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Case Report

Containment of cholera outbreak in a rural community in Rivers State, Nigeria: a case report on health care in danger

Golden Owhonda[1], Anwuri Luke[2]*, Bright Owhondah Ogbondah[2], Tondor Cleopatra Uzosike,[2] Ifeoma Nwadiuto[1], Victor Abikor[1], Ihuoma Aaron Wali,[2] Victor Oris Onyiri,[1] Emmanuel Owhondah, LimeJuice Bobmanuel[1]

[1]Department of Public Health and Disease Control, Rivers State Ministry of Health, Port Harcourt, Rivers State, Nigeria
[2]Department of Community Medicine, College of Medical Sciences, Rivers State University, Nkpolu-Oroworukwo, Port Harcourt, Rivers State, Nigeria

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***Correspondence:**
Dr. Anwuri Luke,
E-mail: ndimekz2010@gmail.com

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ABSTRACT

Health care in danger (HCiD) is a public health menace affecting patients, healthcare workers, health facility properties/buildings or/and ambulance services due to the violence experienced in the course of accessing healthcare delivery services. This study was a case report of violence against a healthcare worker during the containment of a cholera outbreak in a rural community in Rivers State, Nigeria. The incident was observed between the 3rd to 5th of May 2022, during the containment of a cholera outbreak within the affected rural community. The victim was a frontline healthcare worker and a member of the rapid response team who was abducted while transporting samples to a reference laboratory for diagnostic confirmation. The abductors demanded ransom but the victim was subsequently released after family members bargained with the assailants. Upon release, she received medical care at the state tertiary facility. She continues to render healthcare services to date. As a follow-up, the State security agencies are currently embedded within the PHEOC response at various levels of healthcare. Communities and stakeholders are encouraged to respect and support healthcare and its resources.

Keywords: HCiD, Cholera, Outbreak

INTRODUCTION

Health care in danger (HCiD) refers to violence against patients, healthcare workers, health facility properties/buildings or/and ambulance services, which may prevent the patients from accessing healthcare services or the healthcare providers from delivering healthcare services.[1,2] Although, HCiD occurs more during armed conflicts, it goes beyond attacks from members of the armed forces and may also occur as a result of obstruction, misuse and violence perpetuated by hoodlums, militants, terrorists etc.[2] It can also be defined as any act of verbal, physical, or psychological violence, threat or obstruction that prevents the availability, access or/and delivery of healthcare services.[3,4] According to the world health organization (WHO), violence is the intentional use of physical force or power, threatened or actual, against oneself, another person, or a group/community which may result in injury, psychological trauma, mal-development, deprivation, or/and eventual death.[5,6] The mode/pattern of violence occurring within the healthcare system is multi-dimensional and includes attacks on the wounded/ill patient; healthcare provider; healthcare facility structure; and medical vehicles (ambulance), resulting in obstructions to access healthcare services or/and delivery

of healthcare services.[2,3] However, the commonly reported cases of HCiD include; pelting with eggs, stoning, physical assaults, disfiguring of faces with acidic substances, sexual abuse, rape, and incessant kidnapping with associated murder of victims whether or not ransoms were remitted.[7] These incidents commonly occur during periods of communal clashes, war, outbreaks, epidemics, pandemics etc., due to increased moral vices and insecurities in the affected localities. These events are observed mainly in low socio-economic settings like Mexico, Philippines, India and Nigeria with prevailing political thuggery, violence, and insecurities.[8,9]

