



COMMENTARY

Cholera Scourge in Nigeria: Promoting Environmental Sanitation Practice to Achieving Good Health for All

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Abstract

The present surge in cholera cases in Nigeria especially among the vulnerable is quite worrisome and alarming. Several factors account for the prevalence of cholera in Nigeria, which includes but is not limited to poor living conditions, lack of potable water, sanitation, and hygiene (WASH) services. Interestingly, Environmental sanitation has been identified as integral in achieving a healthy environment. It involved controlling all the factors in man's physical environment which may cause harmful effects on his physical growth and development especially health and survival. However, despite the pivotal roles of environmental sanitation in disease control and on the socio-economic development of a nation, its practice has been limited in Nigeria due to a lack of adherence to, knowledge, and awareness of environmental sanitation practices on the part of the population as well as the availability of sanitation facilities. In this paper, we explored the various ways of making environmental sanitation practices more effective and sustainable in households and communities to achieve their target in Nigeria. It is therefore recommended that the governments at various levels should make regulations to control the illegal dumping of wastes and provide sanitation

facilities at strategic places in the rural and urban slums in the country. Besides, community-based organizations (CBOs) and Nongovernmental organizations (NGOs) should support the government's efforts by embarking on programmes that promote environmental sanitation awareness in schools, households, and communities. We believe these strategies will go a long way to address the present cholera prevalence and ensure the population lead productive lives.

Keywords

Environmental sanitation, Cholera, Sanitation, Legislation, Partnership, WASH

Introduction

Cholera is an infectious disease that causes profuse vomiting and acute watery diarrhea caused by the consumption of food or water contaminated with the bacterium *Vibrio cholera* [1]. Cholera has been recognized as a general burden on the human population, disproportionately affecting the poor and most vulnerable people in Low and Middle-Income

Countries like Nigeria [2]. However several factors including poor living conditions, lack of potable water, sanitation, and hygiene (WASH) services, account for its transmission [3]. Surprisingly, studies have estimated that about 1.3 to 4.0 million cases of cholera and 21,000 to 143,000 deaths worldwide occur each year due to cholera [4]. According to the Nigeria Centre for Disease Control (NCDC), approximately 42,366 suspected cases with 830 deaths occurred in 20 out of the 36 states in Nigeria from January 2018 to October 2018 alone [5]. Moreover, there has been a surge in cholera cases over the years in Nigeria. The report has it that from January to December 2010, Nigeria recorded a total of 41,787 cases including 1,716 deaths from 222 Local Government Areas (LGAs) in 18 States of the country. More recently, cholera has been on the increase in areas with poor sanitation practices. As of September 2021, a total of 65,145 suspected cases including 2,141 deaths have been reported from 23 states in 2021, with the most affected states being Bauchi, Katsina, Kano, Gombe, Sokoto, and Bayelsa [5].

Besides, evidence from different studies have implicated infectious diseases like cholera and COVID-19 in dragging several countries of the world down the ladder of achieving the targeted sustainable development goals by 2030 [6-8], as a result of the great economic losses driven by premature deaths, and leading to high household poverty and reduction in productivity. Therefore, there is a need for concerted effort to address the menace, and to halt the effect cholera is having on the already strained healthcare systems and the economy as a whole.

It is however possible to eradicate cholera with appropriate measures such as proper sanitation to cholera-endemic communities, safe drinking water, and non-contaminated foods as well as vaccination [9]. According to the National Sanitation Foundation of the USA, sanitation is a way of life expressed in a clean home, farm, business, neighborhoods, and community [10]. Additionally, the World Health Organization (WHO) defines sanitation as the provision of facilities and services for the safe disposal of human urine and feces [11]. While about 2.4 billion people globally lack access to improved sanitation – pit latrines and other facilities required to sequester human feces from the environment, Sub-Saharan Africans account for most of these sanitation deficiencies specifically among the vulnerable populations residing in the rural settings and urban slums [12]. In Nigeria, despite the rapidly growing population of nearly 200 million, the largest on the African continent, only 33% have access to sanitation [13]. Apart from the health burden of cholera in Nigeria, the World Bank reported that Nigeria loses about N455 billion (1.3% of Gross Domestic Product - GDP) annually as a result of poor sanitation [14]. Therefore, there is a need to promote sustainable environmental practices that will have a significant, beneficial, and long-lasting

impact on health in households and communities.

