COMMUNITY ASSESSMENT ON WATER, HYGIENE AND SANITATION IN RESPONSE TO CHOLERA OUTBREAK IN RUSIZI AND NYAMASHEKE DISTRICTS, RWANDA 2015

Summary of findings

Background

Cholera is an acute diarrheal infection caused by ingestion of food or water contaminated with the bacterium Vibrio cholera type O1 or O139. Every year, there are roughly 1.4 to 4.3 million cases, and 28 000 to 142 000 deaths per year worldwide due to cholera. Drinking water has been reported as the major source of microbial pathogens in developing regions. In the African Region, between January - July 2015, a total of 28 483 cholera cases including 444 deaths (CFR: 1.6%) were reported.

During July 2015, Rwanda Biomedical Center (RBC) received continuous alerts of suspected cases of cholera including one death from Mugonero DH in Karongi. In the past six years, Nyamasheke and Rusizi districts have accounted for 73% (10/15) of cholera outbreaks and 69% (183/265) of cholera cases reported in Rwanda. In order to gain a better understanding and guide the initiation or scale-up of appropriate interventions in the affected districts, this survey sought to determine the awareness and practices related to cholera as well as the status of water, sanitation and hygiene.

Methods

The rapid assessment was conducted in Western province in the two districts with recurrent cholera outbreaks, Nyamasheke and Rusizi. From 17th-25th August, a cross-sectional household based survey was conducted in the sectors that have recently experienced cholera outbreaks. Eleven villages recently affected with cholera were enrolled and another 11 geographically villages which had not reported cholera were randomly enrolled to allow comparison. A total of 458 households were randomly selected using probability proportionate to size from selected villages. A structured questionnaire was administered to the household head or an adult residing in the household. Data were collected on socio demographic and economic characteristics, on accessibility and availability of safe water, on hygiene and sanitation practices and on awareness on cholera. A descriptive analysis was performed.

Key findings

In total 458 were surveyed including 227 and 231 households enrolled from affected and unaffected villages respectively. The median age of respondent was 39 years old with interquartile range of 23 years old. The median number of people living in households was 5 people (IQR =3, range: 1-13) More than a half (59%) of household were in "Ubudehe"-category two. About 40% of respondents do not know how to write and read. About a third (33%) and less than a half (47%) had their main source of household income in unskilled labor and agriculture respectively. There were no statistically significant differences in the socio-demographic characteristics of the households from cholera affected and unaffected villages.

Overall 87.7% had access to safe water. At the time of the survey, the proportion of households using safe drinking water was higher in non-cholera affected villages than in affected (93% vs 82%, p-value, <0.001). Protected springs was the main water source for affected (45%) and unaffected (59%) villages. Nearly a third (31%)of households from affected villages rely on water from Ubudehe public water taps compared to less than a tenth(6%) of households from unaffected villages. Overall, about 8% of households reported Lake Kivu as their main source of water. Households that use unsafe water access it more easily in cholera affected villages than in unaffected village households. More than a third of the households (38%) walk for over 30 minutes to fetch safe water while 41% get the water at distances above 500m. Among the 56 households that reported using unsafe sources for drinking water, 54% and 44% in cholera affected and unaffected villages respectively indicated they do something to make it safer. No statistical difference was found when comparing proportions (73% vs. 68%) of households that had specific container dedicated only for drinking water in affected villages and unaffected villages.

A quarter of respondents from villages where cholera had been reported do not practice hand washing compared to a tenth of respondents from unaffected villages. Thirty percent of households surveyed had not soap at the moment of the survey.

Observational assessment shows that the majority of houses of respondents have roofing materials made of metal/iron sheets (87%), flooring made of earth (83%) and the walls made of mud (83%). No difference was observed in cholera affected compared to unaffected villages regarding the housing structures.

More than a half (58%) people use uncovered pit latrines for defecation. Most of the toilets were unclean (71%) and 6% do not have a toilet.
Even though, most respondents had heard about cholera, awareness on prevention measures was inadequate. Awareness on the appropriate community management measures was low. Almost 6% of the households had had a case of cholera in their households. Neighbor was the way the most reported from which the households got information about cholera outbreak. Less than half of the respondents had heard information about the appropriate prevention measures for cholera.

Conclusion

The assessment shows that there are weaknesses on practices regarding appropriate hygiene and sanitation. Access to safe drinking water is also a challenge resulting in a big proportion of households from cholera affected villages using the more readily accessible unsafe water. There is inadequate awareness on cholera in the areas of the survey. Although a high proportion of households had access to safe water especially Ubudehe and WASAC water taps, they mostly run dry.

Recommendations

MININFRA

- Ensure the availability and affordability of permanent safe water to the communities, especially those bordering the Lake Kivu.
- Provide water treatment commodities for the most vulnerable communities at risk of cholera who live along Lake Kivu,

MINALOC

- Institute community sensitization and education to sustainably:
    - Promote use of safe water and discourage use of unsafe water like lakes, rivers and unprotected springs
    - Enhance hygiene and sanitation in the community
    - Engage and involve local leaders and community health workers in community sensitization on cholera prevention and control.
    - Fast track the implementation of poverty eradication strategies

HEALTH DISTRICT

- Strengthen preparedness and response measures (including cholera surveillance) in the health facilities in the affected areas

- Enhance awareness on cholera (signs and symptoms, prevention and control measures)
- Develop a multi-sectoral cholera response plan to guide the initiation and implementation of sustainable cholera prevention and response measures in Rusizi and Nyamasheke

MININTER

- Initiate cross-border collaboration to strengthen cholera surveillance, preparedness and response among the communities with heavy cross-border movements and interactions especially in affected districts

ESR Division

- Conduct ecological study to determine the prevalence of vibrio cholera in water sources.

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