Globally, approximately 38% of healthcare providers have been physically assaulted at one point or the other in the course of their career with a resultant psychological trauma and loss in productivity.[10,11] Whereas 50% of these attacks were targeted at health facilities and their infrastructures with over 1000 buildings and 700 ambulances damaged or destroyed. In the past five years, there have been over 4,000 victims of HCiD, over 1,500 healthcare workers were injured, 400 were abducted, and 700 of them were killed.[12,13] Between 2016 and 2020, about 4,094 cases were recorded with an average of >2 incidents per day in war-torn nations with the highest occurrences in Syria, Yemen, and Libya.[13] This incessant violence against healthcare is commoner in armed conflict as seen in war-torn countries like Cameroun, Central African Republic (CAR), Democratic Republic of Congo (DR Congo), Sudan, Somalia, Afghanistan, Yemen, Libya, Palestine, Israel, and most recently Russia and Ukraine with over 707 attacks recorded between February to December 2022.[3,4,14] With the advent of the COVID-19 pandemic, healthcare workers encountered one form of violence or the other on daily bases as they travelled to and from their places of deployment coupled with the exhaustive work hours, shortages of personal protective equipment (PPE), and the constant fear of contracting and transmitting coronavirus to their close associates; even though healthcare workers were celebrated as the heroes in the fight against the pandemic, approximately 50% rise in the incidence of HCiD with over 611 cases were recorded across the globe from between February to July 2020.[11,15]

In 2016, the United Nations security council (UN-SCR) adopted the first resolution on the protection of healthcare against violence in armed conflict with mitigation strategies to curb the increasing incidence of HCiD. Despite the adoption of UN-SCR 2286, countries like Afghanistan, the Central African Republic, the Democratic Republic of Congo, Libya, Mozambique, Pakistan, Sudan and Nigeria have recorded cases of physical abuse, sexual assaults or/and rape among healthcare providers without the prosecution of the culprits at the internal criminal court (ICC).[16,17]

The international red cross and red crescent movement (ICRC) introduced a global initiative of reporting cases of HCiD using designed data management tools distributed to healthcare facilities and immediately escalated to the relevant authorities to monitor the increasing trend of violence against patients, healthcare workers**,** facilities/buildings and vehicles (HCiD). This innovation aims to guarantee effective reporting of HCiD during the delivery of healthcare services in armed conflict and other emergencies while addressing the incidence of violence in the health sector.[1,18,19] The principal modus operandi for the control of HCiD involves collaboration with healthcare workers and community stakeholders at the local and State levels in all countries affected by armed conflicts and other emergencies.[1,19] The goal of ICRC towards preventing HCiD are two-fold: Reducing the incidence of violence against healthcare; reducing the impact of violence on healthcare. To reduce the incidence and the impact of HCiD, four key objectives were adopted: Policies and practical measures that respect and provide safe healthcare service delivery be adopted by weapon bearers/armed actors; assist states to domesticate and strengthen legislations that protect healthcare from violence; the healthcare system should build up the resilience to violence by training healthcare providers on how to prevent/mitigate/cope with its impact of the violence; and the campaign for behavioural change and respect for healthcare among civilians and the general population in the affected state or countries.[1,18,20]