Although sanitation refers to the maintenance of hygienic conditions through services such as garbage collection and wastewater disposal, Environmental Sanitation is the principle and practice of effecting healthful and hygienic conditions in the environment to promote public health and welfare, improve quality of life and ensure a sustainable environment. It can also be referred to as the control of all the factors in man's physical environment which may cause harmful effects on his physical growth and development especially health and survival [15]. Specifically, the vital components of environmental sanitation include solid waste management; medical waste management; excreta and sewage management; food sanitation; sanitation inspection of premises; markets and abattoir sanitation; adequate potable water supply; school sanitation; management of urban drainage; disposal of dead animals; hygiene education and promotion [16].

While the rationale behind environmental sanitation is to minimize the burden of water associated with ill-health such as cholera, water-related ill-health has been for a very long time the main cause of morbidity and mortality especially in Nigeria [15]. This is because adequate environmental sanitation has not been strictly adhered to. For instance, in some parts of Nigeria, living with waste as part of the natural environment has become a way of life. In a study that assessed the environmental sanitation in urban communities in Southern Nigeria, findings showed that the majority of the community members used open fields for defecation, which was similar to the findings from another study carried out in two other Southern communities i.e. (Owerri and Benin) [16]. Moreover, another study that evaluated sanitation practice in Osogbo, South Western region in Nigeria, revealed that there was limited access of the communities to adequate environmental amenities such as pipe-borne water supply, toilets, drains, and solid waste disposal services across the residential zones [17]. This was similar to the findings from other studies that show that in Nigeria, the population lacks access to basic amenities coupled with increased poor sanitation habits [18,19]. While this is not only peculiar to Nigeria alone, India is also lagging far behind many countries in the field of environmental sanitization, as the unsanitary conditions are appalling and need a great sanitary awakening [20]. Thus, there is a need to re-awake environmental sanitation practices and make them more effective. By doing this, good health can be guaranteed for the population in the face of infectious diseases like cholera and other emerging disease conditions ravaging Nigeria's health systems.

Recently, the promotion of environmental sanitation is tilted towards influencing a change in population's behavior and improving their sanitation habits [21]. And studies have revealed that there exist significant

relationships between knowledge of environmental sanitation and education - with higher levels of education being associated with better knowledge about environmental sanitation [22,23]. Shockingly, studies that assess the environmental sanitation practices in different parts of Nigeria revealed that environmental sanitation knowledge was lacking among most of the respondents [17]. And further shows that a lot of attention is still required to promote environmental sanitation practices by influencing behavioral change through effective regular education and awareness campaigns. Hence, promoting effective environmental sanitation has become imperative for the Nigerian Government in the face of rising cholera cases. As it is already enshrined in the fundamental human right that guarantees a pleasant environment that promotes healthful living for all Nigerians.

In Nigeria, huge curative health costs of cholera constitute a major drain on the national economy. An unhygienic environment with its attendant health consequences, prevailing in most of our cities in Nigeria, can discourage tourists/investors and undermine the economic benefit of tourism to the country. Also, the present state of health in Nigeria, where the COVID-19 pandemic ravages the health systems [1], further attests to the need to make environmental sanitation more effective and sustainable to address the present surge in cholera cases. Improved environmental conditions will positively impact a wide range of development indicators. Consequently, environmental sanitation is a channel to improve the quality of life of individuals and a contributor to their social, economic, and physical development [24]. Therefore, multifaceted and sustainable strategies are needed to enhance environmental sanitation practices aimed to reduce and avert the adverse health, economic and developmental effects of cholera in Nigeria to achieve goal 3 (good health and well-being for all) of the United Nations sustainable development goals, SDG 3, by 2030.

