

Assessment of the Methods and Challenges in Risk Communication for Cholera Prevention in Rural Communities of Jalingo LGA

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ABSTRACT

This study assesses the effectiveness of social media, radio, and community meetings used in the dissemination of cholera information to rural populations, the primary challenges faced by health authorities in implementing effective risk communication strategies during cholera outbreaks and develops recommendations for sustainable risk communication strategies. Data were gathered via focus discussion groups (FDGs) with members of selected communities and key informant interviews (KIIs) with community health stakeholders from the governmental sector. The focus discussion groups assessed personal experiences and perceptions of social and economic obstacles, community attitudes, misinformation, communication methods and the impact of religious, traditional and community leaders. Key informant interviews offered insight into the challenges faced by healthcare workers in the implementation of effective risk communication strategies. The results organized into thematic categories show the obstacles faced by healthcare authorities in implementing effective risk communication strategies during cholera outbreaks such as: language barriers, shortage of trained personnel, poor infrastructure, competing priorities and sociocultural and religious beliefs. The study indicates that traditional and low-tech communication methods such as radio, town announcers, religious forums and community meetings remain the most effective tools in reaching and influencing rural populations and recommends a mix of communication channels to ensure broad coverage and building trust through government support. This study shows that a number of challenges such as language barriers, socioeconomic and religious beliefs affect the implementation and effectiveness of risk communication strategies; it highlights that radio is the most accessible means of communication in rural areas and recommends the development of communication strategies that respect linguistic diversity and cultural context to improve message acceptance.

Keywords: Challenges, Risk Communication, Cholera Prevention, Rural Communities, Outbreak, Endemic and Jalingo



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INTRODUCTION

Cholera is a gastrointestinal disease caused by *V. cholerae*. It remains a significant public health challenge worldwide, particularly in regions with inadequate water treatment and sanitation facilities. The World Health Organization (WHO) reports an estimated 1.3 to 4 million cases and 21,000 to 143,000 deaths annually due to cholera (WHO, 2021, Lypaczewski *et al.*, 2024). The disease is endemic in many countries and can lead to outbreaks, especially in humanitarian crises and areas affected by conflict. Recent research shows the impact of climate change on cholera outbreaks. Increased temperatures and extreme weather events contribute to the proliferation of *Vibrio cholerae*, making certain regions more susceptible (Baker-Austin *et al.*, 2017). Africa bears a significant burden of cholera, with numerous outbreaks reported each year. Countries such as the Democratic Republic of the Congo (DRC), Somalia, and Nigeria are among the most affected. Factors contributing to the high prevalence include poor sanitation, lack of access to clean drinking water, and inadequate health infrastructure. WHO reported over 20,000 cholera cases in Africa in 2022, with the Democratic Republic of Congo being the most affected, accounting for a significant portion of the cases (WHO, 2022). Efforts to combat cholera in Africa have included vaccination campaigns and improvements in water, sanitation, and hygiene (WASH) programs. However, challenges remain, particularly in conflict-affected areas such as these.

Nigeria is considered one of the most cholera-endemic countries in Africa, experiencing recurrent outbreaks. The 2021 cholera outbreak in Nigeria was particularly severe, with over 50,000 cases reported and thousands of deaths (Nigeria Centre for Disease Control, 2021). The major contributing factors are urbanization and poor sanitation, inadequate water supply and lack of proper healthcare infrastructure. The first documented case of an outbreak of cholera in Nigeria was in late 1970 with an estimated 22,931 cases and 2,945 deaths (Ujah *et al.*, 2015). Beyond this, Nigeria has continued to witness outbreaks of cholera of various proportions in several regions of the country until date. According to the WHO, cholera endemic population is that in which cholera has been confirmed from culture of faecal samples in at least three of the past 5 years (Clemens *et al.*, 2017). These vulnerabilities make these regions more susceptible to cholera outbreaks, as contaminated water sources and improper waste disposal facilitate the spread of the bacteria. Rural communities are often disproportionately affected due to their limited access to essential resources such as clean drinking water, sanitation facilities, and health education (World Health Organization WHO, 2023). In 2019, approximately 60 million Nigerians lacked access to basic drinking water, while 80 million had no improved sanitation facilities, and 167 million could not access basic hand washing facilities. In rural areas, 39% of households were without at least

basic water supply, only half had improved sanitation access, and nearly a third (29%) practiced open defecation (World Bank Group, 2021).