CASE REPORT

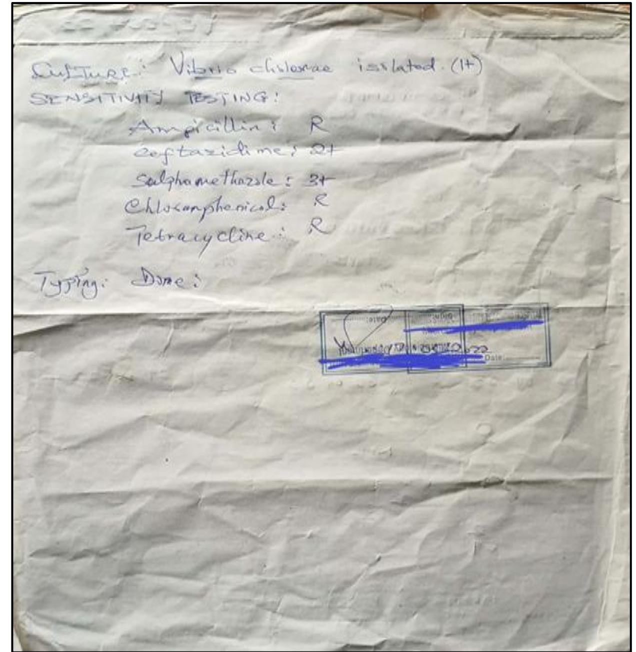
Abduction of a healthcare worker

On 3rd May 2022, following the notification of reported cases of acute watery diarrhoea (AWD) in a rural community in Rivers State, Nigeria, the State rapid response team (RRT) comprising; the epidemiology unit in the public health department and public health emergency operation centre (PHEOC) at Rivers State ministry of health (RSMoH); and donor partner organizations (United Nations, World Health Organization) swung into action to contain the suspected outbreak. As part of the interventions, the Rivers State public health emergency operation centre (PHEOC) immediately activated the cholera outbreak "response mode" and "the incident management system for cholera." The interventions put in place were: deployment of manpower (healthcare workers); the LGA medical officer of health (MOH), disease surveillance notification officer (DSNO), and other healthcare workers at a designated primary health centre facility; and prepositioning of commodities (Ringers lactate, oral rehydration salts, intravenous canular, intravenous antibiotics/infusions/drip giving sets, chlorine powder, hand gloves, face masks, hand sanitizer Veronica buckets etc.) to the affected rural community communities.[21]

On that same day, a 52-year-old female community health officer (CHO) trained in disease surveillance, who delivered some commodities to the homes of patients and the designated healthcare facilities within the communities being investigated for the outbreak of

cholera, was reported to have been abducted by unknown and fully armed men, when her vehicle was intercepted on her way back to Port Harcourt metropolis. At the time of the incident, she was also carrying stool samples in a Cary-Blair transport medium collected from suspected cases of cholera and conveyed in a giostyle containing freshly made icepacks. A day later, the abductors contacted her family members through an encrypted mobile phone and made a huge demand of ten million-naira (₦10,000,000.00) ransom to be paid within 24 hours. In addition, they instructed that the Law enforcement agency should not be notified to avoid untoward consequences. On the 5th of May, 2022, the family members of the kidnapped healthcare worker negotiated her release after a lengthy bargain. Upon regaining freedom from her abductors, she handed over the stool and blood samples of suspected cases of cholera and the case investigation forms to the State laboratory team for diagnostic investigation. She then proceeded to receive full medical attention at the state teaching hospital and was subsequently discharged home on the 10th of May, 2022 in a good clinical State. However, the results of the samples sent to the reference laboratory eventually were positive for cholera and ongoing interventions in the affected community were effectively accelerated which led to the efficient containment of the outbreak.

Figure 1: The IDSR form preserved by the victim.



Culture: Vibrio cholerae isolated (1+)
SENSITIVITY TESTING:
Ampicillin: R
ceftazidime: 2+
Sulphamethoxazole: 3+
Chloramphenicol: R
Tetracycline: R
Typing: Done

Figure 2: The culture result of the stool sample preserved by the victim.

Victim's perspective (Healthcare worker)

Following the release of the victim, the staff of the state ministry of health (SMOH) visited her. She was excited that her colleagues deemed it necessary to visit her. She narrated her experiences in the hands of her abductors, and how she preserved the blood and stool samples in addition to the case investigation forms all through the period in captivity. She was reassured that the State security apparatus has been briefed and the matter was receiving adequate attention. She pledged her commitment to continuing to render public health services despite any security challenges.

Interventions made by the state rapid response team

The rapid response team conducted an enlightenment campaign in collaboration with the stakeholders and members of the health development committee in the locality to respect and support the healthcare delivery system situated in their community. The incident was reported to the responsible law enforcement agency in the area. The anti-kidnapping law is also operational in the State to ensure that perpetrators of violence against residents, including healthcare workers, are prosecuted accordingly. The State security apparatus is already a member of the emergency preparedness and response committee (EPRC) of the public health emergency operation centre (PHEOC). In addition, the local security agents were integrated into local government-rapid response team (LGA-RRT). Frontline healthcare workers within the State ministry of health were given safety and security tips by the law enforcement agency on strategies for community entry. The data collection tool designed by ICRC is to be distributed to healthcare facilities and

relevant authorities to monitor the trend of HCiD. Other public health interventions continued earnestly for the containment of the cholera outbreak.