Recommendation

Government regulation

The three tiers of government in Nigeria (Federal, State, and Local) should work in reviewing the existing solid waste management legislation to make them more realistic, attainable, and compatible with local conditions. Legislation on community waste handling and management should include community-specific master plans, training of community staff, and awareness generation. There should be enforcement of the law against indiscriminate dumping of refuse at undesignated places such as road-sides and active participation of households, and communities in the regular community sanitation exercise. And defaulters should be made to face the full wrath of the law through the imposition of a fine. Additionally, the government

should implement a low-cost sanitation system with lower subsidies and ensure greater household and community participation. These sanitation systems should utilize different technological choices and provide options for sanitary complexes for women and rural drainage systems.

Sustaining the provision of WASH services

While the World Bank had reported that in 2018, Nigeria's Water, Sanitation and Hygiene (WASH) sector was in a critical state of emergency with over 60 million Nigerians living without access to basic drinking water, UNICEF also reported that the use of contaminated drinking water and poor sanitary conditions results in high vulnerability to water-borne diseases such as cholera thereby leading to deaths of over 70,000 children under five annually in Nigeria [25]. Additionally, according to the 2019 National Outcome Routine Mapping of WASH services (WASHNORM), only 44% of Nigerians have access to proper sanitation, while access to safe hygiene facilities nationwide remain very low, at 16%. However, Sokoto, Kebbi, and the Zamfara States have the lowest levels of access to both basic water and basic sanitation services [26].

Interestingly, the United States Agency for International Development (USAID) through UNICEF has planned to implement a \$9,978,800 project over three years to support the Nigerian government's plan to enhance WASH services in Kebbi, Sokoto, and the Zamfara States in North-west Nigeria [27]. Also, USAID has released about \$2 million to fund a two-year integrating WASH (iWASH) program, aimed at improving the management of water resources, encouraging good hygiene practice, and improving access to proper sanitation in the Northwest states of Kebbi and Sokoto.

The World Bank and other partners have supported the Federal Government of Nigeria to develop initiatives to fill the identified gaps which have limited Nigeria's ability to have access to safe and potable water, through the National Urban Water Sector Reform Program (NUWSRP) [28]. While this program engenders the construction of over 2,300 additional Water points, and 6,546 sanitation compartments and hygiene facilities across the country, many Nigerians especially in rural and hard-to-reach locations still lack access to potable water, and sanitation facilities [29]. However, in recent times, the World Bank has earmarked about \$700 million towards the implementation of Nigeria Sustainable Urban and Rural Water Supply, Sanitation, and Hygiene Program (SURWASH), drafted to the National Action Plan (NAP) for the Revitalization of Nigeria's Water Supply, Sanitation, and Hygiene Sector, aimed at providing 6 million Nigerians with basic drinking water services, and 1.4 million people access to improved sanitation services [29]. While all these efforts are commendable, the report has it that the majority

of the population in the country still lacks access to basic drinking water and sanitation services. Besides, the continuation of conflict in Northeast Nigeria has also created a complex humanitarian crisis, by limiting WASH programs implementation, and causing a shrink of the Lake Chad basin – the major source of water for the region, thus rendering some communities as hard to reach [30].

Therefore if Nigeria is to win the battle against communicable diseases like cholera, it is important to fill the gap created by the lack of potable water and basic facilities and services for the safe disposal of human wastes such as urine and feces. To achieve this, the Government at various levels (Federal, State, and Local) should have the political will for environmental sanitation sustainability. And increase both her effective partnership with relevant intergovernmental/nongovernmental organizations and the fiscal allocation of the Ministry of Environment and Water Resources, to sustain the provision of quality water and excreta and sewage management as well as solid waste disposal facilities to the communities' endemic to cholera. Besides, the Nigerian government should solicit support from other countries in finding an end to the conflict in the Northeastern part of the country. This is to ensure relevant services provided get across to the teeming population in need of WASH services, thereby putting an end to the present scourge of cholera, while preventing the future outbreak of cholera and other infectious diseases in the region. Moreover, the gatekeepers to the community - community leaders, traditional leaders, religious leaders, and youth-led groups, among others should be utilized to foster peaceful coexistence among the citizens. They could be leveraged to take responsibility for the WASH facilities and ensure their functionality to fulfill their primary objectives.