Reports from 2024 indicate that Jalingo experienced a cholera outbreak linked to poor sanitation and unsafe water sources, a recurring issue exacerbated by inadequate WASH facilities (Isukuru, *et al.*, 2024). The ongoing presence of cholera in this region highlights the urgent need for comprehensive public health strategies, particularly effective risk communication tailored to address the specific challenges faced by rural populations in preventing and managing the disease (Mwale *et al.*, 2025). Cultural beliefs and practices, misinformation and myths, health services accessibility challenges, healthcare worker gaps and financial burden are the major risk factors for the spread and outbreak of infectious disease in the State (Babylon *et al.*, 2025). The absence of appropriate risk communication channels and insufficient local preparedness and response mechanisms have perpetuated the cycle of cholera outbreaks. By identifying the root causes of these persistent outbreaks and assessing both the challenges and opportunities for effective risk communication, strategies can be designed and implemented that meet the unique needs of rural communities (Cholo *et al.*, 2025). Such strategies could play a crucial role in reducing the burden of cholera and other diseases within the region. This study aims to assess the challenges and opportunities in risk communication for cholera prevention in rural areas of Jalingo.

MATERIALS AND METHODS

A qualitative cross-sectional study was used to assess the methods and challenges in risk communication for cholera prevention across a select few rural communities in Jalingo. The use of a qualitative study brought about an in-depth understanding and insight on personal and communal experiences and beliefs, local narratives and institutional challenges that quantitative tools may not adequately present. The study sought to identify challenges and possible opportunities in the implementation of risk communication strategies in across Jalingo using communities at risk of cholera and communities that have been affected by cholera. Three communities were chosen to represent Jalingo's rural communities and they include: Domayo Sintali, Nassarawo, and Nyabunkaka. These communities were chosen due to their lack of proper basic Water Sanitation and Hygiene (WASH). They were also selected for this research to get better understanding of their personal experiences, attitudes, socioeconomic and cultural beliefs. The selected research population comprised of essential stakeholders with direct or indirect participation in the creation and implementation of risk communication strategies during cholera outbreaks and community members. The participants were community members of different age groups, community leaders,

healthcare practitioners, and community health workers from the governmental health agency. A randomized sample strategy was employed in communities to guarantee the inclusion of participants without bias and also a purposive selection was conducted in selecting governmental health workers capable of offering substantial, context specific insights regarding challenges faced in risk communication during cholera outbreaks.

Two qualitative research tools were used during data collection. Initially, Focus Group Discussions (FGDs) were conducted with members in each community to assess local opinions, beliefs, and experiences related to cholera, cholera prevention, and how they get information regarding cholera outbreaks. Each group comprised of 6 to 8 members and was facilitated via a semi-structured conversation interview guide. Secondly, Key Informant Interviews (KIIs) were conducted with health authorities and community leaders to obtain their insights on overwhelming structural, communicational, cultural, religious and socioeconomic-related obstacles and challenges related to cholera outbreak prevention in rural communities.

All focus group discussions and key informant interviews were audio-recorded with participants' consent and subsequently transcribed verbatim. Thematic content analysis was employed to examine the data.

Ethical considerations were followed strictly. All participants were informed about the purpose and procedures of the study, and both verbal and written consent were secured prior to participation. Confidentiality and anonymity were maintained throughout the research process, and participants were assured of their right to withdraw at any stage without any consequences.