DISCUSSION

Although there is a paucity of data on HCiD, especially in low and middle-income countries, due to stigma, underreporting, and continuing threats, it is expected that every event of violence targeted at patients, healthcare workers, facilities and infrastructures should be documented. The present study revealed that the case of HCiD occurred during the investigation of an outbreak in a rural community with records of security challenges perpetuated by hoodlums and militants. This is in line with records from a systematic review, meta-analysis and other previous studies conducted in Nigeria, the Democratic Republic of Congo, Egypt, India, Saudi Arabia, Pakistan, Brazil, United States of America where events of HCiD increasingly occurred during the EBOLA and the COVID-19 pandemics resulting in consequences that endangered the safety and well-being of the frontline healthcare workers across the globe.[15,22-32] Also, events of violence occur in lower proportions in communities experiencing outbreaks, pandemics and security challenges than in conflict and war-torn scenarios.[3,4,30,33] On the contrary, records of HCiD were observed in conflicts and war-torn nations as reported in a systematic review and other studies carried out in Nigeria, the Central African Republic, Uganda, Somalia, Sudan, Libya, Kashmir, Afghanistan, Iraq, Iran, Syria, Yemen, Myanmar, Palestine Ukraine, and Russia.[2-4,12,34]

In the present study interventions put in place to mitigate the trend of HCiD among healthcare workers were centred around; a follow-through on the already domesticated anti-kidnapping law; which was done through prompt reporting of the incident to relevant security agency; re-engineering community participation in healthcare delivery services through the support of their gatekeepers by sensitization; as well as advocacy to stakeholders within the locality on the need for behavioural change and respect for the health facility and its resources; the local security agents are embedded within the response units at various levels of care; and the law enforcement personnel were engaged in the sensitization of healthcare workers on safety and security tips for community entry in security challenge settings. This is consistent with strategies used to curb the incidence of violence during pandemics as observed in a systematic review and other studies done in Nigeria, India, and Pakistan where implementation of existing policies, engaging law enforcement agents, and media houses on conducting sessions on safety tips and capacity building on curbing violence healthcare workers.[30,33,35,36]

The protocol for using Cary-Blair medium for transporting Vibrio cholerae samples and stored in giostyle as a reverse cold-chain mechanism for transporting stool samples collected from suspected cases of cholera seems to have ensured sample validity. This was evidenced by the identification of Vibrio cholerae isolates from the stool samples submitted at the reference laboratory three days after collection.

Healthcare workers are indeed heroes without capes who provide services to the vulnerable and underprivileged, sometimes at the expense of their safety. The abducted healthcare worker upon her release reemphasized her commitment to continuing to render healthcare services for the glory of mankind irrespective of her experience. Her heroism was exemplified by the preservation of stool and blood samples even in captivity.

CONCLUSION

This is a case of HCiD involving a frontline healthcare worker investigating a cholera outbreak in a rural community with a security challenge in Rivers State, Nigeria. The healthcare worker was kidnapped and subsequently released. She continues to render healthcare services to date. However, the utilization of the cold-chain system during the collection, storage and transportation of the stools sample from suspected cases of cholera appeared to be effective in the preservation of samples during extended periods of transport.

Recommendations

The safety of the healthcare workers and infrastructure should be given security priority irrespective of if it is located in a security-challenged area or not. To achieve this, policies, legislation, and practical measures that engender respect and ensure safety in the provision of healthcare service delivery should be strengthened to protect healthcare workers and infrastructures from any form of violence. More so, the State, local government and community stakeholders in collaboration with the law enforcement agencies should develop definitive measures that will provide adequate security for health facilities and healthcare workers especially those deployed to rural communities. The relevant law enforcement agencies should be embedded in response teams to enable security guidance, information gathering and early intervention.

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