Partnership for health education and promotion

The place of effective partnership between the governmental and community-based organizations (CBOs) and non-governmental organizations (NGOs) to promote environmental sanitation practices cannot be overemphasized. In Nigeria, several partners have implemented and are still executing programs that aimed to provide access to adequate levels of WASH education. Projects such as the KIT WASH, implemented by the Society for Family Health (SFH) through the funding support from UNICEF targeted 6 northern states of Bauchi, Benue, Jigawa, Kaduna, Katsina, and Sokoto, by providing quality and evidence-based information to reduce water-borne related diseases such as cholera [31]. And the four-year, \$50.4 million USAID/Nigeria's Effective Water, Sanitation, and Hygiene Services (E-WASH) project, although still under implementation in Abia, Delta, Imo, Niger, Sokoto, and the Taraba States. To enhance the health and hygiene of the target populations by improving the delivery of WASH services

through continuous learning and knowledge sharing, are some of the health promotion programs that have shown promising results in disseminating vital hygiene information to influence behavioral changes.

However, despite COVID-19 putting the spotlight on the importance of hand hygiene to prevent the spread of disease, findings have shown that over 3 billion people globally do not have access to handwashing facilities, with rural, urban slums and disaster-prone dwellers, and particularly people in Low and Middle-Income countries like Nigeria being the most vulnerable and the most affected [32]. Additionally, while about 673 million individuals practice open defecation globally, the rate of open defecation in Nigeria remains alarming and worrisome, with almost 46 million Nigerians still defecating in the open [33]. However, proven behavioral change techniques can help increase the frequency and improve the practice of critical hygiene behavior [34]. Therefore, the government on their part, and through the Department of Environmental and Water Resources as well as the Ministry of Health, should prioritize health education and promotion activities in the local communities on the relevance of a hygienic environment in cholera prevention and overall disease control.

Also, there should be the recruitment of trained young men and women who would engage residents and raise awareness in the form of regular house-to-house visits to advocate for proper defecation practice, cleaning of toilets, and disinfection of drinking water particularly in the cholera-endemic zones in Nigeria. While Community-based organizations (CBOs) and Nongovernmental organizations (NGOs) should continue to complement the efforts of the government by embarking on initiatives and programs that re-orientate the residents about the danger of communicable diseases like cholera inherent in poor environmental sanitation. Also, intergovernmental organizations like the World Health Organization (WHO), and the World Bank should continue to fund projects that influence behavioral changes in Nigeria to address the rising cholera cases and bring an end to poor environmental sanitation.

Moreover, the Government and the CBOs, and NGOs should work together in ensuring that Information, Education, and Communication (IEC) materials are made available especially in the local languages in most of the communities endemic to cholera. This will enhance understanding of the environmental sanitation messages being passed. Additionally, governments at the local levels through the Ministry of Education should incorporate teaching focusing on hand hygiene promotion in primary schools in the country. Since children are particularly vulnerable to infectious diseases like cholera [35], it has become even more imperative to educate young children on the need to adopt the habit

of regular hand washing after using toilets and before embarking on food preparation or taking meals.

Conclusion

The health system in Nigeria is in a serious state. The rate of cholera cases is on the increase. Sustainable Environmental sanitation has been recognized as a powerful means to controlling the menace of infectious diseases like cholera. Its potentials should be harnessed to contain further spread of cholera particularly among the vulnerable populations. This can be achieved through legislation to checkmate the disposal of both liquid and solid waste in undesignated places as well as the provision of sustainable WASH services. Besides, the government should seek support from intergovernmental organizations aimed at funding programs that improve environmental sanitation. The government should also partner with CBOs and NGOs, on health promotion and awareness programs that have environmental sanitation practices at its center particularly, among communities known to be endemic of cholera to influence the attitudes towards environmental sanitation. It is believed that these strategies will go a long way to address the present situation of cholera and ensure the Nigerian populations live healthily.

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