RESULTS AND DISCUSSION

The research indicates that the effectiveness of communication channels used in cholera risk communication messaging vary significantly across different settings, reflecting disparities in access, cultural preferences, and infrastructural challenges. Among the various mediums assessed, radio emerged as the most widely cited and accessible tool (Tables 1-3). It being affordable, having a wider spread reach, and its ability to convey information in local languages makes it a vital instrument in disseminating cholera prevention messages. Social media, on the other hand, has limited impact in rural communities due to poor internet connectivity, low digital literacy, and high cost of data. While it remains a useful tool among younger and more urban populations, its overall reach and influence in high-risk, low-resource settings is minimal. In contrast, community meetings are highly effective, as they are often organized and led by trusted figures such as traditional and religious leaders. These forums facilitate interpersonal communication, promote dialogue, and increase community ownership of

health interventions. People are generally more receptive to health messages delivered through familiar, face-to-face interactions (Tables 1-3).

The findings further show that deeply ingrained sociocultural and religious beliefs influence how communities perceive and view cholera. When cholera is attributed to spiritual causes or traditional practices, medical explanations and interventions are hard to accept in such communities. This limits the effectiveness of health communication campaigns that do not adequately address or integrate local belief systems. Also, language barriers significantly affect effective communication negatively during cholera outbreaks. In communities where English or Hausa which are the commonly spoken languages in Jalingo are not generally understood, reliance on interpreters introduces risks of inaccurate or incomplete translations. This could lead to loss of critical health messages, affecting the community's ability to adopt preventive measures.

Increasing investment in health infrastructure, water and sanitation facilities, and communication tools will enhance the capacity of both the health system and the communities to prevent and manage cholera outbreaks effectively. Ultimately, sustainable cholera control requires an integrated approach that combines effective risk communication with socioeconomic development, community empowerment, and resilient public health systems.

The effectiveness of communication channels used in cholera risk communication messaging vary significantly across these settings, reflecting disparities in access, cultural preferences, and infrastructural challenges. Effective communication was recognized as an important component for improving Cholera prevention. Radio announcements, community meetings, house-to-house visits, and acceptance by religious leaders were among the most utilized strategies, while social media and Television were less utilized due to poor network, low digital literacy, and high cost of data, power outages and unaffordability (Tables 1-3). Participants especially valued interpersonal communication, such as house visits and discussions during religious meetings, over impersonal means like posters and flyers. This preference reflects the findings of Worlu *et al.* (2022), who stressed the importance of localized, culturally sensitive messaging in public health campaigns. Nevertheless, challenges such as lack of access to radio, timing of announcements, and misalignment of messages with local beliefs limited the overall effectiveness of communication efforts. The persistence of misinformation, despite these strategies, suggests that communication must be more targeted, frequent, and community led.

Challenges Faced by Healthcare Authorities in Implementing Effective Risk Communication during Cholera Outbreaks was explored. Language Barriers barrier is a major challenge as some community members do not understand English or Hausa which is the major

Table 1: Effectiveness of Radio, social media, Television, Community Meetings, Town Announcer and Religion Forums in Cholera Communication.

Medium	Effectiveness
Radio	Most commonly cited and accessible tool, especially in rural areas.
Social Media	Limited access in rural areas due to poor network, low digital literacy, and high cost of data.
Television	Less used due to power outages and unaffordability.
Community Meetings	Trusted and effective, often led by traditional/religious leaders; people are more receptive to messages delivered this way.
Town Announcers	Still widely used and effective in remote communities; considered culturally easy to understand.
Religious Forums	Churches and mosques used for spreading health messages, generally effective, especially when leaders are supportive.

Table 2: Challenges Faced by Healthcare Authorities in Implementing Effective Risk Communication during Cholera Outbreaks.

