and treating cholera?

Yes No Don't know

37. If YES: 49) From whom or from what have you heard about preventing and treating cholera? Check for all that are mentioned) Family member Neighbor/friend

Clinician/healthcare worker Radio Text messaging Community meeting

Hygiene promoter Religious leader IEC material

Other _____

Impact Health Organization
Juba, South Sudan
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