Challenges	Details
Language Barriers	Some community members do not understand English or Hausa; require interpreters who may not translate accurately.
Sociocultural and Religious Beliefs	Beliefs in traditional practices or spiritual causes of cholera limit acceptance of medical advice.
Mistrust of Government and Health Workers	Community members distrust health workers due to unmet expectations and lack of visible government presence (e.g., exclusion from palliatives or aid distribution).
Inadequate Funding	Limited resources affect printing of IEC materials, logistics, staff stipends, and campaigns.
Shortage of Trained Personnel	Many health workers have retired or migrated; current staff overwhelmed.
Poor Infrastructure	Many communities lack health facilities and communication tools (e.g., radio, TV, internet).
Competing Priorities	Without proper government engagement, health communication may be deprioritized by community members.

Table 3: Recommendations for Sustainable Risk Communication Strategies.

Recommendation Area	Suggestions from Respondents
Community Engagement	Involve traditional and religious leaders in message creation and dissemination.
Infrastructure Development	Provide clean water facilities, boreholes, and accessible healthcare centers in rural areas.
Workforce Strengthening	Employ more health workers and interpreters to reach all communities effectively.
Use of Local Languages	Translate materials and messages into indigenous languages; use local people for communication.
Multiple Channels of Communication	Combine radio, town announcers, community meetings, and places of worship to ensure coverage.
Trust Building	Ensure government outreach is impartial; include vulnerable communities in welfare distributions to reduce mistrust.
Media and Technology Support	Address power and connectivity issues to improve use of TV and social media.

spoken languages in Jalingo; require interpreters who may not translate accurately, this could be misinformation. Sociocultural and Religious Beliefs is also the most deterrent challenge faced in implementing effective risk

communication during cholera outbreak (Table 2). Myths such as cholera is caused by witchcraft, cholera cannot be prevented, local water sources are safe were commonly reported. These limit acceptance of medical advice. This

finding is similar to challenges documented in cholera outbreaks in Haiti (2010) and Yemen, where multilingual populations and cultural beliefs affected message penetration (Camacho *et al.*, 2018). Mistrust of Government and Health Workers, Inadequate Funding, Shortage of Trained Personnel, Poor Infrastructure, Competing Priorities, these challenges were identified. Effective and sustainable risk communication in the context of cholera outbreaks requires a multi-sectoral, culturally sensitive, and community-driven approach. The recommendations drawn from community insights reflect the need for both systemic improvements and behavioral engagement strategies. Engaging traditional and religious leaders in both the design and dissemination of health messages is crucial as these leaders possess social influence and are often the first point of contact for community members during crisis. Their involvement enhances trust and improves the acceptability of health messages (WHO, 2018). To ensure broad coverage and effective engagement, there is a need to recruit more health personnel, especially those fluent in local languages or trained as community interpreters. Combining various platforms such as radio, town announcers, community meetings, and religious gatherings ensures that messages reach diverse demographic groups. Ensuring unbiased outreach; including marginalized groups in welfare distributions, is key to rebuilding trust. Visible government commitment through consistent community presence and fair distribution of resources can transform perceptions and increase compliance.

Conclusion

The findings from this study highlight the multifaceted challenges and opportunities associated with risk communication during cholera outbreaks in rural Jalingo, Nigeria. Despite significant efforts by health authorities, effective communication is hindered by several critical factors including language barriers, sociocultural beliefs, deep-rooted mistrust in health institutions, poor infrastructure, and limited financial and human resources. The study also reveals that traditional and low-tech communication methods such as radio broadcasts, town announcers, religious forums, and community meetings remain the most effective tools in reaching and influencing rural populations. To strengthen risk communication, it is essential to involve community stakeholders' especially traditional and religious leaders in message development and dissemination. Translating messages into local languages, training community health workers, and building trust through transparent, inclusive, and sustained engagement are critical steps toward achieving behavior change. Furthermore, increasing investment in health infrastructure, water and sanitation facilities, and communication tools will enhance the capacity of both the health system and the communities to prevent and manage cholera outbreaks effectively.

Ultimately, sustainable cholera control requires an integrated approach that combines effective risk communication with socioeconomic development, community empowerment, and resilient public health systems.

Recommendations

1. State Ministry of Health should prioritize the use of accessible and culturally relevant communication channels such as radio, town announcers, and community meetings to effectively reach rural populations with cholera prevention messages.
2. Ministry of Health, State Health Authorities and Local Government Health Departments should develop culturally sensitive communication strategies by translating cholera messages into local languages and actively involving trusted community leaders to overcome language barriers and rebuild trust in public health messaging.
3. Local Government Health Authorities should promote community-led risk communication by engaging residents in the planning, implementation, and feedback processes of cholera awareness campaigns to enhance ownership, participation and sustainability.
4. Federal Government should prioritize the health sector by providing adequate funding for health authorities to create and implement prevention strategies and build on already existing programs.

REFERENCES

- Babylon, P., Aliyu, A. S., Aiyagbonrhule, P., Sadiq, A., Solomon, M. E., & Yamusa, C. A. (2025). Assessment of enablers and barriers to childhood immunisation in Gassol Local Government Area of Taraba State, Nigeria. *Journal of Advances in Medical and Pharmaceutical Sciences*, 27, (3), 14–21.
- Camacho, A., Bouhenia, M., Alyusfi, R., Alkohlani, A., Naji, M. A., & Grande, J.-M. (2018). Cholera epidemic in Yemen, 2016–18: An analysis of surveillance data. *The Lancet Global Health*, 6(6), e680–e690.
- Cholo, W., Njororai, F., Amulla, W. O., & Nyaranga, C. K. (2025). Risk Communication and Public Health Emergency Responses during COVID-19 Pandemic in Rural Communities in Kenya: A Cross-sectional Study. *COVID*, 5(5), 74.
- Clemens, J. D., Nair, G. B., Ahmed, T., Qadri, F., & Holmgren, J. (2017). Cholera. *The Lancet*, 390(10101), 1539–1549.
- Isukuru, E. J., Opha, J. O., Isaiah, O. W., Orowighose, B., & Emmanuel, S. S. (2024). Nigeria's water crisis: Abundant water, polluted reality. *Cleaner Water*, 100026.
- Lypaczewski P, Chac D, Dunmire CN, Tandoc KM, Chowdhury F, Khan Al, Bhuiyan TR, Harris JB, LaRocque RC, Calderwood SB, Ryan ET, Qadri F, Shapiro BJ, Weil AA. 2024. *Vibrio cholerae* O1 experiences mild bottlenecks through the gastrointestinal tract in some but not all cholera patients. *Microbiol Spectr* 12:e00785-24.
- Mwale, M., Chipimo, P. J., Kalubula, P., Hibusu, L., Mulima, S. M. C., Kapema, K., & Kapaya, F. (2025). Building resilience against cholera: lessons from the implementation of integrated community strategy for cholera control in Zambia. *BMJ Global Health*, 10(1).
- Nigeria Centre for Disease Control (NCDC). (2021). "Report on cholera outbreaks in IDP camps." <https://ncdc.gov.ng/reports/2021/cholera-outbreaks-idp-camps>
- Ujah, I. A., Tenuche, S. O., & Akpa, O. M. (2015). Cholera outbreaks in

- Nigeria: A retrospective analysis. *West African Journal of Medicine*, 34(5), 430–440.
- World Bank Group. (2021). *Nigeria WASH poverty diagnostic: Access to water and sanitation*. Retrieved from <https://www.worldbank.org>
- World Health Organization (WHO). (2021). Universal health coverage (UHC). [https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-\(uhc\)](https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc))
- World Health Organization. (2018). *Communicating risk in public health emergencies: A WHO guideline for emergency risk communication (ERC) policy and practice*. World Health Organization.
- Worlu, R. E., & Owhondah, S. A. (2022). Influence of mass media health interventions on prevention and control of cholera among residents of Rivers State, Nigeria. *Journal Innovations*, 7(3), 127–144.